again joined us in isolated expeditions. It is unnecessary for me to dwell upon his qualities as guide, his genial manner, his courteous care, and constant thoughtfulness; but it was ordained that his time should come, and those who called him friend will miss his face for many a year. There is a sad side sometimes to mountaineering, but we may be thankful it is a comparatively rare one; still, it is questionable if it is not a necessary adjunct to all true sport.

> No game was ever yet worth a rap,
> For a rational man to play,
> Into which no accident, no mishap,
> Could possibly find its way;

and mountaineering, pursued according to known rules, is as fine a school for skill, endurance, and pluck as any other sport or pastime, and in these days of great enterprise is a fitting recreation for active and energetic men, no matter what nation they belong to.

My paper is finished, and possibly I have detailed at too great length expeditions of an ordinary character. Mont Blanc is ascended with ease by numerous parties every summer, and the aiguilles d'Argentière and Tour Noire are of comparatively small importance. Still, I think many a member of this Club, in recalling his various climbs, will agree that it was not always the highest point nor the most difficult peak which afforded him the greatest pleasure, and, in remembering many happy days in the Alps, will echo with me the old adage: 'Sometimes little fish are sweetest.'

The Skaptár Jökull.

By TEMPEST ANDERSON.

I HAD long been interested in volcanoes. The Skaptár Jökull was mentioned in all books on the subject as having in 1783 erupted two great lava streams, 40 or 50 miles long, and supposed to equal Mont Blanc in cubic contents. All the books agreed in stating that the eruption, and the famine and pestilence which followed, had caused the death of 9,336 human beings, 28,000 horses, 11,461 head of cattle, and 190,488 sheep—these figures being evidently copied from one another, and traceable to Henderson, a missionary who visited Iceland in 1814 and 1815, while the events were still a matter of living memory. Beyond these statements there was a general consensus of 'no information,' so dear to Alpine

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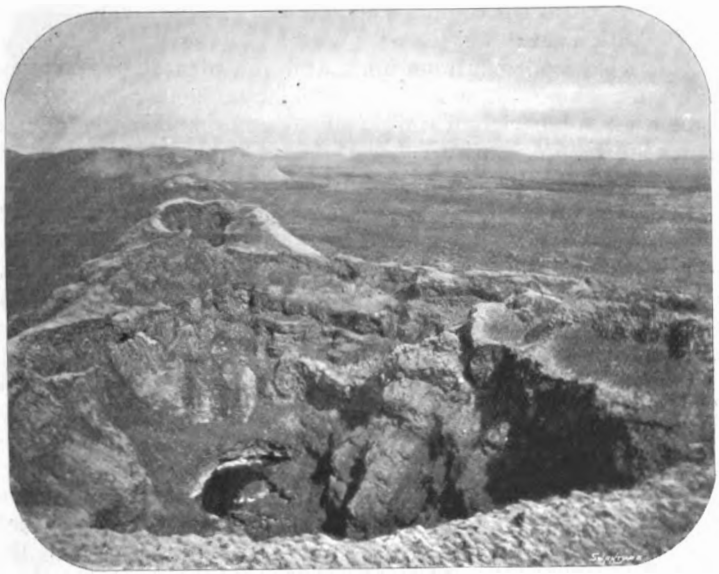
aspirants, and when I came on Lord Dufferin's description, I determined at all hazards to try and reach the crater.

He states *:—'Over the area occupied by the Skaptá Jökul, amid its mountain-cradled fields of snow and icy ridges, no human foot has ever wandered, yet it is from the bosom of this desert district that has descended the most frightful visitation ever known to have desolated the island. . . . Whether the two streams issued from the same crater it is impossible to say, as the sources of both were far away within the heart of the unapproachable desert, and even the extent of the



A Crater of the Skaptár Jökull.

lava flow can only be measured from the spot where it entered the inhabited districts.'

