and we had to supplement our provision-store with Paradise ducks and parrots. It would be safer for future travellers to make themselves independent of such supplies by taking plenty of tinned meats from Timaru. I must now bring these notes to a close, and hope they may be of use to others who shall visit the Southern Alps, but I cannot do so without saying that, no matter how much I may long to be again amongst those wild secluded valleys, rugged peaks, and untrodden snows with my trusty friends Emil Boss and Ulrich Kaufmann, without whose skill and plucky endurance I could have done nothing, no less a pleasure would it be to find myself once more in company with the many kind friends I made amongst the hospitable people of New Zealand, many of whom impressed upon me that the same kindness would be extended to any other members of our Club who may seek to unravel the mysteries of their Southern Alps.

Stray Jottings on Mountaineering in Norway. By W. Cecil Slingsby. (Read before the Alpine Club. May 2, 1882.)

IN introducing my favourite north land to the Alpine Club, and recommending it as a most profitable field for mountaineers, I must first ask my friends to make a considerable descent with me—*i.e.* from notions of the 13,000, 14,000, and 15,000 feet of the Alps, or the 20,000 feet of the Andes, to the modest 6,000, 7,000, and 8,000, or perhaps even 5,000 feet in Norway. The five figures to which we are so much used cannot be reached at all.

There is a common but erroneous opinion that the ordinary lumpy rounded masses, which seem to have had their tops cut off, and are generally the only mountains seen by nine out of every ten persons who visit Norway, are typical of the whole of the mountains in the country; but this is by no means the case, and I think that I can prove that this land, which I know so well, still offers much scope to aspiring mountaineers looking for new peaks and passes (which even from a Swiss point of view must be styled good work), and who are fond of adventure, able to go without guides, and not afraid of hard work with moderate fare. The objection on the score of the trifling height of the peaks is only a small one, because the snow-line in many cases is so very low, that an ascent of a good 6,000 feet can be made over glacier; while there are

mountains whose broken sky-line can be compared to the Oberland, which fact alone refutes the round-topped theory.

There are three great districts which will year by year attract, as time goes on, an ever-increasing stream of mountaineers—at present they can be counted on the fingers. These districts are the Jotunfjelde with the jagged Horungtinder, crowned by Skagastölstind, the finest mountain in Norway: then Söndmöre and Romsdal—where good peaks and passes are to be won—and the great glacier, the Justedalsbræ, which only possesses one peak, but where there are passes innumerable yet to be made, to force which no inconsiderable amount of snow-craft will be required, as the ice-falls on the western side of the snow-field are almost always extremely steep, and are hemmed in between lofty, precipitous, inaccessible cliffs of granite. Here, early in the summer, avalanches will not grant a 'permet' to climbers, and, later, the blue ice is completely denuded of snow, through a height of 4,000 feet, where the iceman has unlimited scope for distinguishing himself.

I have made seven long tours in Norway, on each of which I have been at work on the mountains, latterly, by necessity, almost entirely with Norskmen.

At first my great difficulties arose from want of maps and ignorance of the language. Several times with friends I have climbed one mountain in mistake for another, and have taken a lower peak to be the highest of a range. Now, the Justedal is fairly well mapped, so also the Jotunfjelde, and probably also Söndmöre and Romsdal will have their maps next summer. Like all countries as yet not frequented by climbers, Norway until recently could hardly boast of half a dozen guides not afraid of ice, or who appreciated the proper use of the rope.

Strange to say, the country did once possess, as far back as 1820, two mountaineers, but two only, who stormed their mountains fearlessly, and gained a renown yet cherished by their countrymen. They were two geologists, Professors Keilhau and Boeck, who climbed Lodals Kaupe, where they were nearly carried away by an avalanche; one of them was carrying a large barometer upon which a rock fell, and this alone saved his life. They tried Skagastölstind, then, and until quite lately considered the highest mountain of the country; but here they failed. They, however, climbed another fine mountain, the Falkenæbbe—Falcon's beak—and were the virtual discoverers of the Jotunfjelde, now called Jotunheim, then a terrible fastness known only to a few reindeer hunters. A German, by name Naumann, tried Skagastölstind in 1821; Professor Forbes did a little mountaineering, and as

was proved last summer on the ascent of the Romsdalshorn by Herr Hall, a Dane, there was truth in the tale of a blacksmith and another having ascended the peak many years ago, and having built the large cairn seen by most people who have been at Aak, though their ascent has been almost universally disbelieved. But with these exceptions, unless we take into account the sea-cliff climbing feats of the Vikings, no real mountaineering had been done until about 1870, when Herr Mohn began to do some good work. A stray Englishman has now and then done a little. Mohn did much to pave the way for successors by his writings in the 'Turist Forening's Aarbog' (a sort of mild Alpine Journal in which I have often scribbled), by giving much valuable information as to routes, accommodation, &c.

