interest. We did not yet know for certain which of the three peaks of the Blümlis Alp was the highest. Suddenly the western peak caught the flush of the sunrise. The middle summit did not hang out an answering signal till after a perceptible interval. 'There's no doubt about it now, Melchior,' I said, and accordingly we steered for the western summit, that which is visible from Kandersteg. The Federal map, I may observe, also assigns the greatest height to this point. Our path lay round the head of the glacier plateau, which lies at the foot of the great backbone ridge of the Blümlis Alp, and up to the notch between the mountain marked as Rothhorn on the Federal map and the highest summit. An arête (visible from Kandersteg) leads from this notch to the top of the mountain. It presents no unusual difficulties, but it might call for a good deal of step-cutting if the snow was not in good order. As it was, we mounted with the loss of only one of the party. This was a thermometer which a benevolent but weak disposition had induced me to carry with me 'for scientific purposes.' To my inexpressible delight, it escaped from my hands, which were rather numbed with the cold, just as I took it out at the summit, and, rattling merrily down the glacier slopes, disappeared from our sight. It may probably be found by any scientific gentleman who will drag the Œschinen See, immediately under the waterfalls in the south-eastern corner, and I will make him a present of it for his trouble. We reached the top at 8 A.M., and enjoyed a view much like that from the Altels, which, however, is somewhat higher. The great charm of these views is that, standing as they do on the northern edge of the high mountain district, there is a beautiful contrast between the comparative plain involved in the northern semicircular sweep of the horizon and the wild confusion of peaks to the southward. A detailed description would be simply a catalogue which can be easily supplied from a map. We descended at our ease, and after an interview with a herd of chamois, returned comfortably to Kandersteg by 2 o'clock P.M.

ASCENT OF BAULA, in Iceland.—By T. W. EVANS, M.P. F.R.G.S.

THE following account is translated and slightly abridged from the work of Preyer and Zirkel, 'Reise nach Island im Sommer 1860, Leipzig 1862,' p. 116. The ascent was made from the farm of Dalsmynni, situated at the base of the mountain on the SW.

'At 2 P.M. we left our tent and undertook the difficult task of ascending Baula. The weather was unusually fine. Not a cloud in the sky; and the heat of the sun not oppressive. We first went up a slope, ascending by terraces, which led us to a plain thickly covered with juniper bushes. Here the drift-sand made it not only unpleasant but even dangerous to go farther. We were, however, fortunate enough to find a place from whence we could without risk reach the foot of the actual cone. We were two hours in reaching this. The walk was very monotonous and wearisome. Of plants, insects, or even birds, we found nothing worth mention, except some Carabids. The only thing which affords some variety is a waterfall, which leaps from one terrace to another. The brook which forms it served as our guide to the foot of the cone. This last rises at an angle of 38°, and is formed of trachyte, which is here and there split into large columns, heaped one upon the other in the wildest disorder. It appears as if some mighty giant had amused himself with throwing one stone upon another till he had made the high hill of them. For those who, like many tourists, speak of the ascent of the cone of Vesuvius as exceedingly exhausting and wearisome, the ascent of Baula would be a task almost approaching the impossible. A traveller in 1809 (Hooker) says that no one had succeeded in reaching the summit. Ebenezer Henderson and Sartorius von Waltershausen attempted the ascent, but were stopped by bad weather.

'The columns of trachyte have from three to nine sides, and are very beautifully and regularly formed. The fragments often measure nine feet in length and one foot in thickness, and taper off to the thickness of a finger. They are used at Hvammr (in the Nordhrardalr), at Nordhtúnga, at Sidhimúli, and at Njardharholt, as building stones and grave stones; and these last are often covered with inscriptions. These inscriptions are not, however, as many assert, composed in runes, which throughout Iceland are of rare occurrence. Hardly a single traveller is known of who has climbed to the summit of Baula. In order to reach it, perseverance and fine weather are above all things necessary. We were favoured with both these requisites to-day, and we began the most difficult part of the ascent with the utmost caution. The ascent is not only exceedingly laborious and tedious, but also dangerous, because the loose stones constantly roll away from under one's feet. We had, therefore, to take great care to ascend, not one after the other, but side by side; for the stones often at the slightest touch rolled down the hill-slope with terrific leaps. We reached the top of the cone about 6 P.M. About half-way up it, the

thermometer placed upon the trachyte, which had been long exposed to the sun's rays, showed only 17° Cent., and on the top 12° Cent.

