danger from falling stones. I speak from my own observation, and from the accidents of which I happen to have heard.

My general moral is this; that a man should qualify himself, both in activity and what I may call mountain craft, before he undertakes any difficult expeditions. With men so qualified, I believe that the danger may be generally reduced to a trifle, especially if the command of the party is entrusted to its most experienced and judicious member.

The Col de Trélatête. By C. E. Mathews.

NOTWITHSTANDING the crowds of tourists who flock annually to Chamouni and Courmayeur, notwithstanding the extortion of guides and the rapacity of landlords, it must be confessed that there is something very fascinating about the chain of Mont Blanc. There are probably more sources of Alpine interest between the Col de Balme and the Col de la Seigne, than are to be found within the same space of any of the other great mountain-chains. It is consequently the more to be wondered at, that the geography of the chain should have been so long neglected, and that it should have been reserved to Mr. Reilly to penetrate into its innermost recesses, and by his patient and continuous researches to remove the reproach under which it had so long laboured, of being the most visited and the worst-mapped portion of the entire Alps.

It was one sunny afternoon at the end of July 1864, after I had quite given up the idea of going to Switzerland for that year, that I read in this Journal Mr. Reilly's account of his rough survey of the chain of Mont Blanc, and how he had already succeeded in evolving order out of chaos. A few days later I heard of the ascent of certain aiguilles in the chain of Mont Blanc, and of several new cols, some actually passed, and others projected, over glaciers previously considered impracticable. On again referring to Mr. Reilly's paper, I specially noted that he spoke of the practicability of passing from the glacier of Léchaud to the Val Ferrex by the glacier of Pierre Joseph, and also of the possibility of making a new pass at the other end of the chain, westward of the Col de Miage, from the glacier of the Allée Blanche to that of Trélatête. I had but a very short time at my disposal; but my brother, G. S. Mathews, consented to join me, and we agreed to go out and inspect these new cols to which Mr. Reilly had directed attention. The good guides had of course been long engaged, so I wrote to Chamouni, and requested M. Staelin, the manager of the Hôtel de Londres, to send the best guide he

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could put his hands upon, to meet us at Sixt on the 21st of August. On reaching Sixt, one of the many Balmats, Michel by name, presented himself duly accredited from M. Staelin. He soon had it in his power to render us an essential service, not as a guide, but as a man and a brother. We had walked in from Tanninges, and being hot and dusty, our first consideration was where we should be able to bathe. We were directed to a pleasant little lake not far from the village, and in a few minutes were revelling in its delicious waters. The inhabitants of Sixt, however—perhaps under the impression that some of the evil spirits had migrated from Morzine, or possibly believing that they might be entertaining angels unawares, anyhow displaying a want of politeness aggravated by curiosity—came out in great numbers to watch the troubling of the waters. Our position was not enviable, and the water was cold; when Balmat, who happened to be passing, took in the situation at a glance, discomfited the Sixtites with a volley of abuse, and enabled us to return, 'clothed and in our right mind,' to the shelter of the inn. At a little after three the following morning we left cards under the door of Mr. Wills' charming little châlet, and crossing the Buet, from which we had a magnificent view of the whole chain of Mont Blanc under a perfectly cloudless sky, we descended to Argentière, and thence to Chamouni. Balmat looked promising as a guide; but, as we proposed to do new work, we thought that two men would be necessary, and at Balmat's request we engaged Jean Carrier, an old guide of Chamouni. Balmat turned out competent and active, and, though young, will doubtless soon come into the front rank. I could not, however, conscientiously recommend him to young climbers, for he has a way of cutting small steps to suit his own feet, and expressing regret if they are not large enough, without exhibiting the slightest inclination to improve them, a habit which cannot be too strongly deprecated. As for Jean Carrier, he may once have been a good guide, but he showed to so little advantage when in our employ, that we should much have preferred a second-rate porter in his place.

I had long had an idea that it was possible to get over the ridge at the head of the glacier of Léchaud, surely the most natural col between the Mer de Glace and Courmayeur, and we determined at any rate to examine it carefully, and, if we found it impracticable, to endeavour to gain the main ridge by the glacier of Pierre Joseph.

