Northern Alps, rise in continuous ridges, but are broken up into masses of the most romantically beautiful forms. Such may have been the scenery of the fairest portions of Asia Minor, before the Mahometan conquest brought desolation upon the land.

Two roads lead from Stenico to Riva, one hilly and picturesque, by the little lake of Tenno, the other through the lower gorge of the Sarca, and down the deep trench of the river to the lake. The lateness of the hour forced us to take the latter. Beyond the Baths of Comano there is a fine view of the back of the Brenta Alta, at the head of a glen parallel to Val Dalcon, and penetrating even more deeply into the heart of the range. One pass leads from its head to the Lake of Molveno, another joins the route of the Bocca di Brenta, near its summit. Whether Pinzolo can be reached by crossing the ridge south of the Brenta Alta remains to be proved. The descent to Val Rendena is assured, but we shrank from an attempt to get down the cliffs on this side on the day we lost our way in a snowstorm on the Bocca dei Camuzzi.

Daylight left us soon after passing the inn of Le Sarche. For hours, as it seemed, our rickety car rolled on through the moonlight down the half-desolate, half-luxuriant valley. Now a train of bullock-waggons, travelling through the cool hours, creaked slowly past; then our wheels rattled over pavement, and we plunged into the long gloomy street of some road-side town; then out again into the moonlight, now shining full on the huge castled crag of Arco, and through long cypress avenues and broader streets. Still onwards amidst trellised vineyards and gardens, until at last our long drive came to an end at the door of the 'Sole' at Riva.

Two mornings later, as our boat, leaving the olive-green shores and bold cliffs of Riva for the terraced lemon-groves of Gargnano, danced over the blue waters of the Lago di Guarda, the lower ranges opened behind us, and we looked regretfully for the last time on the lofty wall of the dolomites and the crowning snow of the Brenta Alta.

An Ascent of the Matterhorn from the South Side. By C. E. Mathews.

IT is quite impossible to say anything new about the Matterhorn. The spirited articles of Professor Tyndall, and the artistic and admirable work of Mr. Whymper, have exhausted the history of this famous mountain. We are as familiar with

its outlines as with the forms and faces of our personal friends. But familiarity will never breed contempt for it, huts will never render it uninteresting, ropes and chains will not vulgarise it, 'age cannot wither or custom stale its infinite variety.' The mystery which once surrounded it is gone, the evil spirits once believed to haunt it have been frightened away; but greater knowledge of it brings only an increased admiration. Lightning may smite, and suns burn, and frosts disintegrate, but

> 'Each in passing touched with some new grace,
> Or seemed to touch her—so that day by day,
> Like one that never can be wholly known,
> Her beauty grew.'

I think an apology is needed to the Alpine Club for venturing to occupy these pages, in the year 1871, with a story of the Matterhorn; but the experiences of two memorable days in the past month of August are here recorded, at the command of the Editor of this Journal, whose will is law.

For several years my friend Mr. Frederic Morshead and myself, accompanied by Melchior Anderegg, have found ourselves at Zermatt, in the hope of reaching the summit of the Matterhorn. In 1867 we gave the preference to the Lyskamm from the south side, after climbing which, bad weather prevented our attacking the object of our desires. In 1869, after a campaign in the Oberland, letters which Morshead received from England, on his arrival at Zermatt, compelled his immediate return, and I was unwilling to try the mountain in the absence of my genial and valued friend. In 1870, during one week in Zermatt, we had reached with the greatest ease the summits of the Rympfischhorn, the Weisshorn, and the Dom, but there was so much fresh snow on all the mountains that Melchior absolutely refused to set foot upon the Matterhorn. Our desire to climb it, however, it is needless to state, increased with our repeated disappointments.

Early in August in the present year Melchior met us at Innsbruck. He informed us that a few days previously he had made the ascent from the side of Zermatt, and urged us to try it from the Breuil or south side. Professor Tyndall, with whom we had subsequently passed a few pleasant hours at Pontresina, was good enough to give us the same advice, and urged us to follow the example he set in 1868, and pass from Breuil to Zermatt, over the summit of the mountain. He told us, as we were indeed aware, that no rock scenery in the whole Alps was equal to the south-western arête of the Matterhorn, and he added that of all the guides of the Val Tournanche

there were only two, Jean Antoine Carrel and Joseph Maquignaz, with whom we were likely to be contented; and I cannot, added the Professor, 'recommend the one more highly than the other.' Before we had left England, however, we had read and noted the tribute paid by Mr. Whymper to the former of these accomplished guides. 'He was the only man,' says Mr. Whymper, 'who persistently refused to accept defeat,' and 'he is the finest rock climber I have ever seen.' A few days later we had ample opportunity of bearing our testimony to the accuracy of this description.

