

Messrs. Preyer and Zirkel. It is not to be compared to those in the Alps and in Norway, and in my judgment it is inferior to those of Ben Nevis and Ben Macdhui. There is no appearance of a crater. On the E. is a ridge connecting Great with Little Baula. Little Baula is a very perfect cone situated in a crater. The trachyte of Great Baula is white. Little Baula is of a much darker colour. I was unfortunately unable to measure the height of Baula, an aneroid barometer, made by Browning (111 Minories), for this journey, having been rendered useless by the breakage of the connecting chain. The temperature of the air on the summit was 43° Fahr.; at the foot of the cone, nearly two hours later, 53°. I should suppose Messrs. Preyer and Zirkel's estimate of the height (3,000—3,500 feet) to be tolerably correct. There is no permanent snow on the mountain, but, as they observe, it is perhaps too steep for snow to lie upon, besides which it is well known that on small isolated peaks the snow-line is considerably higher than on extensive mountain ranges. This is strikingly exemplified in the case of Hekla. The description of the view is correct. Messrs. P. and Z. are, however, mistaken in saying that the sea is not visible from the summit. We saw Borga Fjord and Hvammr Fjord from it. In conclusion, I would recommend this interesting excursion to travellers visiting this part of Iceland.

NOTE.—Since writing the above I have had an opportunity of consulting the work of Herr G. G. Winkler, 'Island; der Bau seiner Gebirge und dessen geologische Bedeutung, 1863.' This book, p. 72, contains a minute description of the geological structure of Baula, to which I would refer those who wish for information upon this subject. Herr Winkler made an attempt to reach the summit, but did not succeed.

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THE STUDER JOCH. By F. CRAUFURD GROVE.

IT was my misfortune to find myself on a very rainy afternoon in the beginning of August 1863 in the remarkably close and dirty *salle à manger* of the Grimsel Hospice. That establishment, not a very lively one at the best of times, was on this occasion peculiarly unpleasant, owing partly to the bad weather which had driven everybody indoors, and partly to the fact that the well-meaning but stolid landlord was entirely new to his business. The problem of how to get through the day seemed even more difficult of solution than it commonly is on these occasions. The usual device of a protracted luncheon

could not be resorted to. 'Until seven o'clock,' said the host to an angry traveller, 'you can have nothing but a plate of raw ham, or the bill, both of which are at your service.' Not feeling inclined myself for either of these luxuries, which can be had in high perfection without going so far as the Grimsel, I endeavoured to discover what other facilities for passing the time the place might offer. Its advantages in this respect were not great; the library was decidedly limited, owing to most of the books having been torn up for cigar-lights, and the travellers' register had suffered from the same natural but reprehensible practice. While pondering over what remained of its instructive pages, I was fortunate enough to get into conversation with a very agreeable Frenchman, from whom I received some interesting and, to me, novel information concerning the achievements of a body of English gentlemen devoted to mountaineering, known as 'The Travellers' Club;' 'a member of which,' he added, 'is this very day ascending the Matterhorn, a lofty mountain in the immediate vicinity of the Grimsel.' As this statement, though plausible, slightly jarred with my few ideas on the subject of Swiss geography, I endeavoured to ascertain on what grounds it was made, but without any success, until my difficulties were ended by the appearance of my friend Mr. Macdonald and the famous Melchior Anderegg, both fresh from an ascent of the graceful Galenstock and, in spite of the unfavourable state of the weather, eager for fresh expeditions. After some discussion we determined to devote the next day, if fine, to a stroll to the top of the Strahleck and back, and to a passing investigation of the country round. When I communicated our intention to the landlord, and requested him to prepare the necessary provisions, that worthy smiled on me for the first time. Though but vaguely conscious of the existence of the mountains about the place, he had a firm belief in the Strahleck pass as highly conducive to the honour and welfare of the Grimsel Hospice. Crossing the Strahleck from his inn implies provisions, wine, and a thirty-franc porter, all supplied by the landlord; crossing the Strahleck to the Grimsel means in most cases a large consumption of champagne during the evening. Going to the top of the pass and coming back again seemed to him a happy innovation on the established practice, as combining both sources of profit. The next morning we duly started, favoured by the most magnificent weather, and honoured with the society of Melchior Anderegg and Peter Perrn, the latter of whom, more droll and ugly than ever, had arrived at the Grimsel late on the previous evening. We had not gone far before I discovered, from Macdonald's

