slags, the accumulation of which has rendered it passable. We travelled about fourteen miles, judging of the distance by the time our journey occupied, and then halted at the foot of a large mass of lava, and changed our horses; stopping no longer than was necessary for shifting our saddles. The subsequent part of our route, though still through an extremely desolate country, was rendered more easy by the absence of lava, and somewhat less forbidding by the appearance of thinly scattered vegetation on the vallies, and on the sides of some of the hills. Ere long we found ourselves inclosed in a hollow among the mountains, from which there was no apparent outlet; but following the steps of our guide, we pursued a winding course, passing through a number of rivulets of very thick muddy water which proceeded from under the snow on the mountains.*

As we went along we observed several craters in low situations, from which flame and ejected matter had proceeded during the convulsions to which this part of the island has been particularly subjected. After having advanced about fifteen miles farther, and traversed a part of that immense waste which forms the interior of Iceland, and is partially known only to those who go in search of strayed sheep, we descended by a dangerous path into a small valley, having a small lake in one corner, and the extremity opposite to us bounded by a perpendicular face of rock resembling a stream of lava in its broken and rugged appearance. While we advanced, the sun suddenly broke through the clouds, and the brilliant reflection of his beams from different parts of this supposed lava, as if from a surface of glass, delighted us by

* Extensive masses of clay are not uncommon in volcanic districts, especially where there are hot springs, or where such have existed; and this may account for the peculiar colour of most of the large rivers of Iceland.

an instantaneous conviction, that we had now attained one of the principal objects connected with the plan of our expedition to Iceland. We hastened to the spot, and all our wishes were fully accomplished in the examination of an object which greatly exceeded the expectations we had formed. The mineralogical facts which here presented themselves to our notice, will be described in a subsequent chapter.

On ascending one of the abrupt pinnacles which rose out of this extraordinary mass of rock, we beheld a region, the desolation of which can scarcely be paralleled. Fantastic groups of hills, craters, and lava, leading the eye to distant snow-crowned Jokuls; the mist rising from a waterfall; lakes embosomed among bare, bleak mountains; an awful profound silence; lowering clouds; marks all around of the furious action of the most destructive of elements; all combined to impress the soul with sensations of dread and wonder. The longer we contemplated this scene, horrible as it was, the more unable we were to turn our eyes from it; and a considerable time elapsed, before we could bring ourselves to attend to the business which tempted us to enter so frightful a district of the country. Our discovery of obsidian afforded us very great pleasure, which can only be understood by zealous geologists; and we traversed an immense and rugged mass of that curious substance, with a high degree of satisfaction; though various circumstances prevented our tracing it so fully as we wished.

Towards the east, at the distance of three or four miles, we observed a very large circular hollow, the sides of which were chiefly of a bright red colour; from which circumstance, and its general appearance, we concluded that it was the crater of an extinct volcano. The waterfall, the noise of which we distinctly heard, though at the distance of several miles,

was formed by the Tunaa, a large river, which takes its course in this part of the country, and joins the Thiorsaa.

Brandtson told us that he had never been farther in this direction; and pointed out to us the Sprangè Sands, a vast plain, consisting of volcanic matter, which is stretched over a great part of those inhospitable regions already mentioned. Numerous obstacles present themselves to any person who may think of entering this dreadful country, among which the want of food for horses is the principal. The rivers, lakes, streams of lava, all the horrors of nature combined, oppose every desire to penetrate into these unknown districts; and the superstitious dread in which they are held by the natives is readily excused, the instant they are seen, even from afar. We saw the lake called Fiske Vatn, and the summits of several Jokuls, in the distance, which will be more particularly noticed afterwards, as we observed them more distinctly from another station.

Before we had satisfied our curiosity, rain fell in torrents, and continued to do so for an hour or two. We had not proceeded far on our return to Naifurholt, when it ceased, and was succeeded by a very thick fog, through which Brandtson guided us safely, and we reached our tents soon after twelve o'clock at night, having been absent twenty-two hours, during seventeen of which we were on horseback.

After the fatigue we had undergone in our excursion towards the Torfa Jokul in search of obsidian, we did not expect to find ourselves sufficiently refreshed to attempt ascending Mount Hekla on the following day; but, as we had been long in the constant habit of enduring daily hardships, we rose at an early hour on the third of August, quite alert; and, on seeing the whole of the mountain free from clouds, we were soon ready to finish our labours, by ascending Hekla,

and attaining the summit of a mountain whose fame has spread to every quarter of the world. At ten o'clock, we were ready; and Brandtson having collected our horses, we mounted them, and began our expedition under circumstances as favourable as we could wish. We rode through sand and lava about three miles, when the surface became too rugged and steep for horses. Our guide proposed leaving the poor animals standing till we returned; but though they would not have stirred from the spot, we sent them back, not chusing that such valuable and steady servants should remain a whole day without food. We now proceeded a considerable way along the edge of a stream of lava, and then crossed it where

Sketched by Sir G. M. E. Mitchell Sculpt.

SUMMIT OF HEKLA AS SEEN FROM NAIFURHOLT.

it was not very broad, and gained the foot of the south end of the mountain. From this place we saw several mounts and hollows from which the streams of lava below appeared to have flowed. While we had to pass over rugged lava, we experienced no great difficulty in advancing; but when we arrived at the steepest part of the mountain, which was covered with loose slags, we sometimes lost at one step, by their yielding, a space that had been gained by several. In some places we saw collections of black sand, which, had there been any wind, might have proved extremely troublesome. The ascent now became very steep, but the roughness of the surface greatly assisted us.

Before we had reached the first summit, clouds surrounded us, and prevented our seeing farther than a few yards. Placing implicit confidence in our guide, we proceeded, and having attained what we thought was the nearest of the three summits, we sat down to refresh ourselves, when Brandtson told us that he had never been higher up the mountain. The clouds occasionally dividing, we saw that we had not yet reached the southern summit. After having passed a number of fissures, by leaping across some, and stepping along masses of slags that lay over others, we at last got to the top of the first peak. The clouds now became so thick, that we began to despair of being able to proceed any farther. Indeed it was dangerous even to move; for the peak consists of a very narrow ridge of slags, not more than two feet broad, having a precipice on each side many hundred feet high. One of these precipices forms the side of a vast hollow which seems to have been one of the craters. At length the sky cleared a little, and enabled us to discover a ridge below, that seemed to connect the peak we were on with the middle one. We lost no time in availing ourselves of this opportu-

nity, and by balancing ourselves like rope-dancers, we succeeded in passing along a ridge of slags so narrow that there was hardly room for our feet. After a short, but very steep ascent, we gained the highest point of this celebrated mountain.

We now found that our usual good fortune had not yet forsaken us; for we had scarcely begun to ascend the middle peak, when the sky became clear, and we had a full view of the surrounding country. Towards the north it is low, except where a Jokul here and there towers into the regions of perpetual snow. Several large lakes appeared in different places, and among them the Fiske Vatn was the most conspicuous. In this direction we saw nearly two-thirds across the island. The Blæfell and the Lange Jokuls, stretched themselves in the distance to a great extent, presenting the appearance of enormous masses of snow heaped up on the plains. The Skaptar Jokul, whence the great eruption that took place in the year 1783 broke forth, bounded the view towards the north-east. It is a large, extensive, and lofty mountain, and appeared to be covered with snow to the very base. On the side next to us, though at a distance of about forty miles, we plainly discerned a black conical hill, which very probably may be one of the craters that were formed during the eruption. The Torfa, Tinfialla, and Eyafialla Jokuls, limit the view of the eastern part of the country. Towards the south, the great plain we had passed through seemed as if stretched under our feet, and was bounded by the sea. The same valley was terminated towards the west by a range of curiously peaked mountains, those in the neighbourhood of Thingvalla, and to the north and west of the Geysers.

The middle peak of Hekla forms one side of a hollow,

which contains a large mass of snow at the bottom; and is evidently another crater. The whole summit of the mountain is a ridge of slags, and the hollows on each side appear to have been so many different vents from which the eruptions have from time to time issued. We saw no indications that lava had flowed from the upper part of the mountain; but our examination, from the frequent recurrence of fog, was unavoidably confined.