On Wednesday, August 16, in rude health and excellent training, we were discussing our plans over the dinner-table at Ivrea. It was a beautiful afternoon, and Morshead, who had been wasting, as he said, three golden days in the heat and luxury of Como and Milan, was sighing for the purer air and simpler food of the Val Tournanche. We wanted to reach Chatillon on the night of the 16th, and were soon en route for that village in a rickety carriage drawn by a pair of withered and melancholy steeds.

Clouds gathered thick as we left the old town of Ivrea, and before we were half way to our journey's end a tremendous thunderstorm broke over the valley, accompanied by torrents of rain. Our horses were utterly unable to make head against it, so we put up for the night at a roadside inn, and starting again early in the morning, reached Chatillon to breakfast. The heavy rain that had fallen during the night had cleared the air, but there were heavy clouds about, and our prospects looked gloomy and threatening.

We were anxious that no one should be acquainted with our plans, and simply announced our intention of crossing to Zermatt by the hackneyed pass of the Theodule. We had not arrived ten minutes when a tall and resolute man, with a Solferino medal on his coat, came up and spoke to me. 'You are Mr. Mathews,' he said, 'and your friend's name is Morshead.' I admitted the facts, and told him we thought of crossing the Theodule. He smiled and said, 'Oh no, I think you are mistaken; you are going to Zermatt over the top of the Matterhorn. You want a Val Tournanche guide. I am Jean Antoine Carrel.' He produced his credentials—one or two chapters of Mr. Whymper's charming volume, on one of the pages of which is a most excellent portrait of this well-known guide. It was the same Carrel the ambition of whose life was to be the first to set foot upon the Matterhorn, and who spent seven years in the earnest endeavour to find out a way to the summit from the side of his native valley. He

tried it in 1858 and 1859, with local friends, and reached a spot now known as 'the Chimney,' above the Col du Lion, and between 12,000 and 13,000 feet above the level of the sea. He made another attempt in 1860, with Professor Tyndall and Mr. Vaughan Hawkins, and reached the foot of what is now known as the Great Tower—a height of a little more than 13,000 feet. He tried again in 1861, reaching a point known as the Crête du Coq, some 200 feet higher than his ascent of the previous year. He tried again in 1862, twice with Mr. Whymper, on neither of which occasions, however, did he quite reach the point previously attained; and again in the same year with Professor Tyndall, when after a gallant fight the party reached the shoulder at the foot of the final peak, some 14,000 feet in height; and finally, in 1865, he first reached the summit from the Italian side after a desperate climb, three days after Mr. Whymper's party had made their memorable and disastrous expedition from the northern or Zermatt side. He was the man we wanted, and we immediately engaged him, leaving him to hire two porters to carry our luggage up to Breuil, and to accompany us on the following day as far as the hut where we hoped to pass the night, some 1,500 feet below the summit of the mountain.

As we walked up the lovely Val Tournanche not one of us had even a hope that our enterprise would be successful. There was a little rain, and as we reached the spot from which the majestic peak is first visible, nothing confronted us but impenetrable clouds. At the village of Val Tournanche, however, the prospect became brighter, and on our arrival at Breuil, though we could not even see the form of the mountain, the keen cold air gave us a little hope. Morshead, who was never known to be depressed, announced in a cheery voice that at 3 o'clock in the morning the weather would be superb; and having made our arrangements, and specially warned our guides to give no hint to anyone of our intentions, we retired. At 2 o'clock on the morning of the 18th Melchior called us. We were up in an instant, for he said, 'The sky is cloudless, and there is no snow upon the mountain.' The good news was perfectly true; the recent storms had been partial, and apparently had not touched the stupendous mass that loomed darkly at us through the early dawn. Our plan was to climb the south-western arête till we reached the cabane; to sleep there, and on the following day to gain the summit and descend to Zermatt.