We left Chamouni at midday on the 23rd, intending to sleep at the Montanvert, where we arrived in pouring rain. The little inn, inconvenient at the best of times, was crammed with

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people, speaking all manner of languages at once. The glacier, sloppy as it was, was preferable to the noise and confusion of the inn; so we walked to the Chapeau and back, still in heavy rain, and on our return found only two tourists remaining out of the motley crowd. These were a Dutch lady and gentleman, who had determined at all hazards to make the fearful passage of the Mer de Glace. It poured all night, and on the morning of the 24th we awoke to find it raining more persistently than ever. The scoundrel who had accompanied our Dutch friends gravely informed them that the passage to the Chapeau was impossible, as the wooden bridge over one of the streams was washed away; but as the bridge in question was plainly visible from the window of the inn, we offered our services as local guides, and conducted our friends in triumph to the Chapeau, the rain still falling in torrents—a moist and melancholy excursion. On returning to the Montanvert we found it deserted; but the thermometer had fallen considerably, and the rain had turned to snow. The weather cleared in the night, and we started at 3.30 on the morning of the 25th, certain of a fine day.

One is never so thoroughly prepared for an Alpine excursion, or so keen to enjoy it, as on the first fine day following enforced inactivity from bad weather. As we stept outside the door of the little inn in the highest spirits, the stars almost dazzled us by their brilliance and splendour, and the beautiful aiguilles, powdered almost down to the glacier by fresh snow, presented that unreal but exquisite appearance which Mr. Walton alone of English artists has yet been able to render with real fidelity to nature.

At 5.30 we were opposite the Couvercle, and then went on straight for the actual col at the head of the Léchaud Glacier. The ice-scenery is magnificent, and I know no excursion I can more confidently recommend than to the head of this glacier as far as the superb séracs that tumble into it from the Mont Mallet.

We were soon convinced that it was quite impossible to get over the ridge at the very head of the glacier. It was far too steep, and the summit was guarded by a gigantic overhanging cornice. So we kept as far as possible to the right, to get a good view of the secondary glaciers descending from the Aiguille de Talèfre, by one of which we hoped to gain the ridge. We first thought of trying the arm of the glacier of Léchaud that leads directly to the aiguille of that name, but on consideration we left this part of the glacier on our right and climbed up the rocks immediately on the left.

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Carrier turned ill, and we sent him back to the Montanvert, and, addressing ourselves in earnest to the work before us, we found a practicable couloir which would have been easier to climb if the rocks had not been coated with thin ice, and on part of which it took us forty minutes to get up about as many feet. At five minutes to 11 we arrived at the foot of an apparently practicable col, but Balmat assured us it was not the main ridge; and keeping a little more to the left we arrived at 1.20 on the summit of an arête between the Pierre Joseph and the arm of the Léchaud Glacier above referred to. Further progress was impossible; we were on a sort of ridge parallel to the main ridge, which could be reached from our position only by rocks which were manifestly altogether impracticable.

The pass will no doubt ultimately be made, by the tributary of the Léchaud Glacier; but if feasible, it will be made with the least difficulty early in the year, and when there is abundance of snow.

We returned the same way by which we had ascended, and reached the Montanvert at a little before seven, after a splendid though unsuccessful excursion of about fifteen hours.

The next day (the 26th) we crossed the Géant, arriving at Courmayeur at 5 P.M., and determined at once to solve the problem of a passage from the glacier of the Allée Blanche to that of Trélatête, and, if possible, to take the latter beautiful summit on the way.

We spent the morning at Courmayeur, the loveliest and most picturesque of all Alpine resting-places, and in the afternoon we walked up the Allée Blanche, the weather being anything but promising, intending to bivouac, as Mr. Reilly had done, somewhere upon the rocks of Mont Suc. As we proceeded, however, the weather became worse, and we preferred the comparative comfort of a châlet to the inhospitable rocks of Mont Suc. We found a châlet near the Col de la Seigne, and had a sufficiently comfortable sleeping-place in a hayloft belonging to the establishment.