After we had satisfied ourselves in surveying the surrounding country, we began to collect specimens of the slags, and perceived some of them to be warm. On removing some from the surface, we found those below were too hot to be handled; and on placing a thermometer amongst them, it rose to 144°. The vapour of water ascended from several parts of the peak. It had been remarked to us by many of the inhabitants, that there was less snow on Hekla at this time than had been observed for many years. We supposed, therefore, that the heat now noticed might be the recommencement of activity in the volcano, rather than the remaining effects of the last eruption which took place in the year 1766.

The crater, of which the highest peak forms a part, does not much exceed a hundred feet in depth. The bottom is filled by a large mass of snow, in which various caverns had been formed by its partial melting. In these the snow had become solid and transparent, reflecting a bluish tinge; and their whole appearance was extremely beautiful, reminding us of the description of magic palaces in eastern tales.

At the foot of the mountain, the thermometer at half past nine o'clock stood at 59°. At eleven, it was at 55°, and at four, on the top, at 39°.

Our descent was greatly retarded by thick fog; and we

found it much more hazardous than the ascent. We missed our way and were under the necessity of crossing the lava we had passed in our way up, at a place where it had spread to a much greater breadth, and, from the rapidity of the slope along which it had flowed, had become frightfully rugged.

Mount Hekla has acquired a degree of distinction among volcanoes, to which it does not seem to be entitled. It is far behind Etna and Vesuvius, both in the frequency and magnitude of its eruptions. We could not distinguish more than four streams of lava; three of which have descended on the south and one on the north side; but there may be some streams on the east side, which we did not see. The early eruptions of this mountain do not seem to have been regularly recorded. Olafson and Paulson say, that after careful research they found that the number of eruptions amounted to twenty-two; and none are recorded as having happened before the year 1004. There were eruptions in the years 1137, 1222, 1300, 1341, 1362, 1389, 1538, 1619, 1636, and 1693. Flames appeared in the neighbourhood in 1728. In 1554, there were eruptions from the mountains to the eastward; and in 1754, flames burst out to the westward. From the mountain itself, no eruption took place between the years 1693 and 1766, an interval of seventy-three years; and during this last period of activity, no lava was thrown out. The following year, flames broke out afresh, and the mountain was not perfectly quiet in the year 1768: since that time, it has remained inactive. We had no opportunity of measuring the height of Mount Hekla; but we have been informed by Sir J. Stanley that the elevation which resulted from his observations, was 4,300 feet, and this, from different circumstances, we believe to be correct.

In the year 1755, a terrible eruption proceeded from the mountain called Kattlagiau Jokul, which is situate to the eastward of Eyafialla. From the accounts of this eruption, it does not appear that any lava flowed; but immense torrents of water carried destruction before them through the neighbouring country; and ignited stones and ashes were thrown in all directions. The electrical phenomena that accompanied this eruption, seem to have been very tremendous; several people and cattle having been killed by the lightning. The mountain continued in a state of violent activity during a whole month; and, indeed, it may be said to have been so during a whole year; for, between January and September of the year 1756, five different eruptions took place. We heard a report, that early in the summer the inhabitants in the neighbourhood had some reason to apprehend an impending eruption; but we could get no distinct account of the symptoms that had been observed. The earliest eruption of Kattlagiau, appears to have happened about the year 900; and, since that period, to the great one in 1755, only five have occurred.

It is mentioned, in the history of Iceland during the 18th century, that an eruption took place from Eyrefa Jokul, in the south-east part of the island, in the year 1720; and one from the lake of Grimsvatn in the year 1716.*

In the north-east quarter of Iceland, near a large lake

* I am uncertain of the position of this lake. The only one of the name which I could find marked on the maps of Iceland, is noted on the small map; but, from the circumstance of all the most recent eruptions having proceeded from the southern part of the island, I suspect that there may be a lake of the same name somewhere to the eastward of the Markarfliot; and, since the publication of the first edition, I have received such information as leads me to believe my conjecture right.

called Myvatn, is Mount Krabla, which became remarkable by dreadful eruptions of lava that proceeded from it between the years 1724 and 1730. Some of the streams of lava flowed into the lake, destroyed the fish, and almost dried it up. There were eruptions also from the mountains round Krabla; and an extensive district of inhabited country was laid waste. At a place called Reikiahlid, near Krabla, sulphur is found in the same circumstances as that at Krisuvik, but in larger quantities. It was from the former place that most of the sulphur brought from Iceland was exported.

In the year 1000, an eruption took place in the Guldbringè Syssel. Another broke out near Reikianes in the year 1340; and one is said to have been seen at a great distance in the sea, in the year 1583, similar to that which was observed preceding the great eruption of 1783.

The total number of recorded eruptions appears to be the following:

From Hekla, since the year	1004, inclusive	22
From Kattlagiau Jokul	900,	7
From Krabla,	1724,	4
In different parts of the Guld-bringè Syssel	1000,	3
At sea,	1583,	2
From the lake Grimsvatn, in	1716,	1
From Eyafialla Jokul * in	1717,	1

* This mountain is often called Oster Jokul (eastern Jokul), in contradistinction to Snæfell Jokul, which is called western. The eruption of the eastern Jokul in 1717, and the one from Grimsvatn, are recorded by Mr Stephenson in his History of Iceland during the eighteenth century.

From Eyrefa Jokul,	in 1720, - - - - - - - - -	1
From Skaptar Jokul,	in 1783, - - - - - - - - -	1
		42

In chronological order, the different eruptions mentioned by Icelandic authors stand recorded thus: In the years 900, 1000, 1104, 1137, 1222, 1300, 1340, 1341, 1362, 1389, 1422, 1538 (Vesuvius erupted the same year), 1554 (Etna), 1583, 1619, 1636 (Etna), 1693 (Vesuvius, 1692; Etna, 1694), 1716, 1717 (Vesuvius), 1720, 1724, 1728, 1730 (Vesuvius), 1754 (Vesuvius), 1755 (Etna), 1756, 1766 (Etna and Vesuvius), 1771, and 1772, flames seen on Hekla; 1783. Thus it appears, that many of the eruptions that are known to have taken place since Iceland was inhabited, have not been particularly noticed; and it is very probable, that numerous eruptions of less note have been passed over. We may reckon active all those mountains which have burned within the last century. Of these there are six;—Hekla, Krabla, Kattlagiau, Eyafialla, Eyrefa, and Skaptar, Jokuls.

The most recent eruption that took place in Iceland seems also to have been the most awful. It proceeded from the low country near the Skaptar Jokul in the year 1783. Mr Stephenson of Indreholm was ordered by the King of Denmark to proceed from Copenhagen, where he happened to be during the eruption, and to visit the district, that his Majesty might be enabled to alleviate the distresses occasioned by the eruption. That gentleman has published a laboured account of the whole; but, although there is no doubt of the eruption having been one of the most terrible in the annals of volcanoes, he seems to have depended too much on reports and information, which appear to be exaggerated.

He himself told us, that the lava was so hot at the time he approached it, which was about a year after the eruption, that it could not be examined, and that it has never been traced to its source. Another account has been written, which, from what we heard in Iceland, is the most correct. It is to be lamented that the present state of the Icelandic press, prevents its being given to the public.*

The whole tract between Hekla and Krabla is a desert quite impassable and unknown; and there is still subsisting a ridiculous notion that it is inhabited by a tribe of robbers. Did such people really exist, and did they know the dread which they inspire, they might easily procure more comfortable quarters.

