was much the same as from Kaldi two days before, except that Kaldi herself unfolded the curtainlike drapery of her impressive western wall. A cool wind tempered the summit heat and by noon we were ready to start down by the W. face which had been ascended by Hurst, Hodgkin and myself last year. This proved much easier than we had expected, and from its foot long streaks of snow bore us as on winged feet swiftly and smoothly down to the alps which ring the southern edge of the Ala Dağ. A little stumbling over some limestone country brought us to a good track leading past the reed-covered and unattractive Koca Göl (lake). Hopes of a bathe were disappointed only to be raised again as, on turning a bend in the path, we saw a crystal spring dashing and foaming down the hillside. A pleasant hour and a half vanished in drinking and bathing, to be followed by a delightful walk down the gorge, through fir trees and beside the brawling brook, an unusual feature in the otherwise rather arid Ala Dağ. The gorge ended close to Cevizlik where we found our horses and packs waiting for us on our island camp, but it was not long before our ' patients,' this time including syphilitics and paralytics, were clamouring for attention. Our treatment brought some welcome gifts of fresh fruit, and even fish from the river.

On July 16 we retraced our steps along the well known valley of the Gürgün Su and could hardly restrain the eagerness of Ali and Feyzi to regain their homes. Our appointment at the Akköprü was, however, for 4 P.M. and, by dint of spinning out the noontide rest, we arrived at the bridge to the minute, only to find that the other party to the appointment had been delayed and arrived three quarters of an hour later. Then we were borne swiftly back to the chalet at Bürücek. Here we separated and went our various ways again after a full and refreshing ten days in the Ala Dağ, which may one day, but I trust not in the near future, become the mountain tourist centre of the Near East.

THE EIGERJOCH

By WILLIAM MATHEWS

We are much indebted to Capt. D. F. O. Dangar for supplying the following narrative, which is taken from a paper read before the Alpine Club on March 16, 1860, and forms an interesting parallel to Leslie Stephen's famous account in *The Playground of Europe*.—Editor.

The season of 1859 will not be easily forgotten by any mountaineer who had the good fortune to ramble among the high Alps in the autumn of that year. The long continued summer drought had made me apprehensive of a wet August ; but the mountain weather of that month was on the whole extremely brilliant, and finer than I ever before experienced among the Alps. The heat had thoroughly

solidified the elevated snowfields, and rendered them easy to traverse —excepting, of course, where steeply inclined, and then much more step-cutting than usual was necessary, while the crevasses were more than ordinarily wide and difficult. The same cause had unfortunately advanced by at least a fortnight the too fleeting Alpine vegetation, and when I reached the mountains early in August it was already on the wane.

On August 1 my brother, Mr. G. S. Mathews, and myself left London in the company of the Rev. Leslie Stephen, of Trinity Hall, Cambridge, with whom we had arranged to have a few days' mountaineering together before he joined his travelling companion, Mr. Hinchliff, who was unable to leave home so soon. We went by way of Basle to Berne, and thence to Interlaken, having fixed the latter place as the rendezvous of our guides. I had engaged my old guide, Croz, and another whom Simond had recommended to me in the person of one Michel Charlet, whom he characterised as a man who was not fond of making ' des dépenses inutiles,' a phrase which Croz translated with perfect accuracy into ' il se pendrait pour six sous.'

It was not very long after we had passed the Hauenstein tunnel, and emerged into the great plain of Switzerland, that one of our party put his head out of the window of the railway carriage and shouted out with immense excitement—' The Oberland Alps ! ' It was indeed true. Scarcely eight and forty hours before had we quitted London, and we were already looking upon one of the most noble and wonderful sights in Europe, or perhaps in the whole world. A discussion immediately arose as to which of the long line of summits stretched out before us we should make for in the first instance, and after much debating it was settled in favour of the Mönch. This mountain, although not quite so high as one or two of its neighbours, was new to Englishmen, having only been ascended once some years ago by an Austrian gentleman of the name of Porges. The proposed ascent would give us the opportunity of making a passage I had a great desire to try—from the Wengern Alp to the Eggishorn, by climbing the main ridge of the Oberland chain and descending the Great Aletsch Glacier. Stephen had written to Melchior Anderegg, the celebrated guide of the Gemmi, and when we arrived at Berne he went straight on there to see if he could find him, and promised to meet us at Lauterbrunnen the next evening.