absent manner—so totally different from his usual state of genial exhilaration—that something was preying on his active mind. A searching cross-examination, conducted as well as such a thing could be on a crevassed glacier, presently brought to light the nature of his grievance. Crossing the Oberaar Joch some days before, he had been much struck by the excessive dullness and insipidity of that uninteresting pass, and had ultimately come to the conclusion that the usually vigilant Alpine Club had for once betrayed some slight negligence in allowing two such important points as the Grimsel and the *Æggischhorn* to remain without better means of communication than the wearisome snow-trough through which it had been his misfortune to wade. He had now come out less for the sake of a walk on the *Strahleck* than in the hope of discovering some accessible point in the ridge between the *Finsteraarhorn* and *Oberaarhorn*, over which a col might be made, which would probably prove far superior in interest and beauty to the *Oberaar Joch*. His diligence was not without its reward; though nothing can be more uninviting than the greater part of the vast rampart which lies to the south of the *Unteraar glacier*, his careful investigation at length discovered a steep, but not apparently impossible, ice-slope, which seemed to reveal an available way to the top of the ridge, whence a descent on to the upper *névé* of the *Viescher glacier* could probably be effected. Melchior, called into counsel, said that the slope might be practicable or might not; and finding no one prepared to dispute this well-considered and not very hazardous proposition, went on to observe that, though there were some crevasses near the top which might give trouble, he thought the col decidedly worth an attempt. Further encouragement than this was not needed, and when on our return to the *Grimsel* we found Messrs. Buxton, Hall, and Woodmass, friends whose arrival from the *Engadine* I had been expecting, it was speedily arranged that a joint attempt on the pass should be made the next day. At 3.15 on the morning of the 4th of August, four of us accordingly started—namely, Buxton, Macdonald, Hall, and myself; Woodmass being unfortunately prevented from joining us by a sudden and severe illness. For guides we had Melchior Anderegg and Peter Perrn, and, to carry provisions, a sturdy but very taciturn porter from the *Grimsel*, who, during the whole time we were together, only made one observation, and that was at the conclusion of the day, when he expressed a decided wish to be paid immediately.

For the first three hours our way lay over the ordinary *Strahleck* route, along the flat surface of the *Unteraar glacier*, until we reached a point under a shoulder of the *Oberaarhorn*,

just opposite that portion of the glacier which leads to the foot of the well-known wall. Here we paused for a short time to reconnoitre the ice-slope up which we trusted that we should be able to force our way. For the benefit of any one who may wish to make the pass in future, I may state that the position of the col can hardly be mistaken. The Studerhorn is the principal elevation in the ridge which connects the Oberaarhorn with the Finsteraarhorn. Immediately to the east of the Studerhorn, and, consequently, between it and the Oberaarhorn, is a steep hanging glacier forming a slope which, stretching continuously from the top of the ridge to the ice plain at the bottom, is furrowed up in the higher portion by some huge crevasses. This would seem to be the only place at which there is any chance of surmounting the vast wall. At the foot of this slope we arrived at 7.30, and as we found that the lower portion was covered with tolerably frozen snow, and that no step-cutting would be necessary, we immediately started up the incline, Perrn leading, followed by Macdonald; Melchior, according to his wont, keeping behind in the easier part of the ascent, ready to step to the front, the recognised leader, the moment any difficulty should call for the exercise of his unequalled skill. Perrn, rather nervous about avalanches on the snow-covered portion of the slope, thought it necessary to lead up at a pace such as I have rarely seen maintained in the Alps, and which speedily produced unmistakeable signs of distress from the rest of the party, with the exception of Macdonald and Melchior; but the sturdy son of Zermatt held on nevertheless, and, deaf to the pathetic remonstrances which constantly assailed him from the rear, never slackened his pace until the outraged laws of respiration asserted their rights, and, in spite of himself, he was fairly obliged to stop for breath. A bench was formed by the simple process of scraping it out of the snow; that anomalous alpine meal, which may be described as a hybrid between breakfast and luncheon, was eaten, and we started to battle with the remainder of our route, Melchior leading this time, as there were some ugly séracs ahead. After a short interval of step-cutting we came to a huge crevasse, stretching across the greater portion of the slope, terminating on the right amid ice-cliffs, which were obviously impracticable, and on the left closed by a broken bit of glacier, which seemed but little less formidable. This latter obstacle, however, had to be crossed, or we must give up all idea of making the pass; so there was nothing left but to attempt it, which we did, and, owing to Melchior's inimitable skill, succeeded at last in forcing our way through it. Without some