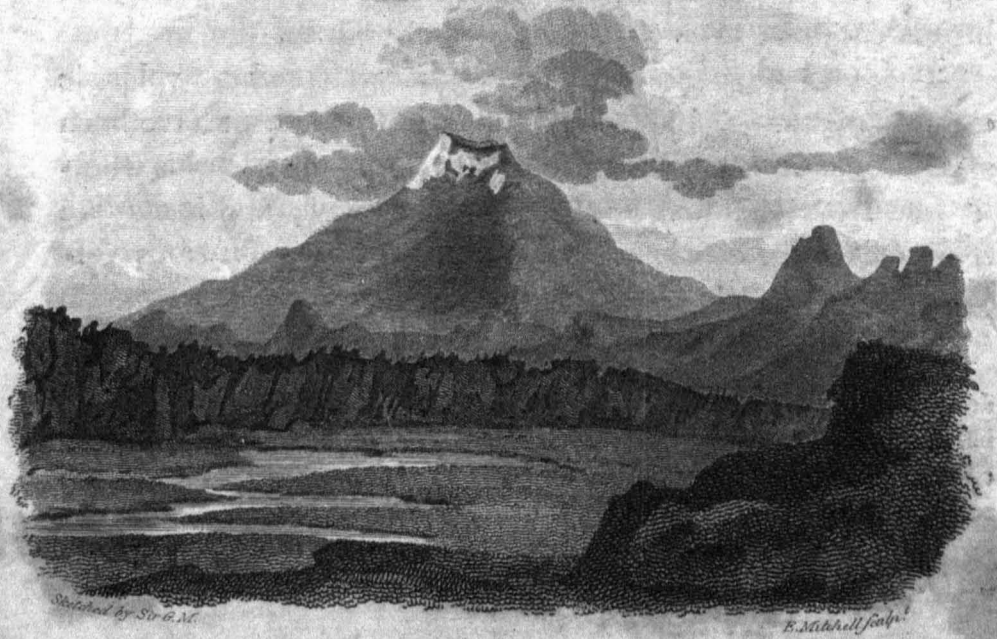
No single volcanic mountain which we saw, appeared to have thrown out much lava. Probably this has been owing to the vast number of apertures which have given vent to the rage of subterraneous heat. In other countries, where it has for ages continued to explode from one or two mountains, the lava is confined to one place, and is abundant.

There is no country in the known world where volcanic eruptions have been so numerous as in Iceland, or have been spread over so large a surface. No part of the island is wholly free from the marks of volcanic agency; and it may be truly called the abode of subterraneous heat. Various vol-

* I have accidentally procured a map, which appears to have belonged to some description of this dreadful event, and by which it appears, that the lava burst out at three different points about eight or nine miles distant from each other, and spread in some places to a breadth of 30 miles. The extent from north to south as far as the lava seems to have been observed, is upwards of 40 miles, and it is known to have flowed much farther; though it has not been traced.

canic mountains and streams of lava, are mentioned as existing in the eastern and northern districts, by Eggert Olafson, in his *Ennarrationes Historicæ de Natura et Constitutione Islandiæ.* In the north-west quarter, in the district of Isafiord, there is a volcanic mountain called Glama, which he describes as rivalling the magnitude of the Snæfell Jokul. Thus it appears, that the force of subterraneous fire has been exerted upon every part of this extensive island; and when we consider the eruptions that have been seen at a distance in the sea, we are safe in estimating, that, in this part of the earth, one continued surface of not less than 60,000 square miles has been subjected to that engine of destruction.

On the 4th of August we took leave of Hekla, and our excellent guide Brandtson, whose great activity, and obliging disposition, must recommend him to all travellers who may



MOUNT HEKLA FROM THE SOUTH.

have occasion for his services. After passing the different streams of lava on the south side of the mountain, we left the plain, and ascended a ridge from which we had a view of the Westmann Islands and Eyafialla Jokul. Having descended towards the valley of the Markarfliot, we arrived at Hliderendè, the house of Sysselman Thoranson, brother of the Amtmand. The Markarfliot is a large and remarkable river. Its course to the sea is short, and it is formed by numerous streams, which descend precipitately from the Jokuls, bringing down a quantity of clay which gives it a white colour, and a fetid smell, especially perceptible in autumn. It divides into numerous branches, and very frequently changes its course, sometimes keeping close to the mountains, and at other times flowing ten or fifteen miles to the westward.

We were received very hospitably at Hliderendè; and had we been less welcome, we should have very readily excused any deficiency of attention, when we saw how very busy the people were in getting home the hay, during the fine weather which had prevailed for some time. The Sysselman has a large farm; and such of the pastures as we saw were excellent. A considerable quantity of angelica grows here, which is used as an article of food in many parts of the island. The carraway grows abundantly in the meadows at this place, but is not indigenous. A small quantity of seed was brought from Copenhagen by some person, and in a short time it disseminated itself.

Our supper consisted of baked mutton and melted tallow; a sauce of which we could not partake. In the morning we had coffee; and for breakfast the same viands which were presented to us at supper; and our dinner was a repetition of the breakfast. There was no kind of

bread in the house; and the only liquor presented to us was corn brandy. It was with much difficulty we could obtain leave to drink water; and we were afraid lest our entertainers should think our asking for it as great a piece of rudeness, as they esteem offering such liquor to their guests.

From the Sysselman's lady we purchased the dress which has been already described. We were shewn how the figured stuff used for saddle-cushions, and with which the cloaks are ornamented, is manufactured. It is first made as our country-women make coverings for footstools; only instead of working on canvas, the Icelandic women use a small frame, on which threads are stretched. These are crossed with others, and worsted loops are wove in, which being afterwards cut, the stuff resembles a very course velvet. To form the figures on trimming, part of the rough nap is cut out with scissars. By using different needles and different coloured worsteds, very neat figures are worked in this manner; and the piece we saw in the little loom was really very pretty.

The scenery hereabouts is very interesting and picturesque. Many fine streams precipitate their waters over the lofty cliffs forming the western boundary of the Markarfliot. One of these streams falls upon a ledge in the rock, and has worn a pipe through it, having four apertures at different heights. when there is little water in the river, it falls directly down the pipe, and issues only from the lowest; but when swelled by rain, it rushes from all the apertures, forming a very curious and magnificent cascade. Some of the rocks composing these cliffs, consist of very fine ranges of lofty columns. Eyafialla Jokul soars above the eastern side of the valley. It is covered with perpetual snow for nearly two thirds of its height, which has been ascertained by the Danish officers now engaged in surveying the coast

by H. Holland. I. Clark direxit

EYAFIALLA IOKUL from HLIDERENDE.

