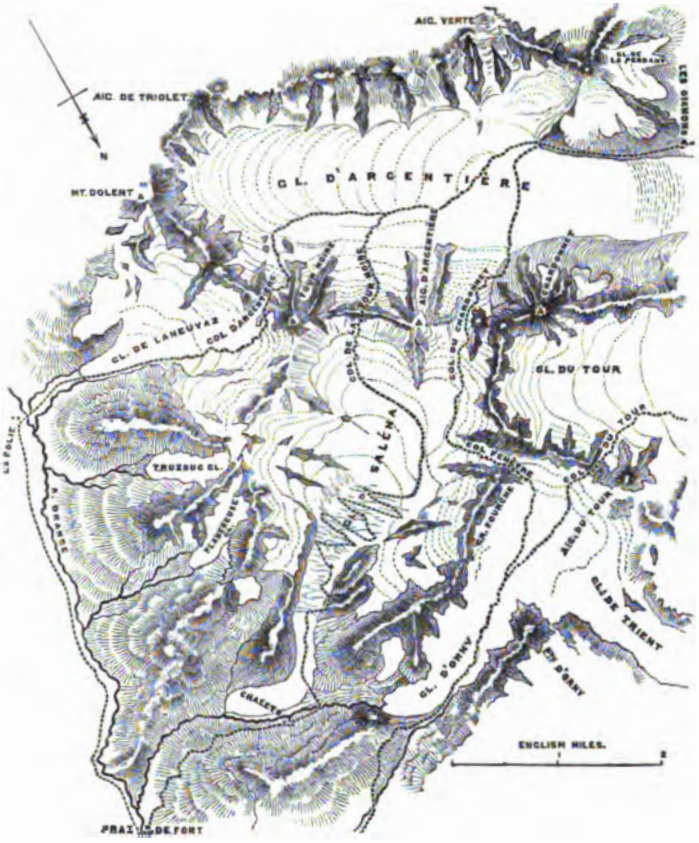
however easy to make a variation of the Col du Géant, by crossing near the second Flambeau from the Glacier du Géant to the Brenva, and descending by it. A new pass might also be made from the Glacier de l'Allée Blanche to that of Trélatête, as a route from Courmayeur to Nant Bourrant, Mr. Tuckett's Col de Trélatête lying at the other side of the Aiguille du Glacier. This expedition might include the ascent of the Aiguille de Trélatête, which, as well as the Miage, is quite practicable; I cannot, however, say as much for the Aiguille de Bionnassay.

There are many other summits in the chain which have been as yet untried; the Chardonnet, Aiguille d'Argentière, Mont Dolent, and lastly the Grandes Jorasses, the last home of the bouquetin in the chain of Mont Blanc, offer, I think, a very fair prospect of success, and I hope it will not be left to foreign Alpine Clubs to carry off the fine peaks which yet remain unconquered in the chain of Mont Blanc.

The Col de la Tour Noire. By H. B. George, M.A. Read before the Alpine Club, May 3, 1864.

ONE evening in last July, my friend Mr. Macdonald and I, emerging from the table d'hôte at Chamouni, took leave of a company of friends immortalised in the next Chamouni paper as 'the respected President of the Alpine Club, with a large number *de ses plus agiles grimpeurs*,' and mounted a vehicle to drive to Argentière. Guides always keenly enjoy being conveyed by other locomotive powers than their own legs, and it was with some amusement that we heard Melchior and Almer on this occasion praising us for asserting the dignity of Englishmen and Oberlanders before the eyes of the assembled natives. We had no idea, when we yielded to natural after-dinner laziness, and gave them leave to order a carriage, that we were being dexterously utilised by our guides to instil a moral lesson into Chamouni. Our destination was Martigny; but we knew the Tête Noire so well, that we thought it would be more entertaining and no real loss of time to cross the Col d'Argentière, instead of that charming but scarcely exciting pass. We should have missed a good deal of adventure, and others would have been spared the trouble of reading this paper, if any of us had known about the Col d'Argentière a quarter as much as we all knew of the Tête Noire. An hour's drive, some coffee, three or four hours' bed, and we were ready to start—earlier, very fortunately, than would usually be necessary for



THE EAST END OF THE CHAIN OF MONT BLANC.

reaching Orsières by the Col d'Argentière; for we had left everything we possessed to be carried over to Martigny by a passing mule, and intended ourselves to reach that haven of comparative luxury by nightfall, if all went well.