'The panorama is very striking. Our view embraced a considerable part of Iceland, snowy mountains, valleys, rivers, and lakes. The sea is not visible. The tops of the mountains were not all cloudless, but the majority were seen to great advantage. In the east lay Eyriksjökull, behind it the vast and as yet unexplored Langjökull and Geitlandsjökull, farther on Strútur. We also recognised Ok, and traced our route from Kalmanstúnga, as on a map. The curiously-shaped volcano Skjalbreidh, farther to the south, and also Skardhsheidhi, were hid in the mist. West and north are no very prominent hills. To the south lies the beautiful Bjarnadalur, which reminded us strongly of the valley of Lauterbrunnen. To the NE. and S. we counted no less than thirty-seven lakes.

'No one whose head turns ought to ascend Baula. On the NE. side there is a perfectly vertical precipice, at least 1,000 feet deep. On its brink the pieces of trachyte and the boulders lie so loosely that a gentle step is sufficient to set a great mass of them in motion. This vertical precipice is the most remarkable feature of Baula. We regretted very much that we had not the means of measuring its height. In the newest map of Iceland (that of O. N. Olsen), a triangle, denoting a trigonometrical measurement, is marked upon Baula, but the result, so far as we know, has never been published, and consequently the heights of the mountain and of the precipice upon its NE. side are as yet unknown. The conclusion that it cannot exceed 2,500 feet—because this height is in Iceland the lower limit of perpetual snow, and Baula is in summer almost free from snow—does not appear to be tenable, for the slopes of the hill are too steep for the snow to lie on. We estimate the height at from 3,000 to 3,500 feet. The little Baula (Litla Baula), which lies to the NNE., is out of all proportion lower and smaller. It is a pointed cone, surrounded on one side by a semicircular wall-like ridge, which reaches half-way up the cone. The bare rock forms a very striking contrast with the green of the meadows which surround it.

'Upon the top of Baula, the only reminiscence of former visitors, was a cairn three feet high, built of trachyte prisms. We placed in it a tin case, containing our cards, with the names, professions, and countries of the three travellers, and also the date of our visit. How long may it not be before future travellers find them! In Iceland we met no one who had ever ascended Baula. Tormented with a dreadful thirst,

which we tried in vain to quench with snow, we started on our return. This was even more dangerous than the ascent. As it would have taken too much time to descend by the same way by which we had climbed up, we bore rather to the west, where the mountain is covered with fragments of trachyte. Here we tried to make a slide, rolling great masses of rock down the steep descent before us. We were soon, however, obliged to give up this dangerous attempt, for we might easily have got a broken leg, by striking against some projecting fragment of trachyte. We were, therefore, obliged to descend step by step, taking constant care not to set in motion the rubbish above our heads, and when we arrived, after a walk of three hours, at our tent, we agreed that of all mountains which our feet had trodden, Baula was the most difficult to ascend.'

I have not much to add to this interesting description of one of the most remarkable mountains in Iceland. For the guidance of future travellers, however, I may say that I think the difficulties of the ascent are greatly exaggerated. This mountain is regarded by the Icelanders with a kind of superstitious dread. My guide (Olavur Steingrimson) assured me that the ascent had been made by only one man, the clergyman of Hvammr, and that he left his house at 10 A.M., and did not return till 9 P.M. The strangest thing however of all is, that Olavur, although he had been guide to Messrs. Preyer, Zirkel, and Benguerel in 1860, stoutly denied that they had reached the top. He said that he had not accompanied them in their attempt, but he professed to point out the spot on the hill-side where they had stopped. He was filled with the greatest astonishment when we found their cards in the tin case mentioned above.

On August 12, 1863, Mr. F. Gisborne and I left Nordhtúnga at 8.53 A.M., rode a short distance up the valley of the Thvera, crossed a low range of hills, descended into the Nordhádalr, forded the Nordhrá, and at 10.10 arrived at a farm situated at the southern foot of Baula. Here we got a guide to the foot of the cone. We rode up a steep ascent, crossed a narrow table land, and arrived at the foot of the cone at 11.5 A.M. Here we left our horses, and ascended in nearly a straight line to the summit, where we arrived at 12.20. The ascent of the cone occupied exactly one hour and a quarter, and the descent exactly forty-five minutes. It is very steep and somewhat laborious, but neither difficult nor dangerous if reasonable care be taken not to tread upon stones likely to roll. The cone is very perfect and very steep upon all sides. The precipice upon the NE. side is fine, but hardly comes up to the description of

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.

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