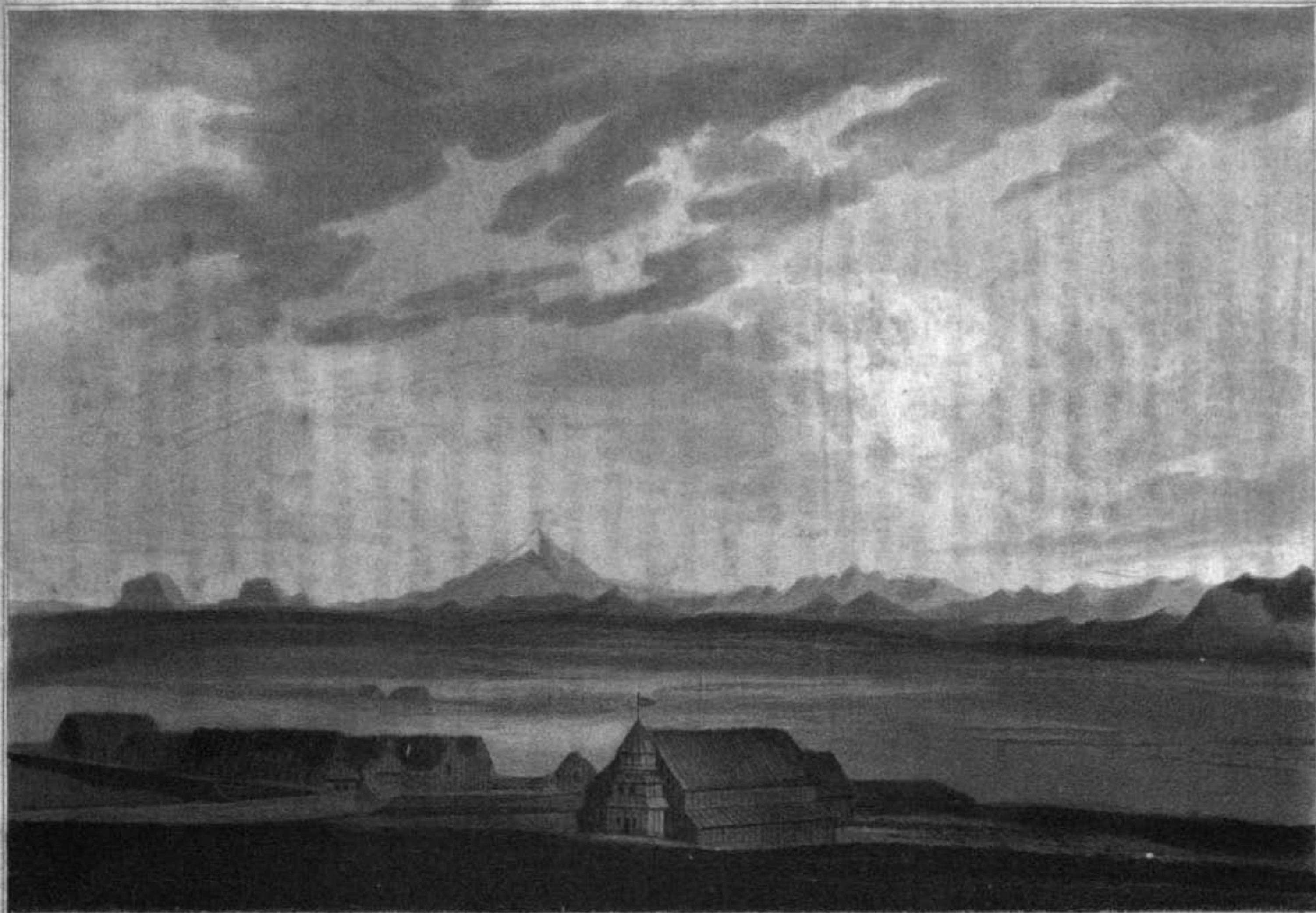
Publ.d by Constable & C.o Edinburgh 1811.

to be about 5,500 feet. On some parts of the sides of this mountain, magnificent glaciers have been formed, the snow having descended in several places almost to the valley, and become frozen into solid masses, which assume a great variety of singular and abrupt forms.

The appearance of the Westmann Islands from Hliderendè is very picturesque; and we were told that they consist entirely of lava. The nearest to the coast is about twelve miles distant; and the most remote about twice that distance. Only one of them, called Heimaey, is inhabited; and the people are by no means respected by their neighbours on the mainland, who represent them as being remarkably indolent, and depraved in their habits. Their food consists chiefly of fulmars and puffins, (the *procellaria Glacialis*, and *Alca Arctica of Linnæus)*, which are slightly salted and barrelled. This is the principal aliment of the people of St Kilda, the most remote of the western islands of Scotland, which I visited in the year 1800; and a peculiar and fatal disease which attacks children, is common in both places, and may probably be occasioned by the mode of living. These islands produce a great quantity of feathers; and, until the great eruption took place in 1783, there was abundance of fish around them; but since that period, the fishing on this coast is reported to have been much less productive. There is a church in the island of Heimaey, said to be one of the best in Iceland; but it does not appear to be of much use in improving the characters of those for whose benefit it is intended. In the same island, there is a small creek, which forms a tolerable harbour, but it is equally difficult to enter or to leave it, on account of the strong currents, and the heavy sea, which generally rolls around the islands when the wind is a little more than moderately high.

A journey to the eastern part of Iceland, along the southern coast, is rendered very difficult by the rivers; and is not often attempted, even by the natives of the country. From Kattlagiau Jokul, the road is chiefly along the shore; but when the rivers are swollen, it is usual to cross some of the mountains to avoid them. During two days of the journey to Berufiord, which is the most southerly station on the eastern coast, no habitations are met with; and an express cannot reach that place from Reikiavik in less than fourteen days. Berufiord, Rodefiord, and Vapnafiord, are the only ports on this side of the island.

We had intended to proceed farther to the eastward, in order to examine Kattlagiau Jokul, and the lava of 1783; but being aware, that should the Elbe return, even at this time, we should necessarily be detained till a late period of the year, and probably the greatest part of the winter; and having been informed that the brig Flora, which we had left at Stromness, after failing to procure a cargo on the east and north coasts, was daily expected at Reikiavik, and would remain there only a few days, we resolved to avail ourselves of this opportunity of returning to Britain. We therefore proceeded, on the evening of the 5th, down the valley of the Markarfliot, towards Reikiavik, having been furnished with fresh horses by Sysselman Thoranson, who attended us to Oddè. The Sysselman is famed in the country as a good horseman, and for being possessed of an excellent stud. All the Icelanders shew a great regard for their riding-horses, and emulate each other in breaking them to pace rapidly. They also pay great attention to their cushions, and other trappings, which they arrange and put on with much pains, and afterwards tie up the horses tails into a knot, to prevent their being spoiled.



Sketch'd by Sir Geo. Mackenzie. I. Clark direxit.

MOUNT HEKLA from ODDE.

The pasture in this district, and the appearance of inclosures, are far superior to any thing we had seen before; and if ever an attempt shall be made to raise corn, potatoes, or turnips, this is the district which, in respect to soil and situation, seems to hold out the greatest temptations to agricultural experiment. The vicinity of Eyafialla, and the other lofty Jokuls to the eastward, render the climate perhaps too unsteady for extensive cultivation. We passed the church of Breidè-bolstadr, which is the richest living in Iceland; the stipend being 182 dollars.

We found Oddè under some small green hills, not far from the bank of the Rangaa. The church is one of the best structure, very like that of Skalholt; and the priest's house is large and commodious. The house was at this time occupied by the widow of the late minister, whose successor, the Lector Theologiæ, Steingrim Jonson, had not yet taken possession of it. The widow and her family were very hospitable; and her son, a young man of superior manners and understanding, was very assiduous in his attentions. Although we arrived at a late hour, and were not much disposed for eating, it was thought necessary to prepare a repast for us; and accordingly, a little before twelve o'clock, baked mutton, and a dish of rice boiled in milk, were set before us.

Early in the morning of the 6th, we were preparing for our departure, when a substantial breakfast of mutton, coffee, and chocolate, detained us; and, in the course of conversation, we discovered that a number of books were in the house, some of which we might purchase. Accordingly, sundry chests and other receptacles were opened, and various volumes were released from dust and cobwebs. We made several purchases; but the most curious, and perhaps the most valuable, was a superb Icelandic Bible, which fell to the lot of Mr Bright.

The way to Eyarback from Oddè, is long and tiresome. We first passed through the Rangaa by a deep and difficult ford; and, after scrambling among bogs, we crossed the Thiorsaa at a place where it was very broad. Owing to the shallowness of the stream, the boat grounded when not much more than half way over, and we had to mount our horses, and ride about a hundred and fifty yards through a very dangerous quicksand.

We now went towards the coast, where the plain becomes more sandy. On approaching Eyarback, we saw, at the distance of a few miles, the vapour ascending from the hot springs of Reikum, which, had our time not been much limited (an express having been sent to Oddè by Mr Fell, acquainting us of the arrival of the Flora, and wishing us to hasten our return, if we desired to seize this opportunity of embarking), and had we not been quite familiarized with similar phenomena, we should have visited. Our not having done so is not to be regretted, as Sir John Stanley has given an excellent description of Reikum, in a letter to the late Dr Black, which is printed in the Transactions of the Royal Society of Edinburgh; from which I shall now transcribe it.

'The valley is in this place fertile, and nearly half a mile 'in breadth, It becomes more narrow towards the north; 'and it is there rendered barren by heaps of crumbled lava, 'or other rubbish, brought down from the hills by the waters. 'These have the appearance of artificial mounds, and a great 'number of springs are continually boiling through them. 'Below the surface, a general decomposition seems taking 'place: for almost wherever the ground is turned up, a 'strong heat is felt; and the loose earth and stones are 'changing gradually into a clay, or bole of various colours, 'and beautifully veined, resembling a variegated jasper.