We were ready to start at 3 o'clock, and the porters left at that hour, but we had to wait for nearly an hour before

there was light enough to enable us to pick our way. At five minutes to 4 we started, and, eager to be off, walked rapidly over the gentian-studded slopes which stretch from Breuil to the foot of the well-known Col du Lion. We soon overtook the porters, and our party of six tramped up the hard snow with great rapidity and ease till we reached the rocks a little below the col. Here the scenery is exceedingly impressive. Just above us was the slight snow col overlooking the great basin of the Zmutt glacier. To the left were the steep rocks of the Tête du Lion, and immediately on our right was the savage arête of the Matterhorn, pointing directly to the wished-for goal. It was a difficult scramble to get from the snow-gully on to the rocks, but we were soon on the arête, looking down upon the gorgeous ice-fields of the Zmutt basin. The weather was absolutely perfect. The sun had risen. There were no clouds in the sky. We were at last, under the most favourable circumstances, climbing the ridge for which we had so often longed. The rocks, although by no means easy, did not disintegrate. There was no ice upon them, and there were no falling stones. The guides of the Val Tournanche have fixed ropes in some of the most difficult portions of the climb. When I was satisfied, which was not always the case, that the ropes would hold, I was glad to avail myself of their undoubted assistance. Morshead, however, regarded them with loathing, would never touch them if he could help it, and repeatedly suggested that if the Matterhorn could not be climbed without such aids, it ought not to be climbed at all. After some hours of steady, and, considering the nature of the work, exceedingly rapid climbing, we reached the extraordinary obelisk of rock known as the Great Tower. The sky was still cloudless; we were in tremendous spirits; and we rested for a few minutes to take food, and to admire 'those wild and wonderful rock-towers into which the weather of ages has hewn the southern ridge of the Matterhorn.' 'Courage!' shouted Melchior, as we turned again to our work; 'le diable est mort.' We were now climbing up that portion of the ridge which leads from the Great Tower to a point which from Breuil looks like a second and lower summit of the mountain, when an unexpected difficulty arose. We found the rocks ice-covered, to a small extent at first, but as we got higher to an extent which damped our energies, and seriously impeded our progress.

On most mountains, even where there are real difficulties, there is so much that is comparatively easy that the mind is not fully occupied, but now the work became so seriously difficult that our entire bodily and mental energies were devoted

to it. The rocks became worse and worse. We tied our axes over our arms, and climbed hand over hand. Carrel led us with indomitable energy, and it was a mountaineering treat to watch the skilful manner in which he climbed. I followed him. Morshead came next, and Melchior brought up the rear, the two porters being on a rope of their own. After some very severe climbing we reached a patch of snow known as the Cravate, a height of 13,400 feet, and about 1,400 feet below the summit of the mountain. But to our inexpres ible consternation one of those sudden changes took place for which the Matterhorn is so notorious. A cold wind began to blow. A few minutes before there was no apparent vapour in the atmosphere; now sudden wreaths of whirling mist seemed to form under our feet, the blue sky was blotted out, and then snow began to fall. It was a bitter moment, but in an instant we changed our plans. We dreaded a break up of the weather, and felt that if we were to reach the summit at all not a moment was to be lost. Instead of sleeping at the hut, which we had nearly reached, we would send back our porters, load ourselves with such food or clothing as was absolutely necessary, make an immediate push for the summit, and get over to the cabane on the Zermatt side the same evening. It was now half-past 12. The porters climbed with us to the lower summit known as the Pic Tyndall, where we arrived shortly after 1 o'clock, and found the flagstaff planted by Tyndall and Bennen in 1862. Here we rapidly relieved our porters of part of their load, and sent them back to Breuil. In light marching order, but with heavy hearts, we attacked the long horizontal ridge which stretches from the Pic Tyndall to the base of the final peak. Imagine a saw many hundreds of feet long, with jagged teeth of various heights and size—imagine gigantic precipices on either side—imagine these teeth coated many of them with thin ice, rapidly being concealed by falling snow, and imagine four men struggling up these teeth one after the other at a rapid pace, up one and down again, and up another. This was the position of affairs. Melchior had promised to take us over on to the Zermatt side if we could gain the summit before 3 o'clock. It was after 2 before we got to the end of the ridge and stood face to face with the 600 feet of final precipice which still towered above us, most of it ice-covered, and rapidly being whitened with fresh snow. This was the spot which dazed Professor Tyndall in 1862, and which he sat down to inspect, whilst his guides exclaimed, 'It is impossible.' Melchior had become extremely grave, and began to mutter the ominous word 'dummheit.' Morshead and I had agreed to abide by his