Soon after four on the morning of the 28th, we roused from our lair, and getting under weigh about five, we skirted a rocky promontory that stretches from the Aiguille du Glacier, separating the glacier of Estellette from that of the Allée Blanche. Our route lay along the middle of the glacier, but as neither of the guides knew anything whatever about it, and as the herdsman at whose châlet we had slept told us that no one ever went upon it, and there was no way over, we felt some anxiety as to the best route to be taken. The lower part of the glacier was easy enough; but when we got to the middle, it

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became wonderfully broken up, and we had the greatest possible difficulty in finding our way. Constantly, when we had apparently made great progress, we found ourselves in a trap, and had to retrace our steps; but after about three hours' good walking we gained the moraine which comes down from the Trélatête, and continued the ascent by the moraine without much difficulty.

On halting for breakfast, Carrier signalised the occasion by dropping all our bread and a packet of precious tobacco down a deep crevasse beyond all hope of recovery. The blow was a severe one, but we had a good slab of veal, and treating it as bread, we consumed thick slices of it, covered with butter and honey, with great contentment and satisfaction. Thus fortified, we again plunged into the séracs, until at last we found ourselves involved in a mesh from which there was apparently no way of extricating ourselves. After a few minutes' delay, Balmat, who had been reconnoitring, told us we could get out if we did not mind crawling on our hands and knees along the top of a sérac, which seemed to lead to a more practicable part of the glacier. We got on to the sérac, with great doubt as to whether our rope would be of sufficient length, but Balmat tied one end round his waist and proceeded *à cheval* while we paid out the rope two or three feet at a time. To our great relief it was just long enough to cross the sérac; Balmat reached a place of safety, and we drew back the rope. I crossed next, then my brother, and finally Carrier. It was, without exception, the most perfect bit of ice-climbing I had ever seen. There were huge crevasses on either side of the ice-wave along the crest of which we crossed, and the width of the wave itself was only a few inches. Fortunately the ice was perfectly hard and trustworthy; but the chief difficulty of the passage was that the wave was not level, and it is exceedingly difficult *à cheval* to go up or down an ice arête, inclined even at a very moderate angle. This difficulty accomplished, we made rapid progress, reaching the upper basin of the glacier soon after 10 o'clock, and working our way right under the Aiguille de Trélatête. At noon we had left séracs and difficulty behind us, and in another hour and a half we reached a beautiful and slightly-inclined snow-slope which led directly to the col. The weather had been magnificent; the views behind us comprised the shining snowfields of the Ruitor, and all the peaks of the Graians. The glacier on which we had been walking is itself of great beauty, wonderfully clear and bright, and offers the tourist some specimens of séracs to which those of the Géant will bear no comparison. The views of the Trélatête on the right, and the

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Aiguille du Glacier on the left, are extremely grand, and so is the ridge of rocks that culminates in the Aiguille du Glacier, and sweeping round to the very col, forms the southern boundary of the snowfields of the glacier of Trélatête. We reached the col a few minutes after two, a most perfect little depression a few feet wide, the apparently easy rocks of the Trélatête rising steeply on the right hand. Immediately opposite us was the Aiguille de Miage, and the cross-wires of the level intersected at a point just below the summit of its left-hand peak. A little to the left was the Aiguille de Béranger, but the Bionnassay was I believe hidden by the Miage.

Having lost our bread, we were rather badly off for provisions; and hoping and believing we should gain the pavilion of the Trélatête in a few hours, we finished our last scrap of food and our last drop of wine.