kind of illustration I despair of giving any idea of the very peculiar ice difficulty with which we had to contend on this occasion. I can only say that Melchior had to perform a feat analogous to that of cutting steps up and round the sharp corner of a house just under a boldly projecting cornice, the area being represented by a symmetrical but highly objectionable crevasse which yawned some fifty feet below us. This overcome, no serious obstacle remained between us and the top of the col, which, to our great delight and relief, we reached at 10.15, the whole ascent from the Grimsel having occupied precisely seven hours. The otherwise undisturbed exultation which gaining the summit of our pass would have caused us was, however, mitigated by the circumstance that almost everybody was ill. Some of our party, who had been relieving the hard work of mountaineering by a short interval of idleness amongst the Italian lakes, had given themselves unlimited license as to figs and grapes. The result produced by this peculiar training diet, when tested by a struggle with a long and severe snow-slope, was something too painful to bear more than a distant allusion. The guides were in little better plight. The landlord of the hospice, exhilarated by the presence of two such distinguished men as Melchior and Perrn, had, on the previous evening, been remarkably generous with his liquor, and the effect produced next day was such as might be expected by anyone who has ever had the misfortune to drink a glass of the Grimsel brandy. Things got better after a time, however, and we were able to admire the rare beauty of the view, and to proceed to determine the question usually propounded on these occasions—namely, whether, having got up one side of a wall, we could get down the other. A descent straight from the spot where we stood was clearly impossible; to the west, or in the direction of the Finsteraarhorn, the rocks had a most forbidding aspect, but towards the Oberaarhorn there seemed to be some chance of finding a practicable funnel. After proceeding a short distance eastwards along the top of the ridge, we struck down an ice-slope to the right, and presently found ourselves at the head of a couloir leading to the upper névé of the eastern branch of the Viescher glacier. The descent of this rocky chimney gave us considerable trouble, for, though easy enough at the top, the lower part proved steep and difficult, the last forty feet in particular bringing forth the most peculiar and varied display of gymnastics from the whole party, as in attitudes more or less ungraceful we struggled, or were ignominiously lowered, down the slimy treacherous rocks, the unpleasant nature of our

situation considerably increased by the vision of a large, deep bergschrund waiting for us at the bottom. We got to the foot of the rocks at last, however, crossed the bergschrund by a snow bridge, and found ourselves in the great snow basin surrounded by the Oberaarhorn, the Finsteraarhorn, and the Rothhorn. Here, after a short time, our route joined that of the Oberaar Joch, and the rest of the day was occupied in the tedious walk along the interminable Viescher glacier, of which the weary memory must be so familiar to most mountaineers. Viesch was reached at eight in the evening, the pass having occupied us sixteen hours and three quarters, but I should state that, owing to the indisposition of some of the party, our progress was, with the exception of the rush up the snow slope, unusually slow, and we all agreed that, under ordinary circumstances, about fourteen hours would be required for crossing from the Grimsel to Viesch; going to the Æggischhorn would probably shorten this time by an hour. I may add that it was also the common opinion that the pass was far superior to the Oberaar Joch, not only from the more interesting nature of the country which has to be crossed, but, in addition, from the singular beauty and variety of the mountain scenery through which the route lies; as the earlier portion of the day's work is on that portion of the Strahleck route from which the Schreckhorn and Finsteraarhorn are so well seen; while the view from the summit of the col is of rare extent and magnificence.