My work began in 1872 when I first saw Skagastölstind, and resolved to make it my own. I had no opportunity of making a regular attack upon it then, but in 1874 I went out with my friend Dewhurst, a capital climber. We were provided with a tent and all necessaries, but though we scored very well, we did not get the peak, principally owing to bad weather. In 1875 I took my sister (the first lady who had ever been there) through this wild region, but then I had no opportunity of doing more than studying the mountain. In 1876 I attacked it with two Norskmen, who, after going well up an intricate glacier and a steep hard-frozen snow-slope, forsook me 508 feet from the summit. I climbed the rest, all rock and very tough, quite alone. I certainly should not have attempted rocks such as those when alone upon any other mountain than Skagastölstind; but it was the particular peak on which I had concentrated my energies, and that solitary climb I shall always look back upon with a feeling of veneration, as it formed an event in my life which can never be forgotten; and although I have climbed a greater number of the higher Norsk mountains than any other person, yet the ascent of none can leave such a vivid impression in my mind as this.

Now that I am speaking of Skagastölstind, I will briefly relate its subsequent history up to last summer.

In 1877 Herr Petersen, an artist, tried the peak, but failed. Nothing daunted, he set off again in 1878 with two guides, who forsook him exactly where my men had turned tail, and he climbed it alone. Then comes a sorry tale. In 1880 a young tourist, son of a rich banker, whom I will call Nils, desirous of emulating our exploits, attempted the mountain, and with the assistance of two good rock climbers who shoved and hauled

him up the rocks, succeeded in reaching the summit. Unfortunately he afterwards wrote a pamphlet of sixty-six pages about the mountain, in which he underrated its difficulties. This pamphlet I unhesitatingly assert has been the main cause of a terrible tragedy which took place last July on Skagastölstind. It was in this manner. At one of a series of huts built by the Tourist Club, a young man, named Tönsberg, who had been partially deranged, was staying with his wife, and was deriving much benefit from the mountain air. Here he read this pamphlet, and inferred, that though Skagastölstind was undoubtedly a very fine mountain, yet the difficulties of its ascent had been much exaggerated, and that anyone might make it. Upon this he set off with a lad seventeen years of age, on July 12, at 9.30 P.M., in vile weather; walked through the night (in the middle of summer it is never dark), and reached a sæter (or châlet) at 3 A.M.; here they found Peter, one of Nils' guides, who refused to have anything more to do with the mountain. At last, by means of bribes and by promising to turn back at once if the mountain should prove impracticable, Peter was persuaded to go forward; and at 6 o'clock they sallied out into the wet. Wind and snow soon assailed them, but Tönsberg would persist in his rash work. At 11 they reached the actual base of the peak, 4,100 ft. below the top. The lad was frost-bitten and could go no further; neither could Peter. They tried to tie the man with ropes, but he was too strong for them, and used his alpenstock against them, and it was no good. Soon afterwards he left them in the mist, and in twenty strides was out of sight. A month or five weeks after this, his remains were found in a deep chasm between a glacier and the rocks, amongst crags at least 2,000 feet higher up on the mountain. His watch had stopped at 7.15. The arête he tried to climb is utterly impossible. The Bergen newspapers describe the affair with a most horrible minuteness in which I shall not here indulge. I may add that the valley Midt Maradal, out of which Skagastölstind rises, is so difficult to approach, that though it contains rich pasturage at its lower end—a mine of wealth in Norway—its owner, a man of forty-five years, who has overlooked it hundreds of times and lives within three miles of it as the crow flies, had never been in it when I saw him last, and has asked me several times to guide him into it. In many places, well-marked paths, which I have followed with difficulty may be seen; these are made solely by the bears, which reign supreme there.

A few words as to guides. Men can be found in every valley who are fair cragsmen, especially good on their feet

over slippery glacier-polished rocks; but good hand-climbers are rare. I can, however, name two—a yeoman, by name Thorgeir Sulheim, a lineal descendant of King Harald Haarfager, and his servant Halvar Halvarsen, with whom I durst tackle any rock-mountain I have yet seen. I have had a winter tour with them, and in trying to force a passage down the Vettisgjæl, the most weird and cataract-full gorge in Norway, we had most difficult snow and rock work. At that time we saw the Vettis-fos (miscalled Mörke-fos), the highest sheer fall in Europe, nearly 1,100 feet, frozen from bottom to top—a glorious pilaster of ice, to which hung in festoons, millions of icicles, varying from the size of a finger of ice to grand fluted stalactites 150 feet long. The colouring was of all shades of blue to purest pearly white, like the colours seen in a large crevasse. This expedition I have described at length in English in the 'Norske Aaarbog' for 1880.