Accordingly, on July 16, 1890, I landed at Reykjavik, accompanied by Dr. Lavis, of Naples. The well-known guide, Zoëga, had been written to on the advice of Mr. Coles, an old Icelandic traveller, and his nephew, Thorda Zoëga, met us, and provided the somewhat formidable caravan necessary for such an expedition. Icelandic custom prescribes two horses for each load, so that each horse should only run loaded

* *Letters from High Latitudes*, pp. 110 and 112.

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half the day. The two travellers and guide thus required six horses; a tent, the cameras and provisions, and two small pack boxes of personal luggage, furnished three loads for six more, making twelve; and as it was obvious that twelve horses turned loose to graze at night would be liable to stray, two youths were taken to look after them, each of whom required two more, which, with a spare horse, in case of a sore back, made seventeen. I soon found, moreover, that beyond a moderate distance from Reykjavik a local guide or guides was generally required to show the others the way, each of whom provided himself with two more horses, so that my caravan often reached the respectable total of nineteen or twenty horses.

Zoëga is a conscientious man, and his idea of giving good value for the money was to ride helterskelter across the country, a plan which might have commended itself to a circus-rider, but not to a pedestrian by nature and habit, who is fond of stopping to examine and photograph.

Ten days of hard riding along the south coast, including the fording of innumerable rivers, brought us in view of the Skaptá lava. The valley of the Skaptá river down which it descended was formerly narrow and deep (600 ft. in places), but was filled brimfull of the lava, and the river, here called Eld Vatu (fire river), now flows on its surface.

The lava is of the scoriaceous type ('Aa' of Dana), with its surface formed of huge blocks of irregular shape, and with jagged edges. The river is very large and rapid, and in most places impossible to ford; but by taking advantage of a place where it is divided into many branches by inequalities of the lava, we were able to get across, though each branch was a considerable stream. The inhabitants of the Skaptádalr, being cut off from the rest of the world by these numerous and dangerous rivers, have retained their primeval manners and customs more than those of any place I have visited, and are, in fact, still in the Stone Age. At one farm where we slept I found in use a wheelbarrow with a stone wheel (see illustration), a stone hammer, a steelyard with a stone weight, nets with bone sinkers, a quern or stone hand-mill, harness with bone fastenings, stirrups made of horn, dice formed of the astragali of sheep, and in an adjacent one a bowl of the concave surface of a joint of basalt, which had only recently ceased to be used. They, like almost all Icelanders I have met, were honest, hospitable, and obliging. Would that we could say the same of all the fraternity who prey on travellers elsewhere.

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As we got towards the head of the valley, our excitement increased. Should we be able to get to the crater or craters, and what would they be like? Should we find a single big mountain like Vesuvius or Etna, or a number of small ones? Would it or they be covered up under a glacier like the crater of Kotlugiá, which we had failed to see, and which, when it erupts, vomits out a mixture of boiling water, icebergs, volcanic ashes, mud, and lava?

The old farmer at the last farm had lived there all his life.



A Farm in the Skaptádalr.

He remembered more than one party of travellers going up and returning without having reached the crater,* and was confident no one had ever been there. He was, however, willing to go with us.

We went up the valley and ascended a mountain he called Sandfell, apparently 4,000 to 5,000 ft. high, much like Vesuvius in shape, with a central crater and an outer ring like Somma partly encircling it. We had a magnificent view, including

* I have since discovered that Herr Helland, a Norwegian traveller, has visited and described these craters under the name of *Lakis Kratere og lava strømme af Amund Helland.* Kristiania, 1886.

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many jagged toothed peaks far out in the wilderness, which we longed to be at, but the mountain itself was evidently not the source of the lava, but much older.

Before this we came to a field of very jagged lava, which we had some difficulty in getting the horses to cross, but they are really wonderful animals, and eventually the passage was accomplished. Some of the blocks were 10 ft. or more high.