A native with a lantern, which for once was not altogether useless, showed us the devious track which winds up the left bank of the stream, and eventually of the glacier, and continued his attendance long after all signs of path had vanished, till at about 5.30 we began to think the glacier promised better walking. Accordingly the porter was sent back, and Almer and Melchior transferred to their own backs the scanty store of provisions which, in anticipation of a supper at Orsières and very likely another at Martigny, we had deemed sufficient for the day. After walking a short distance we found ourselves fairly on the upper level of the glacier, which being as flat as the great Aletsch or the Finsteraar, and equally free from crevasses, allows ample scope for observing the neighbouring mountains, during the somewhat long process of walking straight up its axis. First in prestige as in height was the Aiguille Verte, presenting on this side a rocky wall intermediate between its icy crown and the mixed slopes that cover its base, up which it seemed as if no human skill could devise a passage. Not many days before Almer and I had been gazing on the Grandes Jorasses from Courmayeur, and speculating how that could be climbed, and it seemed to both of us as if the Verte presented from this quarter a task somewhat similar, but rather more difficult. On the opposite side of the glacier rose a series of peaks which we, after some desultory guessing, gave up the attempt to identify, and turned our attention to the more practical problems of discovering the exact locality of our col. The head of the glacier, where I at least, on the delusive authority of our only map, was inclined to look for it, was closed by a semicircle of dark rocks, all the more forbidding from the deep shadow they cast at their feet, and rivalling in steepness the well-known 'cirque' of the Oberaarhorn. Nothing short of an eagle could be expected to cross such a place, and yet somewhere there, if the map was worth anything, lay the well known Col d'Argentière. The guides simply shook their heads when I showed them the map, and pointed up towards the frowning wall in front, and though I murmured something about the col being behind a shoulder (which it in fact was, though not where I placed it), I could not help feeling that the inexorable logic of facts was dead against me.

On our left there appeared easy access to either of two cols, very near together: and the guides, having been told by some

mythical friend to keep well to the left, were certain that one of those was our destination. After some hesitation we determined to go up to the nearest col, and if that did not promise well, to return and try our luck with the second. As we did not find it necessary to return, I may as well state at once that the second apparent col was a mere optical delusion, being simply a gap between two spurs of the Tour Noire, of which the summit was too far back to be within our sight. Almer seized a crust and pushed on alone to explore, while the rest of the party made a slight meal and followed more leisurely. The slopes of névé were not much broken by crevasses, and our progress was easy and rapid, though the space to be traversed proved considerably greater than we had anticipated from below. As we came in sight Almer appeared on the col, telegraphing to the effect that it was all right; and we presently mounted a few yards of broken rock and looked over to the east. Macdonald and I turned and gazed in each other's faces, as if expecting to find there a solution of the very difficult question where the way down was likely to be: and then we were suddenly reminded, by a gust that nearly settled the doubt in a manner more speedy than safe, that there are more convenient places for discussing geography than a narrow col when a hurricane is blowing. We scrambled along the rocks to the left and sat down in a nook, sheltered indeed, but most inconveniently constructed for human habitation, to consider the prospect for ourselves, and wait while the guides did a little private exploration. It certainly looked extremely ugly; a very steep slope, a great deal more icy than was pleasant, through which ribs and patches of rock projected slightly, descended from our feet further than we could see; for at some distance down the incline became greater, and our gaze passed abruptly to the level of the glacier far below. The sky was cloudy, so that we could not judge by the view; and we knew that the worst difficulties in crossing the Col d'Argentière were immediately below the summit on the eastern side. So without much hesitation we accepted the conclusion of the guides that we had come to the right col, and began to speculate how the wind would please our friends at Chamouni, who ought by this time to be on their way up the Aiguille du Goûté.

After a somewhat long delay the guides reappeared; and at 10·45 we left our lair, and began to descend the ice-steps which had been cut down to the head of the most eligible ridge of rocks. There was nothing of the arête and couloir pattern about the slope to which we were now committed. It was a smooth wall of ice, with very slight ridges of rock at wide and irregular in-

tervals protruding to break the regularity of the surface, and none of them continued to any great length, so that with the most dexterous steering it became frequently necessary to cut steps in order to pass from one ridge to another.

The process of descending was necessarily very slow and laborious—one guide in front spying out the way while the rest waited till he had reached his utmost tether, then Macdonald and myself in succession scrambling to where the leader was, and the last guide finally clattering down as best he could, while we all stood ready to check his career if he acquired too great momentum—and then the whole formula repeating itself over and over again like a recurring decimal. Once Macdonald let his axe fall, and the monotony of our operations was thereby varied to him for some three quarters of an hour by having to do without a pole. This naturally decided our course for some distance, in order that we might descend on and recover the truant. Great events proverbially often hang on small causes; but for the casual rock which knocked the axe out of Macdonald's hand, we might never have come in for the diversions incidental to the lower portion of our descent. It is at least equally possible, however, that we might otherwise have found far greater difficulties in escaping off the wall than those which we actually encountered; for on looking back from the level of the glacier at the slope down which we had come, no one line of descent seemed at all less ineligible than the rest.