I had agreed to climb a mountain called Styggedalstind, with Sulheim last summer, and to combine it with a pass—a first-rate and difficult expedition, and indeed left it on one side when making another new pass with the schoolmaster Vigdal, when both were quite within our reach, and the snow in perfect order, because Sulheim was not with us. But when he should afterwards have joined us, the fine weather of Septemper kept him at his harvest, and thus the peak is still unclimbed, and I heartily hope that some Alpine Club man will take pity on it. Sulheim will be only too glad to accompany an Englishman on this expedition, and I have left a 7-lb. tin of corned beef ready waiting at the sæter below, as a reward for the adventurers, to be eaten only if they are successful. The mountain is a snow-peak, there are plenty of crevasses, and a steep snow slope. The pass is a model, untried as yet, but will go with good men. A point 1,400 feet higher overhangs this pass; from it I have dropped stones on to the ridge below. There is another good glacier pass to make and something else to try, close by. This is on the Horungtinder range. I can find plenty of other good things, and shall be glad to direct any good climber to work, which will not disappoint him.

For a long campaign, the best man to get is Johannes Vigdal, my companion for nearly five weeks last summer; he is a sort of national schoolmaster, and as children's labour is too valuable for them to be spared in the summer, his school is closed from the end of May until the beginning of October; thus he has plenty of time to go 'til fields.' He is very anxious to climb with Englishmen, and I can confidently recommend

him as being the best guide all round I have met with in Norway, though, be it remembered, I always act as head guide myself. He goes very pluckily on ice, can use his axe well, and understands the rope thoroughly; he is strong as a lion, amiable, always ready to climb; but he needs my lessons in the art of eating decently to be continued a little longer. When the views are very good, his love of the beautiful rather carries him away, and he needs to be told to look at the crevasses instead of at the panorama. He speaks enough English to be easily understood; still, as I found my Norsk better, we talked in that language. His address is Solvorn Sogne Fjord. He is known already to one or two members of the Alpine Club, and had a good adventure with one of them, which I shall leave him to relate. There are two or three other men who have pluck, and whom I can recommend. But with these exceptions, guides in Norway are a nuisance on a glacier; they will stop and tell you solemnly that there are crevasses, a fact you are not disposed to dispute. If you answer 'Yes,' they will tell you that they are married and have children. They don't like roping together, prefer to hold the rope in their hands, and laugh if you tell them to fasten it round their bodies, upon which of course you will insist. They have a horror of all ice and snow work, and prefer barbarous rocks to easy glacier.

But there is a better time coming, and I have no doubt at all that ere long the glacier passes of the mighty Horung-tinder and other ranges will be as well known to the natives as they are unknown to them at present; but Englishmen alone must teach them. Though now there are but three mountains on the 'menu' of the Norsk student-tourist—Galdhöpiggen, Skineggen, and the Gausta Fjeld—yet they dearly love their mountains, and are not apt to be jealous of the foreigners who show them the way up their peaks. They are in fact jolly good fellows. A few words as to the best time for mountaineering. I have tried it from June to November. In June and early in July, the days are too long, the snow never has a chance of hardening, and the rivers are bad to ford, but the crevasses are all closed up. A fortnight makes an enormous change on the glaciers in Norway. Twenty hours of sun per diem on a peak is a good quantum, and the snow goes quickly away. By far the best time for climbing I am convinced is August and the first half of September in ordinary years, but one must be prepared to meet with plenty of good, clean, honest, solid, blue ice where is no deception at all. I have tried October and November, but three feet of powdery snow and a

thermometer far below zero are serious in a day's work on a low pass, let alone a mountain.

Regarding the weather, it varies very much indeed. I have met with much bad weather, but with much good too. I was once six weeks in the country without having one wholly wet day. It is certainly much brighter than here in England, but I do not honestly think it can compete with Switzerland in that respect. One region, Söndmöre, is always wet if I go there, yet I have scored peaks there too. Much depends on the wind and the position of the Justedal snow-field, which is a huge condenser, with reference to one's quarters.

Generally speaking, the rock, all igneous, is good and firm. On the tough part of Skagastölstind, which is 'gabbro,' there is not a single loose stone—a great comfort. In Söndmöre the arêtes are not so good, but as a rule the rock is first-rate.

II.