We arrived the same evening at Interlaken, and having picked up our guides spent the next day merely in walking to Grindelwald, and over the Wengern Alp to Lauterbrunnen. Here we rejoined Stephen who, on reaching the Schwarenbach inn on the Gemmi the previous evening, discovered that Melchior had gone with a gentleman to Mont Blanc. The following day he crossed the Tschingel to Lauterbrunnen, and we were not at all surprised at finding him extremely fatigued, as the result of taking a twelve-hour glacier pass on the fourth day from England.

Stephen being unable to get Melchior, and wanting a guide, opened

negotiation with Ulrich Lauener, one of a very celebrated family of mountaineers—a fair-faced, blue-eyed, tall man of about forty, and as fine a looking fellow as ever followed a chamois.

Now Lauener is not one of those guides who hold the exploded notion that the obligation between guide and traveller is, to say the least, mutual. Stephen wanted him for an excursion of three consecutive, long, glacier days—very good! That sort of thing was attended with risk. He had a wife and family at home; he would rather not go; but if Stephen thought it worth while to give him 150 francs, he should have the advantage of his company—and assistance. As there was no doubt whatever about his being in earnest, and some addition to our two guides was essential, of course the price had to be given.

The next morning, the 5th, we retraced our steps to the Wengern Alp, and spent the afternoon in settling the details of our excursion. The Wengern Alp, as is well known, is one of the great points of view of Switzerland. It is about 6500 ft. high, and commands a near view of Jungfrau, Mönch and Eiger, from which it is only separated by a profound ravine called the Trümletental. These three mountains are extremely precipitous on the northern side—the Jungfrau is remarkably so; the latter mountain keeps up a constant discharge of avalanches, and is noted for the death of Johann Lauener, the brother of our guide, who was dashed to pieces by falling into the Trümletental while pursuing a chamois. This is the spot which suggested to Lord Byron the celebrated descriptive passages in *Manfred*, which I believe are considered fine writing by many persons who are unacquainted with mountain scenery. Two great glaciers descend into the Trümletental—one called the Guggi Glacier, filling the hollow between the Jungfrau and the Mönch, and the other, the Eiger Glacier, that between the Mönch and the Eiger. Now, just on the other side of the Jungfrau lies the largest glacier of Central Europe, the Great Aletsch, near to whose lower extremity a good inn has recently been erected, and which is rapidly becoming a very favourite headquarters for Alpine travellers—and up to last autumn there was no way of getting from the neighbourhood of the Wengern Alp to that of the Eggishorn, without making a very long détour. In 1857 Mr. Bunbury went up from the Eggishorn to the Col de la Jungfrau, situated between the Jungfrau and the Mönch, and it was evident that if the Guggi Glacier could only be ascended, a new and highly interesting passage from the Wengern Alp to the Eggishorn would at once be opened out. But what made me quite determined to attempt the passage was that Mr. Bunbury had himself very carefully examined the Guggi Glacier, and had expressed himself in strong terms upon the impracticability of the undertaking. The difficulty arises from the fact that the chain is composed of limestone rock, stratified nearly horizontally, which between the two last named mountains is cut out into two great steps, supporting nearly vertical walls of snow. The snow breaks away in avalanches in the middle of the walls, and the

feasibility of the excursion would depend upon whether it were possible to climb up the walls by means of the avalanche débris.

Our plan was to reach the Col de la Jungfrau as early as possible on the following morning, make the ascent of the Mönch and, descending the Great Aletsch Glacier, get to the Eggishorn the same night. The next day we proposed to retrace our steps up the Great Aletsch, and cross the Lötschenlucke to Kippel, and on the third day to traverse the Tschingel Glacier to Kandersteg, so as to be ready for Hinchliff on the 8th. As this involved three consecutive days of glacier work, and we only proposed taking one guide apiece, who would be laden quite sufficiently with the necessary provisions, we sent off our knapsacks by a special messenger to Kandersteg, and retained nothing which could not be carried in our pockets.