'The heat may possibly proceed from a fermentation of the 'materials composing these mounds; but more probably '(I should conjecture) from the springs and steam forced up 'through them. The springs must have acquired their heat 'at some greater depth, from some constant, steady cause '(however difficult to explain), adequate to the length of 'time they have been known to exist, with the same unvaried 'force and temperature.

'Springs do not boil on or near these banks only. They 'rise in every part of the valley; and, within the circumfe-'rence of a mile and an half, more than an hundred might 'easily be counted. Most of them are very small, and may 'be just perceived simmering in the hole from whence the 'steam is issuing. This, trailing on the ground, deposits, in 'some places, a thin coat of sulphur. The proportion varies, 'for, near some of these small springs, scarce any is percep-'tible, whilst the channels by which the water escapes from 'others, are entirely lined with it for several yards. Neither 'the water nor the steam from the larger springs, ever ap-'pear to deposit the smallest proportion of sulphur; nor can 'the sulphureous vapour they contain be discovered, other-'wise than by the taste of what has been boiled in them for 'a long time.

'Many springs boil in great cauldrons or basons, of two, 'three, or four feet diameter. The water in these is agitated 'with a violent ebullition, and vast clouds of steam fly off 'from its surface. Several little streams are formed by the 'water which escapes from the basons; and as these retain 'their heat for a considerable way, no little caution is re-'quired to walk among them with safety.

'The thermometer constantly rose in these springs to the '212th degree; and in one small opening, from whence a

'quantity of steam issued with great impetuosity, Dr Wright 'observed the mercury rise, in two successive trials, to the '213th degree.

'I have already said, that the ground through which many 'of the springs were boiling, was reduced to a clay of vari-'ous colours. In some, the water is quite turbid; and, 'according to the colour of the clay through which it has 'passed, is red, yellow, or grey.

'The springs, however, from whence the water overflows 'in any great quantity, are, to appearance, perfectly pure. 'The most remarkable of these was about fifty or sixty yards 'from our station, and was distinguished by the people of 'the neighbourhood, by the name of the Little Geyser. The 'water of it boiled with a loud and rumbling noise in a well 'of an irregular form, of about six feet in its greatest dia-'meter; from thence it burst forth into the air, and subsided 'again nearly every minute. The jets were dashed into spray 'as they rose, and were from twenty to thirty feet high. 'Volumes of steam or vapour ascended with them, and pro-'duced a most magnificent effect, particularly if the dark 'hills, which almost hung over the fountain, formed a back-'ground to the picture. The jets are forced, in rising, to an 'oblique direction, by two or three large stones, which lay 'on the edge of the bason. Between these and the hill, the 'ground (to a distance of eight or nine feet) is remarkably 'hot, and entirely bare of vegetation. If the earth is stirred, 'a steam instantly rises; and in some places it was covered 'with a thin coat of sulphur, or rather, I should say, some 'loose stones only were covered with flakes of it. In one 'place, there was a slight efflorescence on the surface of the 'soil, which, by the taste, seemed to be alum.

'The spray fell towards the valley, and in that direction

'covered the ground with a thick incrustation of matter, 'which it deposited. Close to this, and in one spot, very near 'the well itself, the grass grows with great luxuriance.

'There is another fountain in the valley, not much infe- 'rior in beauty to that which I have described. It breaks 'out from under one of the mounds, close to the river. Its 'eruptions are, I think, in some respects, more beautiful than 'those of the former. They rise nearly to the same height; 'and the quantity of water thrown up at one time is greater, 'and not so much scattered into spray. The jets conti- 'nue seldom longer than a minute; and the intervals be- 'tween them are from five to six minutes. They are forced 'to bend forwards from the well, by the shelving of the bank, 'or probably their height would be very considerable; for 'they appear to be thrown up with great force. We never 'dared approach near enough to look deep into the well; 'but we could perceive the water boiling near its surface, 'from time to time, with much violence. The ground in 'front of it was covered with a white incrustation, of a more 'beautiful appearance than the deposition near any other 'spring in this place. By a trial of it with acids, it seemed 'almost entirely calcareous.

'I have now described to you the two most remarkable 'fountains in the valley of Reikum, the only two which 'throw up water to a considerable height with any regulari- 'ty. There are some from whence, in the course of every 'hour, or half hour, beautiful jets burst out unexpectedly; 'but their eruptions continue only a few seconds, and be- 'tween them the water boils in the same manner as in the 'other basons.

'Towards the upper end of the valley, there was a very 'curious hole, which attracted much of our attention. It

'seemed to have served at some former period as the well of 'a fountain. It was of an irregular form, and from four to 'five feet in diameter. It was divided into different hollows 'or cavities at the depth of a few feet, into which we could 'not see a great way, on account of their direction. A quan-'tity of steam issued from these recesses, which prevented us 'from examining them very closely. We were stunned while 'standing near this cavern, and in some measure alarmed, by 'an amazing loud and continued noise which came from the 'bottom. It was as loud as the blast of air forced into the 'furnace from the four great cylinders at the Carron iron-'works.

'We could discover no water in any of the cavities; but 'we found near the place many beautiful petrifactions of 'leaves and mosses. They were formed with extreme deli-'cacy, but were brittle, and would not bear much handling; 'their substance seemed chiefly argillaceous.

'We perceived smoke issuing from the ground in many 'places in the higher parts of the valley, much further than 'we extended our walks. I am sorry to say we left many 'things in this wonderful country unexamined; but we were 'checked in our journey by many circumstances, which al-'lowed us neither the leisure nor the opportunity for explor-'ing every part of it as we could have wished. The sub-'stances deposited near the different springs seemed to me, 'in general, a mixture of calcareous and argillaceous earths; 'but near one spring, not far from our tents, there seemed 'to be a slight deposition of silicious matter. To the eye it 'resembled calcedony; but with its transparency, it had 'not the same hardness, and, if pressed, would break to 'pieces. The water you have analysed came from this 'spring, and we were obliged to take some care in filling

'the bottles; for though gradually heated, they would break 'when the water was poured into them, if it had not been 'previously exposed to the air for some minutes in an open 'vessel.

'The water of this spring boiled, as in most of the 'others, in a cauldron four or five feet broad. I do not 'recollect to have seen any of it either thrown up above a 'foot, and some meat we dressed in it tasted very strong of 'sulphur.

'Mr Baine, by a measurement of the depth, the breadth, 'and the velocity of the stream flowing from the Little Gey-'ser, found the quantity of water thrown up every minute 'by it to be 59,064 wine gallons, or 78.96 cubic feet. Mr 'Wright and myself followed the stream, to observe how 'far any matter continued to be deposited by the water. 'We found some little still deposited where it joined the 'river a quarter of a mile at least from its source. At 'that place, it retained the heat of 83° by Fahrenheit's ther-'mometer.'

We found Eyarback near the mouth of the river Elvas, which is formed by the rivers which join near Skalholt, and that which flows from the lake of Thingvalla. Here a large quantity of the *fucus palmatus* (called in Scotland, *dulse*) is prepared by drying. It is packed in casks, and in a short time gives out a white and somewhat saccharine powder. In this state it is eaten by the natives, either raw or with butter, or boiled in milk. The merchant who is settled here is a Mr Lambasson, who was at this time in Denmark. During his absence, the business is carried on by his wife, and his agent Mr Peterson, who received us very civilly. The harbour is by no means a safe one; and, in bad weather, exceedingly dangerous of approach. Finding

that owing to the state of the tide, we could not cross the river (which is here about half a mile broad) till midnight, we refreshed ourselves by sleeping a few hours. We had some trouble in getting the ferrymen out of their beds, but we were carried over in an excellent boat, our horses swimming after us. Many thousand horses cross at this place during the summer, and we were told that sometimes so many as 900 crossed in one day.