The grand old Justedals-bræ, the largest snow-field in Europe, is well known by name, but as yet little information can be got as to its passes. It is a huge desert of snow, with an undulating sky-line, varying from 4,000 to 6,688 English feet in height, 49 miles long, and from 2 to 10 miles broad from rock to rock, possessing only one peak, but stretching out giant snowy arms, like an octopus, far away for ten miles at least. As these arms are nearly flat and of the same altitude, the appearance from the crest is that of an almost boundless snow-field, as the valleys—in reality square deeply-cut gorges between the arms—are quite hidden and therefore almost unthought-of.

I have made many passes over this snow-field, and confidently assert that I have seen no icefalls anywhere else to rival those met with usually on the west of the field—the one redeeming point which makes up for the absence of peaks. I will, however, confine myself now to the descent from the highest portion of the glacier, 6,688 feet, by a glacier arm, the Kjendals-bræ, which flows down to a valley only about 170 feet above sea-level, that is a descent of 6,518 feet of glacier partly sandwiched with rock. My sole companion was Johannes Vigdal, and this was my first day with him.

A start at 4 A.M. from a châlet 10 minutes from the Tunsbergdals-bræ, then 8 or 9 miles' walk on perfect ice at a good 4½ miles an hour, rope unnecessary, an Alpine sunrise, good work on a bergschrund, interesting rocks, and a long snow-grind over rolling snow-fields, with here and there a few

crevasses to dodge, and at noon we were on the summit of one of the most topless mountains in the world, with most dreary views before us—a Sahara of snow-fields—a terrible place; miles upon miles of snow, nearly as flat as a billiard-table, and steering a matter of the greatest difficulty as there were not any landmarks. Then came a dull monotonous walk of two hours and a quarter over névé without descending much, snow luckily in good order considering the hour; all at once a snowy bay opened out before us, with a view of séracs and rocks far down below. What a delightful change from this dull plodding! Steep slopes brought us down to the top of the séracs, where was bare ice with no suspicion of snow whatever now, and a descent of 4,000 feet before us. The total absence of snow dismayed us not a little, as I had been some distance up the glacier with my sister six years earlier, when I had critically examined the glacier above, and thought that if the top icefall could be turned, a passage might be forced; but at that time snow came far down the glacier. We had had plenty of the ordinary glacier work in the morning, sufficient indeed to give Vigdal confidence in his guide, and me in my pupil.

At 2.40 we gained the bare ice, and by zigzagging got along merrily till 3.30, when we took refuge on the rocks on Nonsnibba, to the west, just where the glacier became a magnificent icefall. At first we got along splendidly, and then came to steep glaciated rocks, where my Alpine nails were a horrible nuisance, and I envied Vigdal, who had only a few that I had given him. We had some extremely difficult places, where a rope to help the first man down, and an axe-head for the second, was a 'sine quâ non.' We had turned the icefall, but here there was a bend in the glacier to our left, and until this moment we had not been able to guess what there was ahead.

At 4.10 we came to a genuine West Justedal precipice, hundreds of feet sheer down, without a ledge. What now? To the ice! Horrid thought. The precipice continued down to the glacier, and cut it nearly in two. Here we saw the glacier for the first time in profile, and I have never seen such weird, clean, and broken séracs elsewhere. It was about two-thirds of the mean width of the Schwarz glacier, below the Schwarz Thor, infinitely steeper, and generally as much broken as the Glacier des Bossons, here and there cut nearly in two by cliffs in its rocky bed, over which avalanches fell every few minutes, and the only chance of finding a way through the icefalls was down lanes of fine avalanche débris, which appeared in several places on the glacier. The whole was wedged in between two granite

walls of rock, low, and 1½ miles apart at the top, but each 4,000 feet high, in true Norsk style almost ledgeless, and only a quarter of a mile wide near the bottom.

Immediately in front of us were two narrow towers of ice, 25 to 30 feet high and about 12 feet apart; the lower one was perched on the top of the cliff before mentioned, and each seemed ready to fall any moment. Between these we had to go, or nowhere else. To the ice, or a night of shivering on the cold rocks—a frightful alternative! The distance between the towers was only about twenty yards, but what terrible yards! Vigdal said he dared not go, but though I thought of his wife and children, I said sternly, 'We must go; come on, do not waste a moment.' We had to go astraddle along a sharp ridge of ice, and climb up and down very sharp ice, with the dread towers and huge icicles overhanging us. Once, the rope got round a knob; the agony of the few seconds we spent in disentangling it was intense. In fact I never had such anxious moments as during the five minutes we spent between these icy walls, and never was I more thankful than when we emerged from that fearful place. After this we had to creep under an ice-table, quite secure this time, some twelve feet long, with a crevasse below us. We now had to ascend about 200 feet to get into the trough of the glacier, and had to use our hands all the time, and I here knocked the skin off both my shins, and still carry the marks. When we reached the trough, we went on briskly enough down small avalanche débris several hundred feet, and so got below the cliffs. Then we had hundreds of steps to cut among the séracs, and to leap and climb into and out of numberless crevasses, all ice; but now Vigdal and I thoroughly trusted each other, and we worked like trolds. Every trace of fatigue had long ago been driven away by the excitement. In a place like this two men can go as fast again as a party of four.