Going further on to the very edge of the desert we camped at the last patch of grass, where also we luckily had a stream of water. After a sharp frosty night we started early, leaving the camp and baggage train to wait our return. Fortunately the weather was favourable, and we enjoyed the only really fine day for many days. The country did not prove inaccessible. We traversed chiefly scoriæ and blown volcanic sand, which, though heavy going, was not difficult, and here and there exposed lava of the non-scoriaceous type, mostly smooth, or slightly corded, and this continued for probably 10 miles from our camp till we reached the craters. Here a truly marvellous spectacle presented itself; a vast fissure had opened out, many miles long, and varying from nothing at the end we saw first up to perhaps 10 ft. as its widest part. Its direction was roughly S.W. to N.E. At the lower narrow end were first a few baby craters a few feet high, then larger ones mostly breached at one side where the chief flow of lava had taken place, and where the enormous masses of lava had solidified just as they came out in billows of fire a century ago. Further on and higher up the fissure we came to larger craters, rising to the size of respectable hills, perhaps 200 or 300 ft. above the lava field. These are perfect on all sides, roundish or oval, and the great fissure can still be seen of a width of perhaps 6 to 10 ft. running along the bottom of several. Traces of it are also visible going under the great heaps of scoriæ which separate adjacent craters and form their walls at these parts. The outer slopes of the cones are gentle, the inner walls of their craters nearly precipitous; this conformation being apparently due to the scoriæ having been ejected in a pasty condition, so that they stuck where they fell; and thus while those which fell directly into the fissure were blown out again, those which fell out of the direct line attached themselves, and did not roll back to fill up the vent, as we so often see in ash cones.

These cones and craters also illustrate most strikingly the fact that water, except as running streams, has scarcely any eroding power. Though they have been erupted over 100 years, their edges are as sharp and perfect as the day they

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were formed; the explanation being, that the scoriæ are so porous, that the rain as it falls, and the snow as it melts, instantly soak in, and never appear on the surface as a stream. The lava near the craters is nearly all of the corded or 'pahoehoe' type, while lower down the valley immense fields of scoriaceous lava or 'Aa' of the most bristling character are seen. The most probable explanation is, that the lava at the commencement of the eruption contained much imprisoned steam and vapour, which escaped in fiery froth, and solidified into the rough 'Aa,' and was carried down the valley on the surface of the molten lava underneath.

The eruption was a prolonged one, and consequently the later lava had a prolonged simmering in the chimney or fissure, during which it parted with most of its vapour; and when it finally flowed out it had little left, not sufficient to form a layer of froth, but only a few 'Giant's Children,' or spiracles, of which some very fine examples occur on the lava near the craters. This sequence of events does not appear always to obtain. I have seen near Hecla the higher part of a lava stream scoriaceous, the lower corded.

After going as far as we had time for, we rejoined our horses, got back to camp, and to the farm the same evening. Next day we started for the Fjallabaksvegr (Fell-back-way), which we hoped would lead us among the pointed peaks. The weather proved abominable, the desert to be crossed was 90 miles from house to house, and there was only one patch of grass for the horses about half way across. This being eaten bare in one night, we could not stop to try ascents. However, we saw many fine peaks, a genuine ice-sheet (the north edge of the Myrdals Jökull) resting on almost level loose sand (moraine profonde ?), some curious hot springs, and some of the most wonderful river terraces and other effects of denudation on a large scale that it is possible to imagine—to say nothing of cloud effects when it occasionally stopped raining and cleared a little.

As I was riding along I saw some bones which seemed larger than the sheep bones so often met with in deserts, and I asked Zoëga what they were. He said, as nearly as I can remember, 'Those are the bones of horses of four men who were lost in snow here ten years ago. You ask what time of year? In September, not much later than this. It looks like snow to-day; we had better push on.'

So we returned to comparative civilisation. It was a most interesting expedition, but I shall always regret that we had no opportunity of assaulting the pointed peaks. The illustrations are from photographs which I took on the journey.

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