At three o'clock we began the descent, which looked anything but promising; a steep slope brought us to a snow-basin on which a little fog was settling, and partly obstructed the view; but at the edge of the basin it was quite clear again, and we discovered, to our consternation, that the tributary glacier upon which we were standing tumbled over and over in a tremendous icefall, till it reached the main stream. We had to force a passage down this icefall; and it took us three hours and a half of the most dangerous step-cutting I have ever seen, before we cleared the séracs and gained the level upper basin of the Trélatête Glacier. I had rather not describe the passage of this icefall; it would better suit the pages of a sensation novel. Whatever difficulties we had on the Allée Blanche were child's-play to those we had now to experience. More than once we discussed the advisability of retracing our steps, climbing the Trélatête, and sleeping amongst its rocks, and descending the following morning by the northern portion of the glacier which we knew to be practicable. We were determined, however, to make the col unless the difficulties were insurmountable; and, having all first-rate axes, we were able to make good Balmat's deficiencies in the art of step-cutting. Over and over again we had to cut handholes to steady ourselves by before we could cut steps for our feet, and when we did at last get out of our difficulties a little before seven, and found nothing in front of us but the smooth surface of the glacier, by a sort of natural instinct we had a hearty handshaking all round.

We thought we might succeed in getting off the glacier by daylight, but alas! the wish was father to the thought. We raced along with great speed, but at eight o'clock it was too

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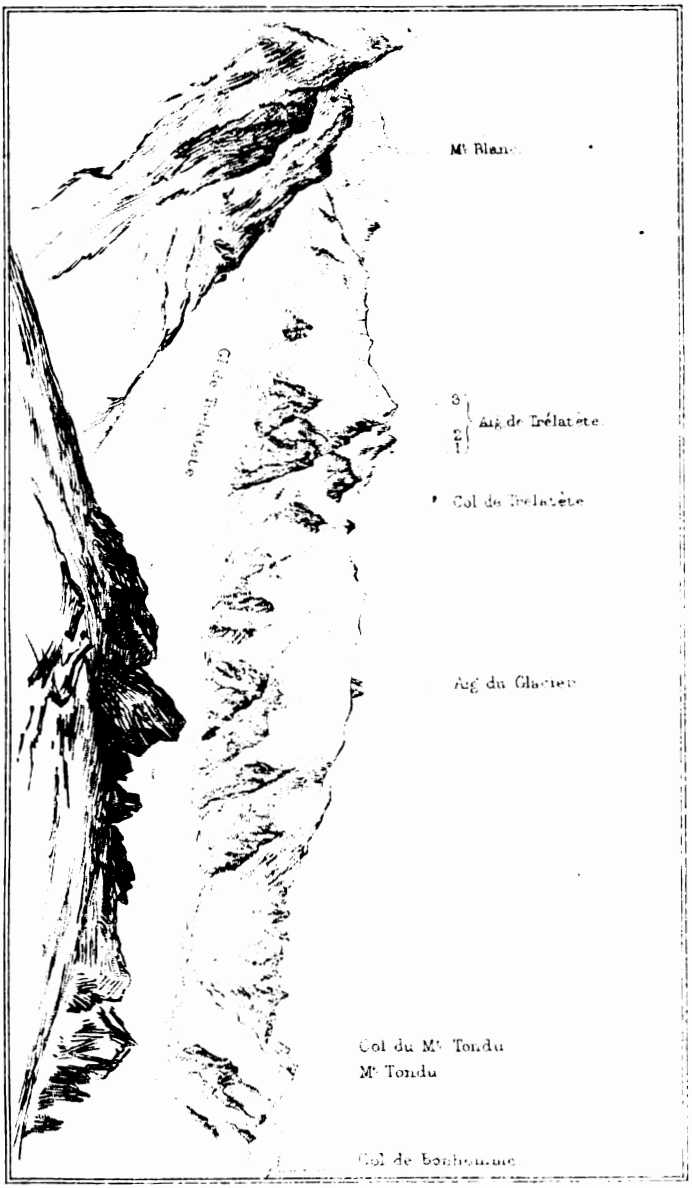

VUE DU PIC PRIS DE PRAZ SUR ARGENTIÈRE EN MAURIENNE

dark to get on; so we found a little patch of rocks under the Aiguille de Béranger that looked less uncomfortable than the rest, and prepared ourselves for the worst. There are few things more delightful under favourable circumstances than a night's bivouac upon a glacier: a pleasant party, a blazing fire, plenty of food, songs and laughter, glorious colouring at sunset, an early start in the morning, and no bill. But alas for an involuntary bivouac under such circumstances as those in which we found ourselves placed!