On the morning of the 6th our bright mountain prospect was sadly clouded by the announcement of *mauvais temps*, and it was not until seven o'clock that the clouds broke sufficiently to make it possible for us to leave the inn. To start on our excursion at so late an hour was of course out of the question, and we thought we could not do better than devote the day to a preliminary examination of the Guggi Glacier. A friend of Stephen's, Mr. Fitzgerald of Trinity Hall, who had travelled with us from London to Interlaken, and who had everywhere caused the most astounding sensation from his having adopted a complete knickerbocker costume, had arrived unexpectedly the night before, and accepted our invitation to join our party.

It is impossible to get on to the Guggi Glacier direct from the Wengern Alp, as the Trümletental is quite impassable. We made for the foot of the Eiger, and crossing the base of the Eiger Glacier clambered over the rocky ridge of the Mönch, which divides it from the Guggi, and landed safely among the pinnacles of the ice field we wanted to examine. I believe we were the first travellers to set foot upon either of these glaciers, scarcely a mile distant from a spot thronged with tourists all through the season.

To those of my hearers who intend to roam through the high Alps this year, let me give one piece of advice—never take German and Savoy guides on the same excursion. They are immensely jealous of one another, and always quarrelling about the proper route—at least as much as two people can quarrel who are ignorant of each other's language. Lauener of course considered himself equal to any two guides in Switzerland, and had unfortunately imbibed a contempt for Charlet, whom he always addressed as 'mademoiselle.' We had no sooner set foot upon the Guggi Glacier than a violent altercation arose about the route; Lauener insisting that we ought to keep at the edge of the glacier under the rocks, and the two Chamonix men that we should force our way up the stream in the middle. This dispute was terminated by Lauener and Stephen and Fitzgerald going one way, and the rest of the party the other: a deplorably bad precedent which I recommend no one to follow. Our detachment arrived at the base of the first snow wall considerably before the other, but when it came

up we found that Fitzgerald's knickerbocker costume had not compensated for his want of training ; the glacier work had been too much for him ; he had considerably retarded his party, and was now completely *hors de combat*.

We gained this spot about half-past one, and carefully studied the obstacles which lay before us. The lower wall was so much broken down that I saw we could without much difficulty climb up it, and gain a plateau beyond. But the second barrier was so much more formidable that I quite despaired of success. I was anxious to go up and examine it close at hand but our guides were for once of the same mind, and all positively refused to move another inch. They observed that the only time when this part of the glacier could be crossed without the most fearful risk was very early in the morning ; that the afternoon sun always brought down avalanches from overhanging masses of snow, and that so late in the day it would be madness to think of proceeding further.

Stephen then put in the suggestion that there was no absolute necessity for crossing between the Mönch and Jungfrau, and that our end would be answered just as well by going between the Mönch and Eiger. There was something to be said both for and against this proposition—on the one hand there was the advantage of making the ascent to the col entirely up the Eiger Glacier, and dispensing with the troublesome clamber over the spurs of the Mönch ; on the other hand none of our party knew, even supposing we succeeded in reaching the top of the Eiger Glacier, whether we could get down on the other side ; whereas if the Col de la Jungfrau were once gained the descent on the further side was easy.

In order to compare as well as we could the difficulties of the two routes we climbed up the ridge between the glaciers to a point much higher than we had crossed it in the morning (in spite of the energetic remonstrances of Fitzgerald, who was unable to conceive why we should go back by a new way), and having finally decided in favour of the Eiger, we walked quietly home to dinner.

The following morning our party, with the exception of Fitzgerald—who happily yielded to our advice to go through a little quiet training before he took to the ice again—left the inn at 3.45, and rounding the head of the Trümletental got on to the Eiger Glacier. It would be quite impossible to find a finer example of that peculiar form of ice structure termed séracs than this glacier presents. The word ' sérac ' in Savoy *patois* denotes an inferior cheese made from whey, which is pressed in cubical moulds and turned out in great white blocks. The metaphorical séracs are formed when a glacier rests upon a bed so steep and irregular that it is crossed by two or more distinct systems of crevasses ; the ice then splits up into a vast number of irregular masses, of the most beautiful and fantastic forms. At one time they assume the shape of lofty towers, at another of crowds of elegant pinnacles and minarets, at another of huge and shapeless blocks frequently supported upon slender pedestals, and which when these

are thawed away come smashing down with a tremendous noise, and are dashed into a thousand fragments.