Soon after the recovery of Macdonald's axe we reached the lower end of a line of rocks, all around which an unbroken surface of ice extended for a disagreeably long distance, so that it was clear a tedious staircase must be made. We accordingly settled ourselves in the least inconvenient seats available, and Almer began step-cutting, Melchior gradually paying out the rope which was fastened round his waist. After a little time Melchior grew impatient, and went off to help Almer, handing over the reins to me. He could, however, do very little to expedite matters, for on so steep a slope Almer was obliged to hew out very large and deep steps before he could safely stand in them to continue cutting below him. Presently, the whole of our rope, 110 ft., was paid out, and the staircase still far from complete. I shouted to Melchior, who came back and gathered up the rope, and then, returning to Almer, henceforth contented himself with keeping a firm hold, in order to render instant aid should Almer make the least feint at a slip. In course of time they reached the further rocks, having expended an hour in cutting fifty-nine steps, and returned with all speed to us. Almer's

labours had been so severe that he was naturally somewhat exhausted, and we therefore dined before advancing any further, consuming at this meal our last bottle of wine.

Two hours more of the same sort of work as we had gone through above brought us to the foot of the lowest rocks anywhere visible. But we were still very far from having reached the bottom of the wall. The slope at our feet seemed to become steeper at every step, so that we could see nothing of what intervened between us and the level basin of the glacier, still several hundred feet below. The various shades of colour showed that the surface of the slope was not uniform; welcome patches of shining snow were intermixed with unpromising pale blue, and the still more ominous dead dull white which betokens a rotten surface concealing hard ice. We picked our way as best we could, in whatever direction the snow lay widest, hewing steps where necessary, and making no very rapid progress downward, when all at once the terrible word *bergschrund* seemed to rise simultaneously to everyone's lips. Where the first definite suggestion came from I cannot tell; but there suddenly started into existence a fixed idea on the subject in all our minds, as if some chemical process had precipitated what had before been in solution. Presently as we edged down lower and lower, the space visible between us and vacancy gradually diminishing, we came to a patch of deep snow that extended downwards the thirty feet which were all that we could see. The guides proposed to make use of this spot, where we could fix ourselves quite firmly, and let down some one to reconnoitre below. Accordingly Macdonald was selected as being by some two stone the lightest of the party, the rope was fastened round his body, and the rest made themselves quite secure in the snow up to their knees. Macdonald lay down on his back, and was lowered slowly foot by foot, till, where the slope seemed to curve over, the strain on the rope increased mightily, and he sank out of our sight with ominous rapidity. He shouted to be let down faster, but this was easier said than done; after paying out some 60 feet, however, the strain ceased, and Macdonald announced that he was safe over the bergschrund, with nothing but a very steep slope of soft snow between him and the level of the glacier. To our enquiry whether any one else should follow, Macdonald returned a somewhat hesitating affirmative; so the rope was drawn up, and Macdonald cut off for the moment from all connection with the rest of the party.