In describing our ascent, I endeavoured to give some idea of the bearings of the col; a few words as to the position of the couloir by which we descended may not be out of place.

Immediately to the west of the Oberaarhorn, as seen from the Viescher glacier, a steep ice slope rises from the névé; just beyond this an abrupt wall of rock shuts in the glacier to the north; at the place where this wall sinks lowest a small sharp buttress stands out. Close to this projection on the west side is the couloir, which forms apparently the most practicable route to or from the top of the ridge.

I should mention that, in the table of the heights of passes contributed to the second series of 'Peaks and Passes,' by Mr. Tuckett, a col called the Roth Sattel is described as existing between the Finsteraarhorn and Oberaarhorn, and as connecting the Viescher and Unteraar glaciers. This we for some time thought to be identical with the pass which we had made, and I am indebted to Mr. Tuckett's kindness for the means of correcting the misapprehension. He took the description of the height and position of the col from a table of elevations, &c.,

given at the end of Hugi's work on the Alps, but having since carefully examined the actual text of that book, he has found that in this table the word Oberaarhorn is a misprint for Rothhorn, and that the pass referred to is one crossing the ridge between the Rothhorn and Finsteraarhorn, connecting the eastern and northern névés of the Viescher glacier. This I need hardly say is perfectly distinct from the pass for which the Studer Joch appeared to us to be the most appropriate name.

### THE DOLOMITE MOUNTAINS.\*

**T**HIS WORK is one of more than ordinary merit as a book of travels. It contains much valuable information respecting those remarkable mountains in the East of Europe, which have taken their name from M. Dolomieu, a French savant who more than seventy years ago first called attention to them, and is likely in consequence to be remembered as long as the Dolomites continue to engage the notice of adventurous mountaineers or thoughtful geologists. The places visited by the authors have been carefully observed, and the results are recorded by them with elaborate accuracy. A strong and delicate appreciation of the beautiful in nature is perceptible in almost every page, and under its impulse, Mr. Gilbert and Mr. Churchill, accompanied by their wives, have explored numerous valleys hitherto but little known, have endured privations and hardships which must have been very trying, at least to the ladies, and have in the end produced an elegant and readable book that will be found an invaluable *vade mecum* for all who intend to travel through the same district in the same manner. The book however is but of little value to the practised mountaineer, beyond pointing out where the places are that he should go to; for the authors made no difficult ascents, but were content to admire their favourite mountains by looking upwards at them from some spot below, without venturing on 'altitudes convenient only for the eagles' or members of the Alpine Club.

The principal Dolomites are comprised in the mountain ranges called the CARNIC ALPS, which lie to the East of Botzen and South of the Pusterthal. The famous Ampezzo Pass from the Pusterthal to Venice runs through the centre. Our authors, however, were not content to devote themselves to an exploration of the Carnic Alps, which, if done thoroughly, would have made their book more valuable; but they extended their journeys beyond the Tyrol and Carniola, and penetrated into the valleys of Carinthia and Styria, the descriptions of which occupy too much space. There most of the scenery is of inferior order, consisting principally of long interminable valleys girt on each side by mountains of second-rate height, which, when seen from below forested, are not adapted to arouse any very powerful emotions, or

\* *The Dolomite Mountains: Excursions through Tyrol, Carinthia, Carniola and Friuli*, in 1861, 1862, and 1863. By Josiah Gilbert and G. C. Churchill, F.G.S.