We fled to the rocks again naturally enough, and by them scored some 500 feet more; when suddenly we came to another line of cliffs higher than the previous ones. Again we were forced to seek the icy highway. Close to us was a couloir, a regular avalanche track, and in the couloir a considerable stream of water; the couloir terminated on the brink of the cliff, over which the stream fell in a splendid cataract. Across the couloir was a second line of cliffs, and something like a ledge running diagonally down towards another avalanche lane below. The second line of cliffs overhung the ledge, and so was a security against avalanches. Here we must try, or nowhere else. The chances seemed against success, but there is nothing like

trying. There was, it is true, a possibility of crossing above the higher cliffs, and of so reaching a line of débris on the further side of the glacier, but huge avalanches swept down that side every few minutes, and none but a madman would have ventured there. To the ledge, then! but with much doubting. Vigdal was ready, and I was proud of his companionship. The stream, slippery with ice, was bad to cross, but we did it, and were soon under the lee of the overhanging rocks, and so far were safe. The ledge, a mere groove cut diagonally across the cliffs, 12 feet deep, 2 wide, and about 25 yards long, was no myth, and led us beautifully and most providentially to a place about 6 feet above the couloir of broken ice—a most marvellous traverse and equally marvellous coincidence. Water and chips of ice kept falling over us, but it mattered not—we were safe. The climb of 6 feet down to the couloir, small as it seems, was no joke. Vigdal lowered me, and then held me unnecessarily fast while a stream of iced water trickled down my neck. But this was a small matter. Then I helped him, and we had a capital glissade down the couloir. Near the bottom one of my feet got wedged fast in a tiny crevasse, and we had to dig it out with our axes. We had turned our precipice, and waterfall, and third icefall; surely now we were safe. We were on a long ice plateau, the existence of which from below is quite unsuspected. We began to admire the grandeur of our surroundings, and to watch the avalanches come in quick succession over the crags which here and there broke up the eastern portion of the glacier. Kjendals Kona looked now a grand mountain, rising nearly 4,000 feet out of the ice, and though from above, it did not appear to be a peak *at all*, here it was far different, and seemed to tower far above the snow-fields.

But night was coming on, and we were forced to hurry, and where we could, we ran. We leaped over scores of crevasses and threaded a most intricate way amongst them. When lo! an open-jawed beast, of terrible dimensions, quite unjumpable, lay before us and effectually closed that way, as it stretched from one side to the other. So we had to retrace our steps nearly as far as the base of the cliff. When near it we saw a splendid avalanche topple over; it came into the bed of an ice stream, about five feet deep, close to us, and disappeared with the stream into a large crevasse. We were quite safe, but we had to wait about five minutes before crossing the stream.

We soon gained the rocks at the side, but they were difficult. We passed the big crevasse, and again we were cut off by a waterfall which came from the cliff above us and fell into a

chasm below the ice. Once again we had to mount the glacier. As everyone knows, it is often very difficult to get on to a glacier from the side, and this was peculiarly so here. The best way was up a wall of ice thirteen feet high; up this I cut steps and hand-holds, and reached a narrow ridge of ice, across which I sat and pulled Vigdal up. Then we had a large amount of straddle-legged locomotion, which gave work to the tailors, and which early in the day we should have thought excessively bad; now we were seasoned and thought little of it. Then we gained good ice, and though we had to cut many a step, we got along quickly, and at 7.20, in dusk, reached the bottom of this truly terrible glacier, and thankful enough we were to do so. At 9.30 we reached a farmhouse—a most filthy place it is true; but what did that matter, we were safe.