Daylight soon goes at the end of August, and we 'shot on a sudden into dark.' We had only just time to clear away the snow on the little patch of rocks we had chosen for our lair and to squat down. We overhauled our knapsacks lest by possibility a stray bit of food could have escaped our attention; but there was no meat, no bread, not even an eggshell, no wine, no brandy. The entire stock of provisions consisted of one lump of sugar-candy belonging to myself, and one pipe of tobacco belonging to my brother. We each had a small plaid and some dry socks and slippers, so we took off our boots (very foolishly), and put on our socks and slippers, arranged our plaids so as to give the utmost amount of warmth possible, and composed ourselves to the situation by winding up our watches with more than ordinary care. In about twenty minutes our teeth began to chatter, and they kept up a lively conversation for the rest of the night. It was fearfully cold, and I have always regretted that we had no thermometer to make an observation. Our guides, who had no extra clothing of any kind, suffered severely. The only amusement we had was that of solemnly lighting a lucifer-match at intervals of about a quarter of an hour, to see how far we had progressed towards morning.

My brother, however, had an occupation for his mental faculties which I had not: he put his snow-gloves on his hands, and his hands in his pockets, and rolled himself up into a kind of ball. He had the one solitary pipe of tobacco still left, and whenever a warning voice from the regions of the stomach suggested that a pipe would appease the pangs of hunger, a sharper twinge of frost kept his hands more firmly in his pockets. I had flatly declined to light the pipe for him and put it into his mouth, so the arguments, although inaudible, continued to be strongly urged; and being a man with a keen sense of justice, he felt constrained to hear them out on both sides, no matter at what personal inconvenience to himself. By the time they were concluded, and after enduring as much misery as we could well put up with, faint gleams of daylight made their appearance, and we got up and shook ourselves about half-past four.

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But here a new difficulty arose; our boots were frozen as hard as cast-iron, and for some time by no manner of means could we get our feet into them. After infinite struggling we got under weigh, and crawled down on to the glacier, looking rather like phantoms of the men who had left the Allée Blanche some four-and-twenty hours before. But the exercise refreshed us, and we reached the Pavilion de Trélatête without any incident worth mentioning, at about seven o'clock, in a state of ravenous hunger. We had been seventeen hours without food, but some hot wine and omelettes soon revived us, and, after dozing for a few hours on the grass at the foot of the Pavilion, we walked through the underwood and the cornfields to Contamines, and so on to St. Gervais.

We were fortunately provided with a photograph of Mr. Reilly's manuscript map, and by the kindness of that gentleman I am able to append a sketch of the col, taken by him from the summit of the Aiguille de Béranger, some months previous to the excursion I have just described. He and his guide Charlet carefully studied the position from the Béranger, but concluded that the col was impassable from the great steepness of the icefall. When we joined our guides again at Chamouni, we found they entertained a modest estimate of the value of their services. The price of a guide for Mont Blanc, they said, was 100 francs; the new col was ten times harder than Mont Blanc, and consequently they expected ten times the pay. A serious discussion took place on settlement. We ultimately satisfied Balmat, but Carrier, who had been more than useless to us, refused to be comforted by any offer—consequently, as Mrs. Gamp observed, we 'did not part as I could wish, but bearin' malice in our 'arts.' This system of extortion will sooner or later work its own ruin. Two days afterwards, with a man strong enough to carry our provisions, and competent to make a third on a rope, but without guides, we again crossed the chain of Mont Blanc by the beautiful glacier of Argentière.

Ascent of the Dent Blanche. By John Finlaison, B.A.

THE idea that it might be not beyond my powers to ascend one of the few still unconquered peaks of Switzerland, first occurred to me when I was descending the Aletsch Glacier. I had just effected, under circumstances of exceptional difficulty, the passage of the Jungfrau Joch, and had ascertained that my guides, Christian Lauener and Franz Zurfluh, appeared to be capable of facing every danger, and of dragging me up any

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