of the glacier, and, following its course, came upon that of the Unteraar. It was about 3 P.M. when we cleared the Sattel. Our difficulties (such as they were) were over, but we had still a long walk before us. I will not detain the reader with an account of the rest of our journey, as the Unteraar glacier is known to most tourists who visit the Oberland. Let me merely add, we did not reach the Grimsel till 9 P.M.—pleased at the success of our expedition, and, at least equally so, with the prospect of supper and bed.

[The above expedition having been made so long ago, a note by a gentleman who crossed the pass last year may not be unacceptable as a comment.—ED.]

I did not find any obstacle in the shape of the waterfall mentioned by Captain Campbell; and therefore, crossing the stream immediately above the sleeping-place, I ascended by the rocks on to the glacier or ledge of ice which extends at the base of the line of precipices which form a barrier to the east. The route to the Lauteraar Sattel is, for about half an hour after leaving the sleeping-place, the same as that to the Wetterhorn; it then diverges, turning sharp off to the right in a southerly direction. The ledge of ice which I have mentioned abuts upon, and at times actually touches, the Upper Grindelwald glacier. Last year, however, owing to the shrinking of the ice, I found a deep gap between them, over which we had to make our way on to the Upper Grindelwald glacier proper. We struck it just below the first ice-fall, and ascended on to the upper snow-field by a very steep, but not difficult, slope. My guides were Ulrich Kaufmann and Peter Inabnit. The former, who crossed the pass in 1857 with Captain Campbell, told me that he had never seen so great a change on any glacier as had taken place on the Upper Grindelwald and its tributaries in the interval between his two visits. I may remark, by the way, that an interesting pass might be made by crossing from the head of the Upper Grindelwald on to the Gauli glacier. It would take a long day to get down to Hof, otherwise there would not be much difficulty.—ARTHUR MILMAN.

THE COL DU MONT BRULÈ. By the Rev. C. H. PILKINGTON, M.A.

AT page 285, vol. i. of 'Peaks, Passes and Glaciers,' 2nd series, Sir T. F. Buxton draws attention to a col, which appeared to him and his companions practicable, on the north side of the Pic de Zardezan. Having observed it both from the Col de Collon and the Col de Valpelline, he suggests it as a route which would join the two, and by which the Combe de l'Arolla might be reached in one day from Zermatt. In conclusion, he

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leaves it to the lovers of topography and mountaineering as amongst the *agenda* of the coming season. Let me tell what I know of the col from actual experience, and relate how it came to be reckoned among the *acta* of last summer.

I had chosen what is called the high level route to be part of the occupation of my summer holiday, but, on getting to Zermatt, found myself obliged either to traverse it alone or give it up. At this juncture I was fortunate enough to fall in with Mr. E. E. Bowen and Sir Geo. Young, who were not only bound on the same excursion, but were provided with instructions from Mr. J. J. Cowell (who accompanied Sir T. Buxton) with reference to this pass from Zermatt to Arolla in one day. They had also Michel Payot, Cowell's old guide. Kindly they joined forces, and we started altogether at 2 A.M. on the 11th of August. I say but little of our preparations; such are tolerably well known now. Our difficulty was to carry with us enough provisions to last three days, as we could expect but little at Arolla and Chermontane, though sure of a better reception at St. Pierre.

At 11 A.M. we found ourselves on the Col de Valpelline—Bowen, Young, and myself, Payot and Favret of Chamounix, and Nägeli of Meyringen, who had been with me a week before. We had not time for the Tête Blanche, but kept on eastward. Before us lay, as in a basin, the névé which supplies the Glacier de Zardezan, descending gradually with a sweeping course round to the southward. The edge of the basin, consisting of steep rocks, formed a continuous curve from the Tête Blanche, on our right flank, to the Pic de Zardezan or Mont Brulè, which was in front of us, but to our left. These names indicate the same peak, if a comparison of different maps is to be relied on. The rocks seemed difficult of access in every direction, except just north of Mont Brulè; and this point, though close alongside of the icefall of the glacier, was to be reached by keeping round well under the rocks without descending more than was absolutely necessary. Our line was to follow the side of the basin, or rather half-basin, and then to make for a little bit of the rim near Mont Brulè, which was more flattened than the rest. Down we went under the Col des Bouquetins,* the icefall of which seemed to us quite impracticable, but I understand the rocks at the side are comparatively easy. At 12.25, having got a good way round the sweep of the glacier, we halted as near the shadow of the edge of rocks as we could, and opened our provision sacks. Some philosophers

* See note on this pass by Mr. W. E. Hall, at page 92.