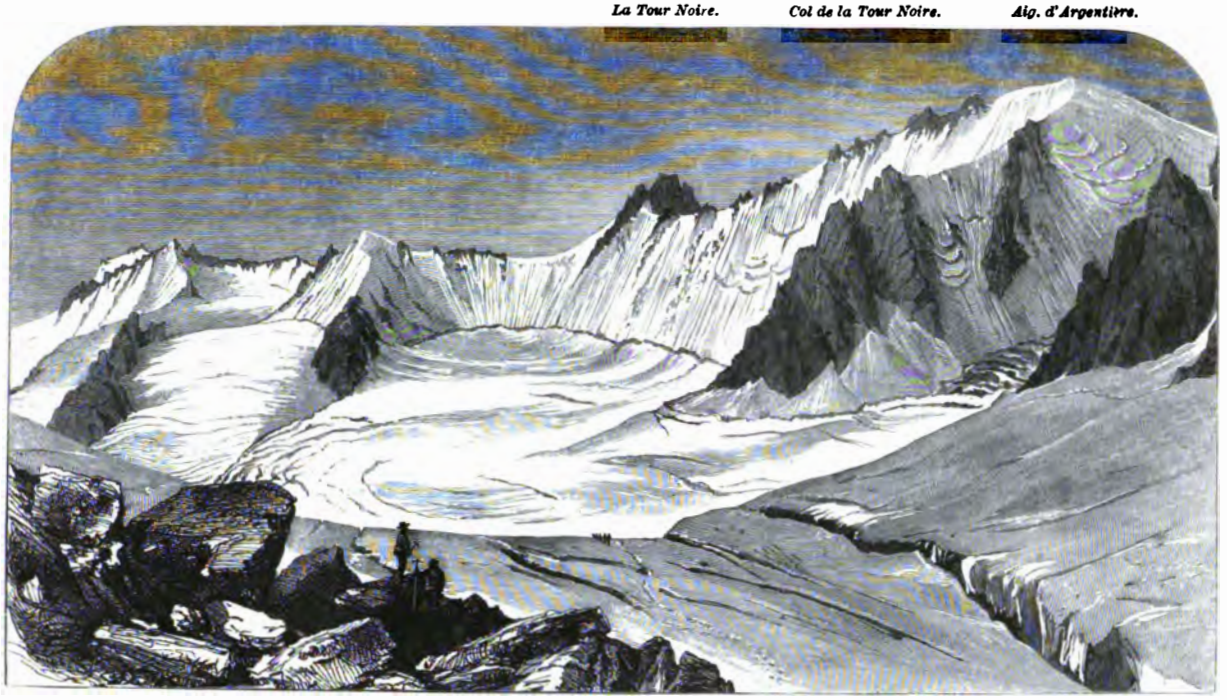
The next step was the decisive one, in defiance of all the proverbs which attach pre-eminent importance to the first. For

though Macdonald might be dragged up again by the united efforts of the other three, it was impossible for Melchior and Almer, so situated, to pull my weight perpendicularly upwards, especially with the rope passing over an abrupt edge. However, without much hesitation, my axe and Macdonald's were flung far over, and the guides began to lower me down the channel of snow. I kept my feet raised in order to facilitate the sliding process, so that it was without the slightest warning that I suddenly found myself dangling quite free in air. A huge mass of icicles broke at the same moment under my weight, and went thundering down—on Macdonald's head, as I could not help fearing. But he had fortunately moved some little distance from the exact spot to which he had been lowered, and was out of harm's way. Macdonald showed me where the snow was firm, and I was speedily free of the rope and standing by his side safe over the bergschrund. The guides now began to ask what they were to do, a question which imposed on us a very serious responsibility; so in order to let them judge in part for themselves, we began explaining the nature of the place. The mouth of the bergschrund, which of course opened not vertically but at something approaching a right angle to the surface of the slope, was considerably choked with snow, so that as we dropped perpendicularly from the upper lip we descended on snow firmly adherent to the lower edge, and found ourselves practically safe beyond the chasm. But the height was, on a careful estimate, 30 feet, no trifling distance for a man to drop unchecked, even into soft snow; and not seeing how else the last man was to come, we hesitated to advise that either guide should be let down. As neither party could see the other, nor hear very distinctly what was said, the conference was carried on under considerable difficulties, none the less so because, in the excitement of so peculiar a situation, the guides relapsed into Oberland patois, and we felt a strong inclination towards our mother-tongue; and we could not feel sure that we had made the guides understand the exact state of affairs. Presently an axe flew over our heads to join the two that had been reposing for some minutes far below, and Almer soon appeared hanging in mid-air, and apparently as much astonished at his position as we had successively been. As soon as he reached *terra firma*, we held a hurried consultation as to the course to be pursued by Melchior, who was waiting above to be guided by our directions. Almer did not at all like telling him to creep down to the edge and drop the 30 feet, though, as it turned out, this would have been the best course, and shouted to him to make his way towards the right, where at some little

distance the bergschrund was much narrower, though the slope below as well as above consisted of ice, intending himself to work along the lower side of the crevice and meet him.

Before Melchior had gone many steps he had to begin cutting his way, and in his impatience to rejoin us was not very anxious to cut the footholes deep, but contented himself with mere scratches that gave very insecure hold, as the surface was rotten. As he was cutting the fourth or fifth step, the rotten ice gave way under one foot, the weight of some 70 feet of rope hanging to his waist pulled him downwards, he lost his balance, slid to the side of the bergschrund, and fell heavily over. Fortunately he had not gone very far, and the lower edge where he fell, as where we had been let down, was well cushioned with snow, but firmer and mixed with lumps of ice, rendering it by no means the perfection of a feather bed. We all rushed towards him, too eager to be frightened, and were delighted to find that, though shaken, he had suffered no serious injury. A little brandy soon restored him to activity, and he never felt, or at least confessed feeling, any subsequent hurt from his fall. One disagreeable result of the accident was immediately discovered; the axe had escaped from his hand in the struggle to regain his balance, and whether it had remained fixed in the ice above as Melchior believed, or had fallen into the crevasse as Macdonald thought he had seen, was at any rate irretrievably lost. It was Almer's axe, the companion of all the ascents he ever made, which Melchior had retained as a better ice-weapon than his own, and therefore the loss was especially grievous. But it was no use searching; the trusty servant had cut its last step, and found a not inglorious sepulchre. So we coiled up the rope, and each sliding separately down the steep bank of snow, in a few moments rejoined our remaining axes on the level of the glacier.