No occupation in the world could have been more fascinating than our threading our upward way among the séracs of the Eiger Glacier. Almost every step that was taken was the result of a careful calculation of its effect upon our future progress. Now we are cutting hand and foot holds up a huge pyramid of ice ; now seated astride of a long wedge and creeping along it hand over hand ; but the most delightful moment of all is when, every other method proving unavailing, we descend into the labyrinthic caverns of the glacier, and pause a moment to admire the strange beauty of our position. We are standing in a grotto, or rather, a corridor, whose walls tinted with delicate shades of blue and green rise high above our heads, and curl over into cornices fringed with pendent icicles ; overhead is a long rift of sky, of the profoundest Alpine blue, while down the glacier the crevasse opens out into several branches, disclosing glimpses of distant pine woods and green pastures, scattered chalets and silver streaks of falling water, thus forming a series of exquisite pictures each set in its crystal frame. In the opposite direction the crevasse closes overhead ; but we see that it is open beyond, and creeping through the icy tunnel we climb up again on to the glacier surface further on.

At length we get clear of the séracs, and gain the firmer ice beyond, and zigzagging up it for some distance, make for the edge of the glacier on the right. Here we find a sort of hollow way lying between the crevassed névé on the one hand, and a steep ice-coated shoulder of the Mönch on the other. As this valley is paved with a firm foundation of frozen snow, we make famous walking up it, and reach the upper snow basin of the glacier, enclosed by the ridge which circling round it connects the Mönch with the Eiger, and whose lowest point is a little col just under the snowy dome of the latter mountain. We walk rapidly to the foot of the ridge below the col, and bringing the axes into requisition, cut our way up, imagining at every step that a few minutes more will bring us to the crest, and land us safely on the Great Aletsch. Yet a few seconds more and the col is gained, and we are gazing down upon the further side. But imagine our consternation on finding ourselves on the brink of a nearly vertical precipice, and dimly seen three thousand feet below, a distant glacier, which, if we could have reached it, would have taken us—not to the Eggishorn, but to Grindelwald. We look at one another in blank astonishment. What is to be done ? Go back to the Wengern Alp, is suggested. ‘ That will be all very well tomorrow morning,’ returned the guides ; but as we cannot return through the séracs in the afternoon it will involve passing the night upon the glacier, which, at an altitude of 11,000 ft. above the sea, is a proceeding to be avoided if possible. ‘ If,’ observes Lauener, ‘ we can gain the ridge at a higher point, and much nearer the summit of the Mönch, we can I believe get over on to the other side.’ The plan was immediately adopted, and as the ridge was too narrow, and too much interrupted by sharp jags of rock

for us to climb along it, we descended the glacier again to a spot more immediately below the point we intended to make for. We then had before us a steep wall of frozen snow, from 600 to 800 ft. high, in which it was necessary to cut footholds from bottom to top. We commenced the ascent of this at eleven o'clock. Lauener went first and cut the steps, the two Chamonix men followed and deepened them. Then came Stephen, my brother, and I brought up the rear. I was glad to be last for, as the step-cutting was a very slow affair, I could stop anywhere as long as I liked and overtake the rest of the party again in a very few minutes. I availed myself of this opportunity to make some observations on the inclination of the slope, the steepest I have ever climbed, and which would be described by many tourists as frightfully near the vertical, as indeed it looked. Driving my alpenstock firmly into the snow, I put my left arm round it, and steadying myself as carefully as possible, stooped down and put the clinometer on the surface of the snow. The reading was 46° : I repeated the observation a little higher up and obtained a reading of 50°. These observations confirmed my opinion that when a man speaks of climbing up a nearly vertical precipice, he means a slope of 45°. However, I will not deny that we found even this inclination quite disagreeable enough. The greatest caution was necessary in planting the feet in the holes as, if one of our party had made a false step and slipped, he would infallibly have broken his neck. It was a case too in which the rope was unavailing, for if we had been tied together and one of us had fallen the whole band would have been dragged down. If anything could have been necessary to give an additional zest to the proceeding, it was the fact that none of us knew for certain what would be found at the top, and descending the steps again was quite out of the question. When Lauener had cut 580 steps, almost without drawing breath, we reached a little patch of steep rock which jutted through the snow, barely large enough to hold us all together. Lauener was fairly exhausted and lay down, and Croz and Charlet, after looking very wise, and informing us that Lauener was suffering from that everlasting *la rareté de l'air*, went on to cut the remaining steps up to the summit of the ridge, while we remained below until the line was finished. When the Chamonix men were within a dozen steps of the summit Lauener had recovered, and resuming our march we gained the crest almost together, and paused a moment to look on one of those views of which none but the mountaineers can form the least conception, and in the enjoyment of which hours of toil are forgotten in an instant. Northward of the Bernese chain we looked down upon the Wengern Alp, and the inn we had quitted in the morning—a small white spot in the midst of the verdant pasture; next up the Sefinental to the Gspaltenhorn, the Blümlisalp and the Altels, then over the valley of Lauterbrunnen to the blue waters of the Lake of Thun, beyond which lay, gradually fading away in the distance, the great central plain of Switzerland. On the other side of the chain the prospect was of the greatest wildness and desolation