I have had considerable experience of climbing, but the descent of the Kjendals-bræ will always be indelibly impressed in my memory as being much the most formidable ice work I have ever done, and nothing could ever tempt either of us to try it again. Where the great difficulties occurred, there was absolutely no choice of routes. At the first glance, we could see it was there or nowhere. The covered ledge was the most extraordinary outlet of escape I have ever seen in my life, and seemed to be placed there purposely for our good. Vigdal behaved splendidly, and did exactly what I told him all the time. In my five years' absence from this glacier a marvellous change had been wrought—it had retreated considerably, and had much shrunk. On the east, above the low end of the glacier, is another large ice-field, which terminates, Norsk fashion, on the top of a precipice many hundred feet high, and sends over it enormous avalanches on to the main glacier. This is a wonderful valley, but is now getting known to the tourist world under the name of Loendal, and the Kjendals-bræ by the name of the Næsdals-bræ.

Though I shall never recommend anyone to try the Kjendals-bræ, there are several other good passes to be made from here; some are old ones, but disused. Ours was new work throughout, and, as may be imagined, it thoroughly astonished the natives. One piece of advice I always give about Justedal passes—*i.e.* make them from west to east, and then you will be all right. Do the reverse, and unless you have local guides, you may get into trouble.

III.

Most travellers to Norway know the Romsdalshorn, and the sharp-peaked and deeply-serrated range of the Vœngetinder, which towers above and behind the splendid old horn, but not one in a thousand knows what a truly magnificent range this is, or even dreams of its large and steep glaciers, which are so much broken up by precipices and icefalls, since, from the Romsdal itself, the tops alone are visible, the rest being hidden by the mountain wall above Aak.

In 1874 my sister and I had looked across at these bewitching peaks from one of the Troldtinder, and I then resolved to have a shy at them sometime in the dim future. As to the Horn, Mr. Murray, his son, and I arranged an attack upon it, but bad weather drove us off. But now, in a fine sunshiny week, Vigdal and I proposed to lay siege to both. Hôtel Aak, our starting-point, is only a few feet above the sea-level; so for each mountain there was a fair height to climb. The Vœngetind is now called 6,047 English feet in height, and the Horn is 5,102 feet; but they are apt to grow in height, especially the latter—at least it would seem so from the various heights with which they have been credited from time to time. Still, I believe they have now stopped, and may be considered as adults.

We told the obliging Gerhard at Aak of our intention of trying the Vœngetind, but said nothing about the Horn, which we meant to try the second day from a sæter. As usual, we were told that the mountain was 'umueligt,' but my interpretation of that word does not at all coincide with that of the dictionary, when used with respect to mountains.

Well supplied with tinned meats and other food, we left the slumbering tourists at Aak at 5 A.M. on August 24, in brilliant weather, when the sun was just gilding the higher mountain-tops. Our climb began at once up the steep crags behind the house, through a forest of pines, birch, and juniper, a horrible maze, as many trees were growing out horizontally, beaten down by winter snows. At 7·30 we got above the tree line, and then had some difficult rock climbing in order to gain the ridge above the valley, which we reached at 9·5. We were now face to face with the Vœngetinder, as yet unmapped. There are two principal peaks in the chain, separated from one another by a fearful chasm. At first sight we were at a loss to know which was the higher, as each seemed to claim the supremacy, but after studying them carefully for a while, we concluded that the most northernly, and the sharpest one, was

the higher, so we resolved to try it. On this side it looked, and I believe is, invincible. The view from this point was very grand over fjord, forest, and fjeld, and the exquisite colouring for which Norway is so deservedly famous appeared in all its richness and variety of blues, greens, greys, and browns; while the blackness of the sheer precipices of the Troldtinder and others, all coped with glittering snow, the sharp peaks and couloirs in front of us formed a delightful contrast to gentle pastoral scenes in valleys below. Still, fine though this view is, it is not comparable, from a mountaineer's standpoint, to hundreds of others in the country. Between the two highest Vœngetinder is a long couloir, which may perhaps be possible, but no one has tried it yet; if it be, a most delightful piece of ice work lies open to mountaineers, as a fine glacier at the back runs up to the head of the couloir, and circles round to the top of the second peak. This peak could be climbed and a descent be made down 3,000 to 4,000 feet of névé and ice to the Vœngedal, or valley at the back. This is no child's play, but is real honest mountaineering. There are several capital peaklets to be climbed, and half a dozen good passes to be made in this one little range, each of which would in Switzerland be voted a good thing.