Having proceeded a mile or two along the river, we began to ascend the ridge of volcanic hills which extends almost without interruption from the lake of Thingvalla to the extremity of the Guldbringè Syssel. We had a fine view from the heights, of Hekla, and the whole country we had passed through, towards Eyafialla Jokul, which bounded the scene. We now encountered lava, many streams of which we passed; and after travelling through twenty-five miles of a district entirely laid waste by fire, we arrived at Reikiavik about noon, on the 7th of August, considerably fatigued; our progress having been very slow on account of the extreme ruggedness of the country. The length of the journey we had now accomplished, was about 280 miles. Thus our travels terminated; and we immediately commenced our preparations for leaving a country, whose inhabitants and natural curiosities we had surveyed with singular gratification.

We found the vegetables, the seeds of which we had sown on our arrival in Iceland, tolerably well advanced. The white turnips were of a good size; the pease were just out of blossom; the radishes, cress, and mustard, had mostly gone to seed; but the cabbages had not made much progress. In Mr Frydensberg's garden, the potatoes were very good, and we partook of a dish of them, and of well-

Sketch'd by H. Holland. I. Clark direxit.

EYAFIALLA IOKUL, MOUNT HEKLA, & the RIVER ELVAS, from the Westward.

Pub.d by Constable & Co. Edinburgh, 1821.

grown kol-rhabie. Nasturtium, lupines, and some other hardy annual flowers, had advanced to perfection in Mr Frydensberg's dining-room, which they greatly contributed to ornament.

The attentions of all our friends were renewed on our arrival, and the Bishop repeated a present of a sheep for the third time; a mark of his hospitality which we shall never forget. That our wants might be supplied, we had only to express them to Mr Frydensberg or Mr Simonson.

On Sunday the 12th, we went to an entertainment to which we had been invited by the merchants, who desired to pay us a compliment before we departed. In the morning they all displayed their flags from their houses, and at two o'clock we sat down to a very good dinner.

Having, a short time before our departure, addressed a letter to the Deputy-governors, expressive of our gratitude for all the attention which had been bestowed upon us, and requesting them to communicate our thanks to the people of the various districts through which we had travelled, for their hospitality and kindness, we received the following letter in reply:—

'Perillustri, nobilissimo Domino Georgio Mackenzie, salutem plurimam.

'Literas tuas, vir nobilissime, humanissimas accepimus, 'et nostri officii erit, incolas regionum, per quas iter fecisti, 'de singulari tuâ, et itineris sociorum, humanitate, benigni- 'tate, et grata erga eos animo certiores facere. Te et socios 'vicissim excusare rogamus, si antiqua illa hospitalitas, quæ 'incolis hujus insulæ a primis usque temporibus propria fuit, 'vobis alicubi defuerit, et ut hoc verecundiæ, paupertati, ac

'linguæ vestræ, ut et vitæ consuetudinis, imperitiæ, non in-
'humanitati gentis tribuatur, enixè postulamus.

'Accipe denique, vir nobilissime! nostras integerrimas
'grates, pro tuâ et sociorum dulci, amicâ, et urbanâ conver-
'satione, quam gratâ diu colemus memoriâ. Prosperrima te,
'tuosque itineris socios, nostra et insulæ hujus incolarum
'prosequuntur vota!

'THORANSON.
'EINARSON.
'FRYDENSBERG.

'Reikiavicæ, d. 13 Augusti 1810.'

We must not omit mentioning, that we also received a letter written in tolerably good English, from the Chief Justice Stephenson, in which he expressed himself in terms highly flattering to us. He presented several books and his picture to us; and of these, as well as many other marks of his regard and hospitality, we shall ever retain a grateful remembrance.

We were now about to take leave of a people whose situation had often excited our pity. Being of quiet and harmless dispositions; having nothing to rouse them into a state of activity, but the necessity of providing means of subsistence for the winter season; nothing to inspire emulation; no object of ambition; the Icelanders may be said merely to live. But they possess innate good qualities, which, independently of the consciousness of their former importance, have preserved their general character as an amiable community. They have indeed become negligent with respect to the cleanliness of their persons and dwellings; but they deserve a high place in the scale of morality and religion. The example of the Danes has done very material injury to the moral cha-

racter of those with whom they have constant intercourse; but beyond the precincts of Reikiavik, the people are found possessed of their pristine worth and simplicity. To religious duties they are strictly attentive; and though the clergy are not in general raised above the level of the peasantry, in any respect but in their sacred office, yet they have been able to preserve the regard due to those who are considered as peculiarly the servants of the Supreme Being.

To say that crimes are rare, is perhaps a slight compliment to people who have few temptations to commit them. Except at Reikiavik, vice is hardly known; and even there, when we reflect on the loose lives of some of the Danes, it is astonishing how little progress it has made among the natives.

To the laws of hospitality they are particularly attentive. If they give little, it is because they have little to give. To measure their disposition by their power of bestowing, would be a very unjust estimate.

The history of the Icelanders points out sufficient reasons for the decline of activity and enterprize. In pronouncing upon their character, therefore, some caution is necessary. Travellers, when they find themselves obliged to submit to privations before unknown to them, when they experience a deficiency of alacrity in supplying their wants, and a great degree of indifference in the behaviour of the people among whom they sojourn, are too apt to form a hasty and partial judgment of their character. Some of the occurrences we experienced in Iceland might have entitled us to speak unfavourably of the inhabitants, had we been disposed to judge of them inconsiderately. But when we recollected what Icelanders once were; when we saw the depressed state of this poor, but highly respectable people; and perceived that they still retained that mild spirit (once, too, an independent and an

enterprizing one) which taught them to regulate their affairs with prudence, and to live together in the utmost harmony; we could not help admiring their patience and contentment.

Yet still, e'en here, content can spread a charm,
Redress the clime, and all its rage disarm.
Tho' poor the peasant's hut, his feasts tho' small,
He sees his little lot, the lot of all;
Sees no contiguous palace rear its head,
To shame the meanness of his humble shed;
No costly lord the sumptuous banquet deal,
To make him loathe his *hard-earn'd scanty* meal;
But calm, and bred in ignorance and toil,
Each wish contracting, fits him to the soil.

In these pages enough will probably be found to excite compassion in every British breast, for the calamitous situation of an innocent and amiable people, at that critical period when oppression or neglect may overwhelm them in misery. The distracted state of Europe will not, we trust, be considered as a reason that Britain should disregard their wants, or withhold relief; for Iceland requires no sacrifice of blood or treasure. In the present state of Europe, however, Iceland cannot be supplied without our permitting the trade with Denmark to go on as heretofore.

On the 19th of August we set sail for England, and, after a tempestuous voyage of fourteen days, during which Captain Butterwick of the Flora paid us every attention in his power, we landed at Stromness. The only occurrence, during the voyage, worth mentioning, was that of a flock of wagtails and two sparrow-hawks perching on the rigging of the ship one morning, during a heavy gale, when we were at least 100 miles from any land. On our coming in sight of the rocks called Barra and Rona, off the north of

the island of Lewis, the wagtails left us. The sailors had deprived one of the hawks which was caught, of the means of flying, by clipping its wings. We saw, at different times, a considerable number of large whales; and were struck with the resemblance between the forcible jets of water which they threw from their nostrils, and some of the fountains we had seen in Iceland. We remained in Orkney two days, and went to see the town of Kirkwall. Although this country did not strike us as by any means beautiful when we first saw it, we now derived very high gratification from the sight of corn fields and gardens; and were particularly delighted with the few small trees which grow about Kirkwall. Having hired a boat, we intended to proceed by water to Inverness; but bad weather forced us into the harbour of Wick in Caithness-shire. From thence we proceeded to Dunrobin, and crossed the Dornoch Frith to Ross-shire, pursuing our journey by land to Edinburgh, where we arrived in health and safety, after an absence of nearly five months.

RURAL AFFAIRS.

CHAP. IV.

The terms on which a tenant holds a farm in Iceland, are similar to what is called *steelbow* in Scotland. The rent is paid in two parts. First, there is a land rent, or Land-skuld as it is called, which is a fixed sum rated according to an old valuation; secondly, there is a certain rent paid for a permanent stock of cattle and sheep, which is transferred from tenant to tenant, every succeeding one being obliged to take it on certain conditions, and to leave the same number on his quitting the farm. The tenant, however, is at liberty to keep as much stock as he can support, without paying any additional rent. The Land-skuld is paid in various ways; in money, wool, tallow, &c. &c.; that for the permanent stock chiefly in butter.