that can be imagined. Not the smallest particle of green was visible in any direction, nothing but miles of ridges of black mountains with intervening glacier basins, and the giant forms of the Wetterhorn, Schreckhorn and Finsteraarhorn, remarkably prominent.

Suddenly it struck us that the day was waning, and looking at my watch I was amazed to find it 5 o'clock. We had had to cut no less than 750 steps to make the ascent of the wall, and it had taken us just six hours to do it. Of course all idea of getting up the Mönch was abandoned, for the Eggishorn hotel was about ten hours distant, and we had only three hours of daylight left. The ridge we had arrived upon was extremely narrow and rather steeper on the further side than on the one we had ascended; but just below was a line of rocks which we managed to creep down upon, and we walked along these for some distance until they terminated, and then cutting another line of about 100 steps in a horizontal direction we landed fairly on the snowslopes of the Mönch, which led down to the Aletsch Glacier.

'Maintenant nous sommes sauvés!' shouted Croz as he flung his knapsack in the snow, and his example was followed by Charlet and Lauener. As this was the first time since 11 o'clock that we had been able to sit down, we determined now to enjoy ourselves, and I am happy to say that not even the certainty of having to pass the night out of doors at all checked the exuberance of our spirits. The provisions were speedily unpacked, and the new col was pledged by each of us in copious draughts of the red wine of the Rhone valley. 'The col must now be christened,' remarked Lauener; 'what are we to call it?' 'Call it the Teufelsjoch,' said I; 'for it is the most break-neck place I have ever seen in the Alps.' 'Nay,' rejoined Lauener, 'rather call it Engelsjoch, for the good angels have watched over our passage, and brought us across in safety.'

The view from our dinner table was much the same as that on the northern side of the ridge we had crossed; we looked at it with greater enjoyment as we were now free from the feeling of danger; and we proceeded to trace out our route for the remainder of our journey. The slopes upon which we were sitting terminated below in a basin enclosed by the Mönch and Trugberg on the one side, and the Vieschergörner on the other, about three miles long by one and a half wide, with a paving of snow which seemed perfectly horizontal, of the most unsullied whiteness, and without a single fissure.

And now 'Allons!' is the cry, for the day is waning fast, and we are resolved to make a desperate effort to reach the Faulberg, for there is a cavern here in which people sleep on the way to climb the Jungfrau or the Finsteraarhorn, and in it mine host of the Eggishorn keeps a supply of wrappers and firewood and a kettle for boiling water. We descend the slopes rapidly, but our difficulties are not yet over, for an immense crevasse circles round below us, and cuts us off from the level snow beyond. We make for a point where the fissure is narrowest, walking diagonally downwards along the face of the slope; but it is

difficult work, for the snow is frozen hard and our boots refuse to bite. All at once my brother, who is just in front of me, loses his footing, falls like lightning down the slope, and is out of sight in an instant. After a few seconds of most painful suspense, a voice from below is heard calling out—'All right! come along.' The speed acquired by the fall has carried him clear across the chasm, and he has fallen safely on to the soft snow beyond. Notwithstanding the success of the experiment the invitation is not followed, but the rest of us walk carefully down from the point we are making for, and reach the edge of the crevasse, which is not vertical, but at right angles to the face of the slope. Here Lauener takes up a firm position, lets us down one by one by means of the rope, and then leaps over himself, and the party is reunited.