It was now 5.10 P.M.; we had been six hours and a half descending the wall, which we estimated at not much over 2,400 feet. We were nearly in the middle of the huge semicircle which bounds the head of the glacier, and the incline of the ice, such as it was, led us rather to the left, more or less in the direction of a col, which I now believe to have been the Fenêtre de Saléna, over which we at one time thought it might possibly be most desirable to pass. But the idea of reascending so late in the day was distasteful, and the sight of a track leading down the glacier (by whom made, or for what purpose, it baffles all ingenuity to conjecture), decided us against taking any line of our own. If we had had the faintest idea that we were on the Glacier de Saléna, or had followed the first impulse, we might



THE AIGUILLE D'ARGENTIÈRE, COL DE LA TOUR NOIRE, ETC.

have spent the night at Orsières instead of in the middle of the glacier; for I believe the remaining three hours and a half of daylight would have taken us off the Glacier d'Orny. But the *Wildschütz*, or whatever malignant demon made the tracks on the snow, inspired us with fatal confidence, until it was far too late to change our minds. A little before six we found a pool of water on the glacier, which, as our wine had long been gone, was very acceptable; and, being then under the spell of the footprints, we sat down and made such a meal as our stores admitted. The bread was soon finished, and a bit of cheese eaten alone by way of supplement: and the water was faintly diluted with the few spoonfuls of brandy that remained in the flasks, which, being seldom used, had been long unreplenished. While eating we gazed, with a curious feeling that it was all a dream, at the wall* down which our course had lain, and were unable to discover our own route, or trace out any that looked at all hopeful. 'Well, Melchior, do you think we came the usual way down?' said Macdonald. 'Nein, herr,' was the instant reply of both guides. 'Do you still think the Col d'Argentière is anywhere there?' Melchior dallied with his leathern cup, and grimly put the question by: 'You see, herr, it might be very different later in the year.' After all this was a merely speculative difficulty, and the question how soon we should get to the end of our day's work had much more practical importance in our eyes. We still hazily believed this to be the Laneuvaz glacier, short and easily traversed, and confidently pushed on downwards, as the treacherous footmarks led us.

For a short time it was all plain sailing; and the shape of the glacier being such as to prevent our looking far ahead, we did not see the difficulties that were coming until we were fairly entangled. When we reached the snow line all signs of the track which had so far guided us of course disappeared, but it was not until some time afterwards that we discovered ourselves to be completely trapped. The huge mass of the glacier squeezes itself, soon after the incline begins, through a narrow neck, producing the necessary results, total dislocation of its structure and smoothness of the steep bounding sides, as we should of course have anticipated could we have seen the shape of the valley. Even yet we did not know the whole of what lay before us; all hope of sleeping at Orsières that night had long vanished, but as we came to the beginning of the ice-fall,

* See Frontispiece. Mr. Reilly's sketch was taken from a point somewhat more distant, but gives the same general view as we had from this spot.

and for the first time could see some way ahead, we fancied that we descried a châlet colony (nearly where we actually found one next day), and calculated pretty confidently on reaching it. But instead of a short and decisive ice-fall, with a level stretch of glacier below it, we had a protracted misery, the incline being decidedly less than that of the Glacier du Géant, and the length indefinitely greater.