But now to our work. Vigdal and I did not like the look of the couloir, as snow, some four days old, lay still peppered over the mountains, and we feared avalanches; so we determined to try the peak from the back, or up the north-east arête. As we were in almost perfect training, we set off at a run, now and then getting a good glissade down to the little valley below. At 10.45 we forded a stream just under the peak, which from thence looked most forbidding. At 12 we crossed a small frozen tarn, down to which a most tempting couloir came, and we were soon hard at work hacking out an occasional step in the hard snow. The couloir led us to a high glacier, and at one o'clock we had our first full view of the back of the mountain, which looked uninviting enough. We could easily have reached the north-east arête about 800 feet below the summit; but it was so deeply notched that we saw little chance there. A bay of the glacier ran right up into the heart of the mountain, but was topped by a huge perpendicular cliff, and to the right of it was a gully, from whence came a well-marked track of avalanches, which clearly said 'nay.' To the left, or south-east, from a corner of the bay, a narrow couloir led up to a notch on the southern arête, which might or might not be rounded. The couloir looked fearfully steep, and sloped two ways, down to the glacier, and also in the

same plane as the arête, and there were, as is often the case in Norway, two bergschrunds intervening, one between the glacier and the glacier bay, which was apparently cut off from the former by a line of precipices over which the ice had to fall, and a second at the base of the couloir. We were rather afraid, too, that the new snow was not sufficiently consolidated to be trifled with. So for the time we gave up the notion of this peak, and thought we would try the second one.

A descent of about 150 feet on the glacier brought us below the south-east arête to the verge of a sheer precipice of a kind unknown in the Alps—an elongated Rothhorn precipice. Below this was a magnificent glacier (the one I mentioned above in connection with a pass), with a grand icefall, and guarded by many a weird aiguille. It was easy to trace a way, but not easy to force a route up the glacier to the peak above. Not being provided with parachutes, we were obliged to leave this.

We soon came again face to face with our first friend. Vigdal said he was willing to try the steep couloir, but we both thought the chances of success were very small. We made straight for the schrund, and a hungry-looking fellow he was too. It is 1,625 feet below the summit; the far side was a wall of black rock glittering with icicles; above the rock was a wall of névé, in some places 8 feet thick, and sloping from the schrund, while in others it was 20 feet and overhanging. We examined several places, and at last chose one where the schrund was partially choked up with snow. Vigdal paid out all the rope whilst I cut my way cautiously down. I had to sound the snow bridges continually, and did not half like the dark and uncanny view below. Then I got to a ledge on the rock, which seemed to lead up to a hollow in the glacier above. Vigdal then came below. The ledge was about 30 feet long and trended upwards; at first it was two feet wide, but it soon narrowed to one foot, and then to six inches. The wall of snow above rather overhung, and with the unknown depths below, as the crevasse was open there, it was anything but a pretty place. I soon saw that it was utterly impossible for us. A cat *might* have done it, but a chamois could not. We were both glad to get back again amongst ordinary crevasses.

One place only remained to be tried—to our extreme right; but we had not wished to go there, as even if we did succeed in crossing the schrund, we should have to pass over a track of the avalanches, which the yawning schrund was quite capable of accommodating. However, we made for the place, and at 2.40 got over it easily. We hastened over

the avalanche track. Now we were well in the glacier bay, and found it steep enough to be interesting, and the snow just soft enough to be tiring. I had lost my spectacles in the morning, and was much bothered by the glare of the sunlight. A quarter of an hour's trudge brought us to the second bergschrund, at the foot of the couloir. We had some comical manœuvring to get over it, as we sank nearly up to our waists in snow, and had to beat down the upper lip to make it secure.

Then began our real work. On our right was a line of high cliffs running like the couloir up to the arête. The snow sloped abominably two ways at about an equal angle each way. I won't say what the angle was, because I don't know, but it was steeper than the top of the Moming. We thought the snow just within the realms of safety, but only just. I made Vigdal go first, and very well he went too; I would trust no one behind me who had not had a long experience in snow-craft. In one place a thickness of six inches of snow lay on a glazed surface of rock; the snow had to be scraped away, and it was then no easy matter to go on; there, and in fact generally, only one could move at a time. I met with just such another place on the northern arête of the Grand Cornier above Zinal in 1878, and that turned us back. Then, after some good snow, we came to a small gully running diagonally across the couloir, where water from a crag above had trickled down, and frozen on the rocky trough which was barely covered with snow; across the gully was a sort of frozen wave of snow, powdery and knee deep. Some jagged teeth of rock protruded through the snow some 50 yards below, and beyond them was a cliff too steep for the snow to rest on, all things which warned us to be cautious. Vigdal had a capital English axe, and with his Justedal experience, and being an apt pupil, he managed very well indeed; but it was very difficult to climb up the wave, though I had good anchorage. Once on it, we kept to its crest, as it turned and followed the rock on our right most beautifully. We then came to a place where the snow looked most dangerous, and ready to come away in an avalanche any moment. We were quite prepared to give in now to a hard fate, and to leave the mountain for others, when we discovered that there was creeping room between the snow wreath and the rocks. It was a hard climb, but we passed the dangerous snow, and after some 50 feet, as steep as ever I have climbed—where Vigdal, as usual in such places, broke out into English, saying, 'Now we are going very quickly up-stairs,' an innocent expression I never found the

heart to correct—we came to the arête and the notch we feared from below. Hurrah! the couloir twined like a serpent round the peak, and we felt we were victors. Near the top we had twenty minutes' good rock climbing with plenty of holding up and pulling one another. This bit was rendered difficult by the snow, there hard frozen upon the rock.