We now walk very rapidly along the level snow, for it is frozen hard and affords excellent footing. A more fairylike scene can scarcely be imagined. The sun, now below the horizon, has tinted the western sky with all the glories of sunset, and the crescent moon risen high upon our left over the dusky ridge of the Viescherhörner is disputing for the mastery with the declining day, and clothing crag and snow and glacier with those mysterious shadowy hues which give an appearance of such wonderful unsubstantiality to these mountain scenes, and make us think that the giant Alps have all laid them down to rest, and that their ghosts only are keeping guard in their places.

At length the walls of our snow basin close in upon us, leaving only a comparatively narrow opening through which the glacier has to force its way. As the bed falls suddenly, at the same time, the ice just before so smooth and level now plunges over in a steep and fissured stream to join the main body of the Great Aletsch down below. We put on the rope and struggle onwards as well as we can; but night comes on so rapidly that when about halfway down we cannot see a foot before us, so a halt is cried. We clamber on to the rocks on the right, which we gain at a quarter to nine, just seventeen hours after quitting our inn in the morning, and proceed to make arrangements for the night.

We had selected about as inconvenient a place for our *hôtel sauvage*, as Lauener called it, as well could be conceived. In the first place the side of the Trugberg upon which we had encamped was extremely steep; in the second it was thickly strewn with angular fragments of rock of every conceivable size. I once heard of two soldiers who were disputing which of them slept in the less luxurious manner. The one said he lay down every night upon the bare floor; the other that he did that too—but he put down a layer of cannon balls first. Now if you will conceive the cannon balls to be replaced by triangular pyramids of iron placed point uppermost upon an inclined plane, and further suppose the bed so formed to be put out of doors by the side of a glacier 9000 ft. high, you will form a tolerably adequate idea of our mountain quarters. Bear in mind further that we were entirely devoid of wrappers or extra clothing of any kind, and soaked with

wet from the knee downwards, and you will exactly realise the happiness of our situation.

We enjoyed, however, two great advantages as a set-off: we were not supperless, like the two unfortunates on the Bristenstock, but having carefully attended to the commissariat on leaving the Wengern Alp, had a plentiful supply of wine and food both for the night and the morrow morning: and the night was brilliant, the moon and stars shining with the intensest lustre from the midst of a jet black sky, and lighting up the noble Aletschhorn and the magnificent Aletsch Glacier, down which we looked for six good miles, until it was lost to view by a curve in the valley.

Lauener spent the first part of the night in singing patriotic songs, in order, as he said, to prevent our going to sleep, which he thought would not be good for us; but about midnight the moon set, and it then became so bitterly cold that even his good spirits forsook him, and we all lay still in silent suffering until daybreak should release us from our troubles.

At 4 o'clock on the morning of the 8th the long expected signal of relief appeared in the eastern sky. We got up at once, and scrambled down the rocks of the Trugberg to the main stream of the glacier. The fresh morning air and pleasant exercise soon revived us, and we arrived without difficulty at the Aletsch See. To get from here to the Eggishorn a grassy ridge of 700 ft. high has to be crossed, and this distressed me more than any previous part of the excursion. Precisely at 9 o'clock —five hours after leaving the Trugberg we stepped into the salle of the Hôtel de la Jungfrau. My old acquaintance Wellig, who in a few moments recognised me as one of the Finsteraarhorn party of two years before, when he heard where we had come from executed a very vigorous war dance, in entire indifference to the numerous spectators in the room, and in a remarkably short time laid upon the table a sumptuous breakfast, with all the delicacies at his command. We did the most ample justice to Wellig's viands, and spent an agreeable and lazy day, meeting with many pleasant Cambridge faces, and genial Alpine friends.

So ended the first grand course of our excursion, from which we suffered less than might have been expected. Stephen, my brother, and I were more or less blistered about the face and neck, and my lips were very disagreeably swollen from constantly eating snow the day before. It is one of the guides' superstitions that snow and ice, or snow and ice water, is very unwholesome, and the guides continually warn you not to touch it. The result of our experience is that the effect of snow upon the digestive organs is inappreciable, but upon the lips it is far from pleasant. Our expedition on the whole had been a great success; we were not a little proud at having been the first to force a passage across so difficult a place, and no less thankful at the providential freedom from accidents with which it had been accomplished.