When we found ourselves among crevasses any number of feet deep and wide, averaging in length half the width of the glacier, we began to recognise the fact that we were in for a very pretty business. Melchior first, and then Almer, took to rushing off to inspect each side of the glacier alternately, in order to discover if possible a way off it to the rocks, or a moraine which might admit of more direct progress. Very little time was lost by these manœuvres, fruitless as they were, since the guides thereby obtained hints for our guidance through the labyrinth, and our progress, though slow, was tolerably sure. During all these operations I had one private source of satisfaction which gave me a decided advantage over Macdonald: since the loss of Almer's axe, mine had become by common consent the leading ice-cutter, on the strength of which fact I laid much flattering unction to my soul, as the axe was of my own devising. It must be confessed, however, that the most triumphant reflections are not half so useful a support as a stout ash pole, when one is walking along a narrow rib of ice, loaded with coils of wet rope; and I was most ignominiously glad when either Almer or Melchior could spare me an axe, or an occasional grasp of the hand. The work was frightfully hard for the guides, as owing to the enormous length of the crevasses it was frequently necessary to descend into them and scale the opposite side, operations which involved continual step-cutting, all the more as the fading light rendered it harder to see accurately where we were placing our feet. The guides were most zealous in rendering us all the assistance in their power; and it was probably good economy of time for them merely to scratch the footholes, and supply the deficiency to us by a hold on the rope or an outstretched hand. We never took the trouble to fold up the rope, which, as it was very wet, would have been a long job, but kept it attached to Macdonald and myself, each of us dragging superabundant coils as best he could, while the guides at intervals linked themselves on, or cast it off again, according to the convenience of the moment.

It was very nearly dark, when going on a few steps before Almer, who, having helped me down an awkward place, was waiting to render the same aid to Macdonald, I caught sight of

what at once struck my fancy as the very ideal of luxury and comfort. Down in a hollow of the glacier, so that probably the wind would blow over and not through the surrounding domain, rose a magnificent hotel, built of fine masses of granite. I instantly shouted to my companions that here we should do very well for the night, and hastened to ensconce myself in an airy upper chamber. The guides silently disappeared in opposite directions, leaving Macdonald and the rope shivering before the front door, but returned in two or three minutes to say that they could see nothing elsewhere nearly so comfortable; and in fact it had grown so dark that further progress would have been simply impossible. Melchior now brought his genius for discovery to bear upon our palace, and soon showed Macdonald a snug ground floor apartment, even better furnished than mine above, of which he took immediate possession. Some few compliments passed between us on the subject of my boots, which persisted in hanging out of the window, in a manner highly indecorous but under the circumstances perhaps excusable, and endangering the symmetry of Macdonald's nose. And then, partly for company, and partly because the rain began to beat in an irritating manner upon the roof, I went down the back staircase, came round to the front, and took up my permanent abode alongside of Macdonald.

Our hotel consisted mainly of a mass of rock, having an irregular flat surface seven or eight feet square, inclined at an angle of about 40°; across it ran a slight ledge, just sufficient to give us a little support as we lay, and prevent all our weight from being sustained by our feet. Against this rock rested another, which so far overhung the first as to form a decided acute angle with our bed, and sheltered Macdonald, who on all legal principles whatever was the rightful owner of the warm corner, from most of the rain that fell. I put on my gloves, gave Macdonald as a substitute for gloves a pair of socks which were in my pocket by mistake; and then, having thus warmly wrapped ourselves up, we hitched ourselves on to the ledge across our stony Bed of Ware, and pretended we were going to sleep. The guides declined lying down, and preferred to seat themselves on some outlying fragments of stone, whence, to the best of my belief, Melchior never stirred till daylight. Almer once or twice came and took a nap lying on my legs, a manœuvre which tended to make me a trifle less cold, but also crushed my unfortunate limbs to an extent only endurable for a little while at a time. Macdonald, well squeezed into the angle, and with me lying outside him, slept in a manner which excited my ardent admiration, and grumbled sleepily whenever

I pulled the blanket off him by rising to select a new position in which to fight the losing battle between my bones and the granite. Most of the night it rained more or less; and gradually the comfort of being fairly wet through made us indifferent on this point, and even well satisfied with the presence of the heavy clouds, which at least tended to render the air less chilly.

At length, though from our position and the state of the weather no visible signs of dawn appeared, it became light enough for me to read the figures on my watch, and we hailed this as a criterion of being able to see our way sufficiently for a start. Half-past three! we had been seven mortal hours crouching wearily there, and longing for this blissful moment, and now we were almost unwilling to move. Macdonald paid the penalty of his comparatively long sleep, by being even colder and more miserable than the rest; but we were none of us at the moment thoroughly grateful for our night's entertainment. It is true there was no bill to pay, but then there was no breakfast, there had been no supper, and we bade adieu to our palace without feeling the least wish ever to visit it again.