Leases for a term of years are not common in any part of the island. The same tenant continues to possess the land, unless the proprietor can prove that the farm has been neglected, or that the farmer has misconducted himself. The law is effectual in preventing abuses in the dismissal of ten-

ants; for if a farmer can prove by a survey of the Hrepstiorè, or two respectable persons of his own profession, that his farm has not been neglected, he cannot be removed; but he may quit his farm whenever he pleases. The practice of letting farms from year to year is not uncommon; six months notice being necessary for the tenant to quit.

A farm, the disposable value of which is about 200 rixdollars, pays a Land-skuld of from four to six. The nominal price of land has, in many instances, doubled within the last forty years; not, however, in consequence of any improvement, but of the depreciation of the government paper. The rixdollar, which is paper, is worth four shillings English, when at par. A guinea in Iceland, at the time we left the island, was worth fifteen paper dollars; and since my arrival in Scotland I have been offered twenty for a guinea.* The increase of rent has taken place chiefly on the permanent stock of the farm.

Besides the rent payable to the proprietor, a farmer is obliged to pay a proportion to the parish priest, according to the rent of his farm; and to keep a lamb for him during the winter season, taking it in October, and returning it in good condition about the middle of May.

A general description of a farm-house was given in the account of our first excursion. We shall now describe one of the best sort, that of the provost at Storuvellir, of which an accurate plan was taken.

a. The entrance passage, 40 feet long, and 4 feet wide.

b. The kitchen.

c. Fuel-room.†

* At present (July 1812) the exchange is 25 rixdollars for a pound sterling.

† Bad turf, dried cow and sheep dung, and fish bones, are the articles used as

d. Bunn, or store-room.

e. Bed-room, 40 feet long by 8 feet wide, with a recess 10 feet by 8.

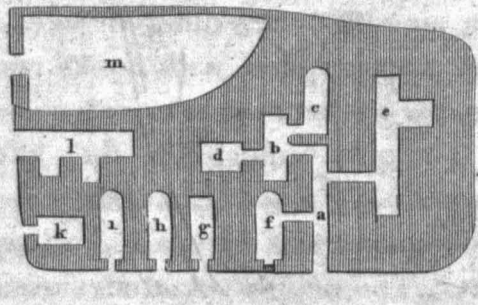
f. A wainscotted room, with bedsteads. This is an appendage only to some of the principal dwellings, and is usually crowded with saddles, harness, and implements of various kinds. It has frequently a small window in the end.

g. Dairy.

h. Out-house.

i. Smithy.

fuel. In the Westmann islands, they use dried sea-birds. Fuel is very scarce; and in the houses of the Icelanders, there is only one fire in the kitchen, which is placed on the floor; stoves being seldom seen even in the houses of the better sort of farmers.



k. Out-house.

l. Cattle-house.

m. An enclosure for hay and turf, to which there is a path, often over the top of the house.

The servants are generally orphans, or the children of very poor farmers. As they are considered nearly on a level with their master's children, it is not uncommon for marriages to take place between them; and a poor farmer sends his son or daughter to serve in the house of one in more affluent circumstances, in hopes of such a connection being formed.

The wages given to servants, male and female, amount to from four to six dollars a-year, sometimes more, besides food and clothes. By these, and the other members of the family, every thing that is necessary for subsistence and clothing is prepared, and all business performed. During the winter season, the family rises about six or seven o'clock in the morning. One is sent out to look after the sheep; another attends the cattle; some are employed in making ropes of wool or horse hair; one is in the smithy making horse shoes and other articles. Spinning is performed with a spindle and distaff, and sometimes with a wheel. Some, both men and women, knit and weave, and others prepare sheep-skins for fishing dresses. While so many are thus occupied, one generally reads aloud, in a singing tone, different tales and histories. Most farm-houses are supplied with books containing such tales; and the people exchange books with each other for the sake of variety. The only opportunity they have of making this exchange is when they meet at church, where, even during the most inclement part of the season, a few always contrive to be present. The people sometimes amuse themselves with a game somewhat like drafts; with cards; and many play chess extremely well.

The Icelanders divide the day and night into nine periods. From midnight to three o'clock in the morning they call Otta; from three to six, Midurmorgun; from six to nine, Dagmal; from nine to twelve, Hactei; the first hour and a half after noon, Midmunda; from half past one to three o'clock, Noon; from three to six, Miduraftur; from six to nine, Nattmal; from nine to twelve, Midnat. There are but few clocks in the island, and they are not very good.

We saw in different places, particularly at Huaneyrè, pieces of very good cloth which had been manufactured in the country. The sort called wadmal differs from cloth, in being what is called in this country, tweeled. Blue and black are the most common colours. One piece of cloth which we saw was a mixed black and white. Different shades of yellow are used, and not unfrequently for stockings. The processes of dyeing are very simple. The leaves of the *arbutus uva ursi*, the *lycopodium alpinum*, the *lichen Islandicus*, and some others, are employed. Stockings are filled with the lichen Islandicus, and boiled. When cloth is to be dyed, the vegetable substances are chopped small, and spread over the cloth, which is then rolled up and boiled. Black is obtained by strewing a rich black earth, found in some of the bogs, over the cloth, after it has been boiled with the *arbutus uva ursi*, when it is again rolled up and boiled. We saw none of this earth, but probably it contains a considerable proportion of iron, which, with the astringent matter of the plant, affords the black colour. Indigo is used for dyeing blue.

The skins of horses and cows, after having been steeped for some time in urine, are frequently put into the liquor which has been used for dyeing black; by which means they undergo a slight degrèe of tanning. Sheep-skins are prepared by being soaked in water till the wool loosens, which

is removed; and then the skins are drawn over a ram's horn fastened to the roof by its ends.

Farm-houses are for the most part built on dry knolls, and the ground immediately around them is allotted for hay. The extent is greater or less according to circumstances; and though hay is by far the most important article to a farmer in Iceland, we do not recollect to have seen any signs of exertions to improve a hay field by draining, or otherwise. All the manure is bestowed upon the little hillocks, which surround the houses like graves, into which the hay ground is generally partitioned. About the time of our arrival in Iceland, the people were busy spreading the dung; and about the end of July, the hay harvest had begun in many places. The grass is neither close, nor long, at the time it is reckoned fit for cutting. We did not observe any field in which the useless or less nutritious plants did not exceed, or at least equal in number, those that were really valuable. Every thing that grows is cut down by means of a short narrow scythe, with which the Icelanders work expeditiously and neatly, making all the little knolls perfectly bare. When cut, the grass is commonly gathered together on some even place, where it can be turned and tossed conveniently. We observed in many places, that no more was cut at a time than what would employ the people on the farm to dry; and before any more was cut, the first portion was carried home. When bog-grasses are accessible, they are carefully cut and made into hay. The process of drying is the same as with us; and when carried home, the hay is made up into long and narrow stacks, often before it is perfectly dry, and consequently much of it is spoiled by heating. The hay is kept chiefly for the cows, on which the people depend for much of their subsistence. In severe weather, a little is given to the sheep and

horses; but they often struggle through a hard winter without any sustenance but what they can procure for themselves.

As soon as the hay around the house is secured, the farmers give a feast, or harvest-home. This is a supper of which the chief delicacy is porridge, made of meal of some sort, and milk. When the whole hay-harvest is finished, another feast takes place, when a fat sheep is killed. Though neither dancing nor singing are called in aid, these feasts are chearful and merry.

The immense extent of the bogs and swamps of Iceland renders it obvious to any one who has attended to the subject, that the climate must be greatly deteriorated by the evaporation from them. Were the people to set about draining the bogs, they would find not only the climate improve, but the quantity of grass fit for hay to increase largely. There seems to be some prejudice against draining, which a little intercourse with Britain may probably remove. We do not know any place where draining could be more easily or more advantageously practised than Indreholm, and in the country lying between Akkrefell and the Skardsheidè.