decision in any event, but we all determined not to give up without a struggle; and still more that whatever conference took place should be in the act of climbing, and not standing still. To have stopped would have been to have turned back. I looked up, and saw about half way up the peak a rope-ladder fixed in the rocks. I felt certain that if we could pass this rope-ladder we should, in spite of all difficulties, reach the summit. The wind howled, and the hail and snow drove into our eyes and ears, but we got to the ladder. It seemed to me to be fixed at the top and bottom of an absolutely overhanging rock. We got up the ladder very quickly, but the effort was so great that we had to wait a few seconds to regain our breath. Melchior now began loudly to expostulate; it would take us, he said, another hour to get to the summit, and it was folly to proceed. We admitted the folly, but as he did not turn back, we climbed harder and harder, Carrel pulling at the rope with tremendous energy. At a quarter-past 4, panting and breathless, with quivering muscles and bleeding hands, we arrived at the highest point. It was bitterly cold; we had been climbing hard for over twelve hours; we were not fatigued, but we were covered with snow, our whiskers were icicles, and ice clogged our eyelashes and our hair. Carrel laughed; but Melchior, who looked like a representation of Father Christmas at a pantomime, persisted in saying 'dummheit,' and was anything but pleased. We could see nothing. Instead of the old familiar faces of the great peaks of the Pennines, towering above the smiling fields of Zermatt, we could barely see the ridge we were standing upon, so in the drifting snow-clouds and bitter cold we shook hands solemnly over Mr. Whymper's cairn.

We did not stay five minutes on the summit. It was far too late to try and reach the cabane on the Zermatt side. Melchior secured me the usual trophy, a bit of the highest rock, and telling us he hoped we might not be frozen, drove us rapidly down. It would require the pencil of Gustave Doré to do justice to the scene. The storm raged about the peak. Carrel was leading. Morshead followed, securing the leader from time to time by the rope carefully held over every available projecting rock; I close to Morshead, and Melchior last of all, holding a firm rope, but shouting perpetually, 'Schnell! schnell!' Our only serious difficulty, however, was in descending the rope ladder. The cords and wooden rungs were coated with ice; and when I put my hands upon it, I found that I had no feeling in any of my fingers. I had no notion until then that the rocks had cut my snow gloves, and that all my fingers were

exposed. I made hooks of my arms, and so got down the ladder, though not, as Mr. Sapsea observes, without some fever of the brow. The rock over which this ladder is fixed does overhang, and to be suspended by the arms on a frozen rung, with one's feet dangling over an abyssmal precipice, may be exhilarating, but it is not climbing properly so called. We got down to the saw, repeated our acrobatic performances on its jagged teeth, gained the Pic Tyndall, and, skirting the Cravate, reached the hut at half-past 8, just as it got dark.

We passed a miserable night. Carrel attempted to enliven us by relating the experiences of Signor Giordano, who passed five nights there, unable, from the bad weather, to go up or down. We had no fire; but the courtesy of the Italian Alpine Club has placed an india-rubber mattress and two sheepskins at the disposal of visitors to that elevated spot. We boiled some coffee with the aid of some spirits of wine, and wrapped ourselves up in the frozen sheepskins. Morshead was not much the worse for wear; but I knew that all my fingers were more or less frostbitten, and all night long I saw Melchior driving us down those gruesome rocks, and heard his constant exclamation, 'Schnell! schnell!'

It snowed all night, but cleared about 7 in the morning. We thawed our frozen boots by burning paper inside them, and descended the mountain with extreme care, for the ice-bound rocks were now covered with 6 or 7 inches of fresh snow. By 3 o'clock we were off the arête, descended the snow couloir of the Col de Lion, skirted the interminable moraines at the base of our vanquished mountain, crossed the Theodule late in the evening, and arrived at Zermatt a few minutes after 10 P.M., where we received from M. Seiler our usual kindly welcome. Kind-hearted Madame Seiler bound up my wounds; and, thinking that a hair of the dog that bit me was an excellent specific, three days afterwards I sunned my frostbitten fingers on the highest peak of the Gabelhorn.

PETERMANN SPITZE IN EAST GREENLAND.

It should be well known to the readers of this Journal, that Dr. Augustus Petermann, the learned and energetic geographer of Gotha, has been, for a long time past, endeavouring to promote exploration and research within the Arctic Regions. He laboured hard for several years, without result, trying to stir up his countrymen to send an expedition to the north. At length, in 1868, he was able to fit out a sloop, and to despatch it towards the Pole under the command of Captain Koldewey. This little vessel—the 'Germania'—no bigger than