For the first few minutes we tumbled about as though we had been indulging not only in supper, but in an extensive sequel thereto, but before long we recovered our glacier legs, and found a repetition of our evening's performances warming at least, if not so amusing as usual. After about an hour and a half of dodging and scrambling among the séracs, zigzagging along the deep but unscientifically formed trenches in a manner worthy of the most orderly approaches to a besieged fortress, we found ourselves able to effect a lodgment on the solid ground of the left bank of the glacier. For the first time in my life I was heartily glad to quit the ice, while Macdonald, whose attachment to rocks is notorious and constant, and not, like mine, the mere result of a temporary quarrel with glacier, was loud in his exultation, though, as it turned out, his triumph was somewhat premature. In a few minutes we came upon a tiny rill of water, trickling down to hide its dirty self under the glacier, and of course halted to quench our burning thirst. Drinking very naturally suggested eating, and it was proposed and carried unanimously that the provision knapsacks be carefully overhauled. The search brought to light the following articles:—

1 lump of cheese, amounting by estimate to six cubic inches;
1 scrap of mutton, rather smaller;
1 small tin containing remnants of butter;

all of which were displayed on a convenient stone, and devoured

by our hungry eyes long before the slow material knife had done its work of partition. After consuming the two first courses, with plentiful draughts of fine old Adam's ale, from a tap which probably no human being ever tried before, or ever will taste again, came the final treat of butter, which Macdonald and the guides ate with the relish of Esquimaux, while I vainly envied their all-accommodating tastes, and found consolation in abusing the delightful food which I could not persuade myself to swallow.

We had not made more than ten minutes' further progress when we found that our valued *terra firma* was turning into moraine, almost as much crevassed as the glacier itself, and that in fact the balance was against our present line, on account of the impossibility of cutting steps. So we once more returned to our old enemy in despair and weariness of spirit, and recommenced trench-work. However we were now very nearly out of the labyrinth; a quarter of an hour's advance brought us at length on a fairly level and unbroken reach of the glacier, and we pressed on eagerly. The surface was glassy-smooth with the rain which had fallen during the night, rendering a deliberate slide the safest and easiest mode of passing over every portion at all inclined, and forcing us to cut many a step that in an ordinary way would have been quite unnecessary. We were now so much nearer to the spot where, on the preceding evening, we had imagined châlets, that sundry unmistakeable traces of human neighbourhood were clearly visible, felled trees, and cattle straying about, and a scratch on the hillside that looked like a path. But we could not make out with certainty the châlets themselves, and beguiled the time by asserting that we could see them, now here and now there, as the imagination of one or the other ran away with his sober judgment. In fact, as we afterwards saw, they were so far hidden, both by the shape of the ground and by trees, that it was hardly possible for us to have made them out, had we known their exact situation. At length, nearly three hours after our first start, we finally quitted the glacier, and found ourselves on a rough apology for a path along its left bank, which in about forty minutes led us to the long-desired châlets.

Some little shouting brought to light a stolid youth, the sole occupant of the establishment, who in reply to our eager demands afforded us the delightful tidings that there was no milk, no bread, and no cheese. We were on the point of starting off in despair, infinitely more hungry and tired than we had felt five minutes before, when his good genius prompted some one to ask the lad if he had anything at all to eat. He unwillingly

confessed that there were some potatoes, which he said he was forbidden to sell, though it is hard to imagine what customers his master expected to have applying for them; and, fortunately for us, he had just been cooking his full supply for about two days. An iron pot, full of very dirty pieces of potato, was speedily produced, and we proceeded to consume a large portion of its contents, dirt and all, lubricated with the last scraps of our all-sufficing butter. When hunger was so far appeased as to give our jaws leisure to perform other work than munching, we began for the first time to debate about what we had done; and as the map did not materially assist us, the native was called in as umpire. 'What's the name of this glacier?' we asked, other questions having failed to elicit a spark of intelligence. 'Glacier de Saléna, messieurs,' said the youth, brightening up at being asked something he knew. The confession is ignominious, but the first thought which found expression from both Macdonald and myself was—'Thank goodness, then we're two hours nearer Orsières and breakfast than we supposed.' Almer and Melchior showed a much more fitting sense of what was due to the occasion, and soon recalled our thoughts to the curious fact that we had made, entirely by mistake, a new pass which no one had even known to exist.

The performance, from a geographical point of view, was well worthy of some consideration; we had finally settled the long-debated question about the relative positions of the heads of the Argentière, Tour, and Saléna glaciers, which every successive map had professed to explain in a different way, with no practical result beyond throwing a fresh shadow of doubt over the whole affair. By a novel application of the stereoscopic principle we had fused the Savoyan Aiguille d'Argentière, and the Swiss Pointe des Plines into one homogeneous mountain, and reduced the broad expanse of no-man's-land, supposed to lie at the junction of the three glaciers, to a stony ridge some four feet wide. We knew long before from the logic books that a fallacy, under certain circumstances, *solvitur ambulando*: and here was a startling practical illustration of the way to do it. The upper half of the Tour glacier, and all the array of attendant delusions, had vanished off the face of nature under the disenchanting touch of our prosaic boot-nails. We did not of course at the time understand the whole geography of this intricate region, which Mr. Reilly's careful explorations have now fully explained. I hope that sheet XXII. of the Federal map will some day be altered according to his survey, and leave no longer a debateable land to tempt the French fancy for annexation.