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demonstrate to a mathematical nicety the exceedingly few ounces of food which suffice for a day's subsistence. I don't quite agree with them. Have a good dinner the day before starting, and a bite and a sup when you're hungry, especially just before the hardest bit of the day's work. On this occasion we were obliged to be chary of our rations, lest we should be starved on the Sonadon. Let me publicly tender the thanks of the party to that provident individual who, at the last moment before we left Zermatt, ordered more eggs; which same eggs, he says, kept us eventually from utter destitution and hunger. Gratitude is cheap—cheaper than eggs; let us be grateful.

At one o'clock we started upwards again, and found the ascent easier and shorter than we expected. In half an hour's time we were looking over the edge of the rocks on to the head of the Arolla glacier, and the curiously-formed Mont Collon in front of us. Pocketing a memorial, we all clambered down; the descent lay over a comparatively smooth face of rock, which however was not at all steep, and was covered thinly moreover with débris and snow, here and there; so our descent was rapid—a good jump took us over the bergschrund, and we went on our way rejoicing that there was nothing more to stop us, and the afternoon was yet young. We stayed once to sketch the pass, and again to recover an alpenstock from a crevasse, and then found ourselves on the Alp on the right bank of the glacier just before Mont Collon, and opposite the Vuibez glacier. There is a splendid cave there for anybody who, having crossed our pass, wishes to escape the fleas at Arolla, and to attack the icefall of the Vuibez glacier in the early morning. We got to the bridge across the stream at 5.30, and in a few minutes more reached the châlets where we were to sleep.

To attempt this pass from the eastern side, it is not advisable to reach the ridge close under Mont Brulè, unless the bergschrund should be impassable elsewhere, but rather as far west as possible, in order to avoid the icefall, and shorten the long sweep under the Col des Bouquetins as much as possible.

As to the height, I can give but little more than a tolerable guess. An aneroid barometer of Secretan's make, which I carried with me in my journeyings, has proved to have an error of so large a magnitude that its readings are not worth much. Perhaps we shall not be far out, after comparing with the Valpelline and Collon, in estimating the height of our pass at about 10,600 feet. Though merely a supplementary one, and pos-

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sessing no very distinctive features of its own, it is valuable, as giving a variety to the Valpelline, and rendering Arolla easily accessible in one day from Zermatt.

An Excursion in Dauphiné, with a Partial Ascent of the Pointe des Ecrins. By the Rev. T. G. Bonney, M.A., F.G.S.

My first introduction to Dauphiné was in the dismal summer of 1860, when, in company with my friends Messrs. W. Mathews and J. C. Hawkshaw, I explored some of the valleys in the neighbourhood of the Pelvoux, and made an attempt on the mountain itself, which was defeated by the traveller's worst enemy, a dense *brouillard*. Though our chief recollections of the country were of scant fare and abundant fleas, of bad guides and worse weather, yet still we had seen and learnt just enough to make us wish for more; and the parting glimpse that we had caught of the range of the Pelvoux on leaving Guilestre for Abries, had only suggested questions without supplying us with answers. Subsequent travellers, although in some respect more successful than we, made but scanty contributions to the geography of the district, until our friend Mr. Tuckett, armed with a tracing from some of the unpublished sheets of the French government survey, kindly supplied to him at the Dépôt de la Guerre, spent nearly a fortnight of last July among the Alps of Dauphiné, and so thoroughly explored many of the least known parts of the chain as to leave but little to be done by those who might follow his footsteps. Immediately on his return to England he communicated the results of his labours to Mr. Mathews, informing him that Les Ecrins was not (as had previously been supposed) a peak of the Grand Pelvoux, but a distinct mountain, and sending an outline sketch of it, on which was marked the most probable path to the summit. Consequently, the embattled wall of the mountains of Dauphiné had attracted our special attention more than once from various summits in the Graians; and when, on the Superga as a judgement-seat, we balanced the rival attractions of Dauphiné and the southern districts of the Graians, the former gained the day, and the next morning saw us *en route* for the Viso. A return of bad weather prevented our attempting the ascent of that mountain, and we went to bed in the primitive auberge at La Chianale, fearing that after all we had come on a fruitless errand. The morning, however, of August 23rd was much finer than we had ventured to expect,

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