At 4.20 we were close to the top—a real model summit; a rock something the size of a piano-stool perched on one the size of a cottage piano, which was itself perched on a cliff overhanging towards the north-west, no unusual thing in Norway; otherwise it was a steep pyramid in form. I asked Vigdal to mount the top first, as he had not been on a really good peak before, but he did not like it, and wanted me to show him the way. However, as he had had the brunt of the work on the couloir, I insisted on his mounting it first, and he did so, while I held him firm with a doubled rope.

Just before we had reached the arête, a cloud struck the mountain, and as it stuck to it, it robbed us of our view; a great disappointment, as I wished to study the Romsdalshorn from there, for more business. As it was pretty warm we remained on the summit till 5.5, and having built a tiny cairn, which is visible from Aak, and left some plumstones in honour of our visit, we set off downwards. The couloir required the very greatest caution; I went last, and generally we had to go with our faces to the mountain; but each had confidence in the other. At 6.15 we reached the highest bergschrund, and then ran and glissaded to the lower one, which we gained five minutes later, reaching our knapsacks on the glacier below at 6.40. Had we been a party of four or five instead of two, we should have been fully an hour later. We made a détour to avoid the steep gully running down the frozen tarn, and had a mad run and glissade helter-skelter to lower regions.

At 8.20, in the dusk, we reached a sæter, and were soon luxuriating in sæter produce, and coffee of the best, as usual, which would put to shame the dreggy fluid going by the name of coffee which one usually gets in an English country inn. When the girl, who was the most determined tub, pail, and kettle washer I have ever seen, left the hut for another, Vigdal and I soon slept the sleep we mountaineers deserve so well.

Next day rain came and prevented our trying our luck on the Romsdalshorn, though we got up to its shoulder. We, however, did another so-called impossibility, as in place of going a six hours' tramp round to Aak, we climbed down the rocks between there and the Horn, without a local guide—anything but easy.

A week later we began another series of peaks and passes, and had great success, with thoroughly good work.

A few words as to sæters and their accommodation may not be amiss. As a rule, sæters are infinitely preferable to any Swiss mountain châlets it has ever been my misfortune to sleep in, and the horrors of an Arpitetta hut, with the pigs running in and out at night, do not often occur in the north. A sæter, too, is as a rule much more comfortable for an Englishman to stop a night at, than a farmhouse in the lowlands, where lazy men seem to delight in expectorating all over the floor. The girls at the sæters often take a pride in having their temporary habitation as cleanly as possible. Good milk is of course always obtainable, and curds half an inch thick, which, with a little sugar spread over, helps, I am sure, much to form good muscular tissue. The beds are rough, it is true; straw or hay with sheep and goatskin coverlets are the worst, but clean sheets are met with sometimes. Naturally enough the agile insects are often present, but never B flats; but there is a proverb about 'familiarity' and 'contempt,' and it is astonishing how true it can become even with respect to—fleas. Log-built huts are always preferable to those built of stone, mud, and sods, which are seldom wind or water tight; and if there be a boarded floor, one can be absolutely luxurious. A fire of birch logs soon dries wet clothes, and boils one's soup or chocolate, and makes one really happy.

THE DENT BLANCHE FROM ZINAL. By J. STAFFORD ANDERSON. (Read before the Alpine Club, Feb. 6, 1883.)

AFTER a stay of nearly a fortnight in the Bernese Oberland, which, owing to the atrocious weather, was principally spent in teasing the Grindelwald monkey, or criticising the daily visitors from Interlachen doing Switzerland in extravagant costumes and high-heeled boots, the monotony of these occupations being occasionally varied by watching the antics of a performing camel, who seemed quite at home in a mountaineering centre, the evening of Friday, August 4, found the Rev. F. M. Govett and myself, with Ulrich Almer, strolling up the much-neglected Turtman-Thal, *en route* for Zermatt. This little valley is, to my thinking, one of the loveliest in Switzerland, the combination of water, wood, and pasture, being all that one could wish, to charm the eye or refresh the soul.

Pollinger was waiting for us at Gruben in the comfortable and clean little inn, and led us the next day, by a new route,