After paying about four times their value for the potatoes, we set off down the path, which the lad assured us would lead in a 'grande heure' to Orsières. And a very great hour we found it; for though Macdonald and I walked at a tearing pace, leaving the guides to follow as they pleased, it was nine o'clock by the time we reached Orsières. After washing till all the water allowed us was on the floor, and breakfasting leisurely, we ordered out a char for Martigny. As the guides did not answer to repeated calls, we went in search of them, and found them sitting, with a loaf and some wine standing untouched on the table between them, both sound asleep. Never had men a much fairer right to be dead tired; we had been thirty-one hours crossing from Argentière to Orsières, more than twenty-five of them on ice, or the still less easily traversed rocks of the wall; and during the whole time they had worked with a good-will and cheerfulness which no difficulties or fatigue could impair, ever ready, as much after their sleepless night as on the first steps down from the top of the pass, to offer us every possible help, and never allowing a word of despondency or grumbling to escape their lips. The skill of both Melchior and Almer as guides is so universally known to be beyond all praise, that it might seem almost insulting for me to say a word in honour of it; but our wonder at their extraordinary powers was nearly lost in admiration for those still higher qualities to which a most crucial test had been applied. Rivals in reputation, they yet work together like brothers; and whether it be for utter absence of all mean jealousy, for willingness to work and care for the safety of their *Herrschaft*, or for thorough honesty and unselfishness, either of them may be regarded as the very standard of excellence to which all other guides are to be compared.

A hot sleepy drive to Martigny, and an afternoon of loafing, brought to a luxurious close a day which had begun so differently. And here, with the first passage, the history of the Col de la Tour Noire will, I am afraid, virtually terminate. That it is a pass, which some of our friends have been rash enough to deny, may be proved by unanswerable syllogism, as thus:

Between every two adjacent peaks there is a pass.
The Tour Noire and Aiguille d'Argentière are adjacent peaks.
∴ There is a pass between them.

But I fear I must admit that it presents few advantages as a practical through route between Chamouni and the St. Bernard valleys, though to the mountaineer in search of novelties it offers some very pretty scrambling, and the chance of one

or two strong sensations. To those intending to try it I can only suggest one piece of advice: insure your lives before starting, or, what is the same thing, take Almer and Melchior as your guides.

Narrative of the Fatal Accident on the Haut-de-Cry, Canton Valais. By Philip C. Gosset.

IT has often occurred to me, when walking on hard snow in winter, that a mountain ascent at that period of the year might be made with much less difficulty and trouble than in summer. With this view I made several excursions in winter, and came to the conclusion that the mean temperature at a certain elevation, up to 8,000 feet, is not so low as might be expected. In some cases I believe it to be higher than in the plain of Switzerland. The plain is covered with fog for weeks in winter. In the morning the fog lies close to the earth, at noon it rises to the height of a few hundred feet, and in the evening it comes down again. During three weeks running, often longer, you cannot see the sun, and the ground is frozen hard. Above the fog the sun is shining brightly on the mountain peaks. It is therefore easy to understand that unless the fog is kept off by a strong NE. wind (which is generally not the case in winter at least), the temperature of the upper regions is higher than that of the plain. As an example tending to prove this assertion, I may mention that I have found flowers blooming on arêtes on the Rothhorn and Niesen at the height of 7,000 feet, when there was not a flower in the plain of the Canton of Berne (on December 31, 1861, and on February 4, 1860). Amongst these flowers were the *Gentiana verna* and *Viola calcarata*.

My friend B. was familiar with mountains in winter; he had been up the Æggischhorn and Riederhorn in December, 1863: easy as these points may be to reach in summer, in winter, if the snow is not hard, the question is very different. On February 28, 1864, we left Sion with Bennen to mount the Haut-de-Cry. We started at 2.15 A.M. in a light carriage that brought us to the village of Ardon, distant six miles. We there met three men that were to accompany us as local guides or porters, Jean Joseph Nance, Frederic Rebot, who acted as my personal guide, and Auguste Bevard. We at once began to ascend on the right bank of the Lyzerne. The night was splendid, the sky cloudless, and the moon shining so as to make walking easy without the use of a lantern. For about half-an hour we went up through the vineyards by a rather steep