The cattle, in point of size and appearance, are very like the largest of our highland sorts, except in one respect, that those of Iceland are seldom seen with horns. As in other countries, we meet with finer cattle on some farms than on others; but, from every observation we could make, and information we could obtain, the Iceland farmers know nothing of the art of breeding stock. The bulls are in general ugly, and no use is made of them till after they are five years old. In rearing a bull-calf no more attention is paid to him than to others. Taking all the circumstances of management together, we had some reason to be surprised to find the cattle

upon the whole so handsome. The cows in general yield a considerable quantity of milk, many of them ten or twelve quarts per day, and some a good deal more. Milk is usually made into what is called *skier*, which has been already mentioned.

Sour whey, mixed with water, is a favourite beverage of the Icelanders, and they seldom travel without a supply of it. Butter, however, is the chief article among the products of the farm, and of this the Icelanders eat a surprising quantity. They value it most after it has been barrelled, without salt, and kept several years. It is wonderful how well butter keeps in this manner; it arrives at a certain degree of rancidity, beyond which it does not pass. The smell and taste of the sour butter are very disagreeable to English palates, though Icelanders delight in it. When there is a scarcity of butter, the people eat tallow. The former was not very plentiful last summer, and consequently little tallow was brought to market; and we have seen children eating lumps of it with as much pleasure as our little ones express when sucking a piece of sugar-candy. When people go to the northern districts for the purpose of cutting hay, they are paid for their work in butter, at the rate of 30lbs. per week. It is made in churns of the form most common in this country, in which the cream is agitated by the perpendicular motion of a plunger. Sometimes two are worked by one handle, fastened to a cross piece of wood, to which the plungers are connected by projecting arms, the cross piece forming the angle between them and the handle, and turning on two pivots. There is not much cheese made in Iceland, and they do not begin to manufacture it till late in the season. It is of very inferior quality. The manufacture of butter and sour whey employs the farmer's wife during his absence, while he is en-

gaged in fishing. In some parts of the country, the servants or children are employed in gathering lichen and angelica root. The former is carefully dried and packed for use; and the latter is buried, and used more as an article of luxury than of subsistence.

The sheep of Iceland appear to be the same with the old Scotch highland sort, which is now nearly extinct. They are larger, however, and the wool is long and soft, but not fine. Many of them are entirely black, and a great proportion are black and white. The wool is never shorn, but pulled off. Much of it is lost before it is taken off; and what remains, after hanging for a time on the animal's back, becomes spoiled and felted by the rain. The sheep are very much infested by vermin, known in England by the names of *ticks* and *keds*. The lambs are early restrained from sucking; the ewes are milked, and butter is made from the produce.

It is part of the employment of the women, during winter, to pick and clean the wool, and to spin it. A considerable quantity is exported; and it is so valuable an article in Denmark, that it sells in Iceland for as much as coarse wool in the north of Scotland.

About the year 1756, an attempt was made to improve the wool in Iceland, by the introduction of Spanish rams; but, owing to negligence, it was unsuccessful. With that zeal for bettering the condition of his country which distinguishes him, Mr Stephenson of Indreholm brought a few Merino rams and ewes from Norway in the year 1808. Their wool is tolerably fine, but by no means so good as that of the Merinos in England. We saw the lambs of the first cross between them and the Iceland ewes, and they promised very well. If Mr Stevenson perseveres in his laudable exertions, and if the

people can be made sensible of the advantages to be derived from improving the wool, he will have the satisfaction of having begun a most beneficial improvement.

The gathering of the sheep from the mountains before the commencement of winter, is a very important part of the business of an Iceland farmer. As soon as the hay harvest is over, and when the Hreppstiorè, or parish officer, thinks that the farmers are ready, he informs the Sysselman of the district, who causes a notice to be given in the churches, that on a certain day the gathering of the sheep shall commence, and, at the same time, appoints a place of rendezvous. Every farmer who has a considerable part of his stock feeding on the mountains, must send one man; or, if the number of his sheep be very small, he may join with another whose case is similar, and together they send one. When the men destined for this service assemble, they chuse one who has had much experience, whom they agree to obey, and they give him the title of king, and the power of selecting two associates as counsellors. On the appointed day they meet at the place fixed upon, perhaps to the number of 200, on horseback. Having pitched their tents, and committed their horses to the care of children who have accompanied them, the king, on horseback, gives his orders, and sends the men off two and two, strictly enjoining them not to lose sight of their comrades. Having collected as many sheep as they can find, they drive them towards the tents, and then shift their quarters. Thus they go on during a week, when they take all the sheep to one of the large pens constructed for the purpose, which consist of one large enclosure, surrounded by a number of smaller ones, for the purpose of separating the sheep belonging to different persons. This business is quite a rural festival; but the merriment is often mingled with the lamentations of those

who have lost some of their sheep, or the quarrels of others who have accidentally fixed upon the same mark for their property. The search for sheep is repeated about the middle, and again about the end, of October. At this last time, those only who have failed in recovering their sheep on the former occasions, are engaged. Every animal that is unproductive, or which cannot be used, must, by a law which is strictly enforced, be sent to the mountains about the end of May, in order that as much fine grass as possible may be saved for the milch cows and ewes, and for making hay.

Mention has been made in the Journal, of the excellence of the riding horses of this country. When a young horse is thought to promise well, his nostrils are slit up; the Icelanders believing, that when exercised, or ridden hard, this operation will allow him to breathe more freely. It is not likely that the horses of Iceland could run on our roads at the great rate at which we have seen them go, for any length of time. They are accustomed to scramble slowly through the bogs and over rocks, and to dart rapidly forward whenever they come to dry and smooth ground. In travelling, a man has generally two or three horses with him, and he changes from one to another as they become tired.

The saddle for the use of women resembles an elbow-chair, in which they sit with their feet resting on a board. Some of them are highly ornamented with brass, cut into various figures. The common people all ride in the same way, with the legs astride, the women having their feet raised so high, that their knees are considerably above the back of the horse.

For grinding corn, the Icelanders use small handmills, the same with those known in Scotland by the name of querns.

Though there is little encouragement from the climate, yet

there are some parts of Iceland where experiments might be made in cultivating barley, potatoes, and turnips. Along the shores, where the soil is sandy, and where sea-weeds can be procured in abundance, something in this way might be done. But nothing can be effected without the superintendance of some active and intelligent person, able to combat the prejudices, and to encourage the exertions of the natives.

STATE OF COMMERCE.

CHAP. V.

From the beginning of the 17th century till the year 1776, the trade of Iceland was in the hands of a chartered company, during the existence of whose monopoly the Icelanders were greatly oppressed. The Iceland trade however did not continue to hold out its original temptations; and at length an unwillingness to risk capital in prosecuting it, became apparent. These circumstances induced the Danish government to adopt a system, the liberality of which deserves the highest praise. Before the trade was declared free, it was nominally vested in the King for a period of ten years, and was carried on with a fund, amounting to 4,000,000 dollars, provided by the government, and of which the King was director. At the end of ten years, when the vessels and stock were sold at greatly reduced prices, it was found that the capital had diminished 600,000 dollars. The remainder of the fund was placed under the management of commissioners, who were empowered to lend money at four per cent. interest to those who embarked in the trade to Iceland. The merchandize

being now freed from imposts of every kind, the encouragements held forth did not fail to take effect. The present state of the fund is not known in Iceland; but the events of the war in retarding, and indeed putting a stop to regular communication, render it probable that considerable loss has been sustained. The freedom from impost was proclaimed to continue for twenty years, at the end of which period, in the year 1807, it was further prolonged for five years. It is impossible, however, that, in so short a time, the trade can recover from the severe shock it has recently received. In the years 1797, 1798, and 1799, a very considerable traffic in fish, was carried on to Spain and the Mediterranean; and this period was certainly one of the most favourable for the commerce of Iceland that has ever occurred. Mr Thorlacius, a native merchant residing at Bildal, in the north-western part of the island, speculated largely at that time, and made a considerable fortune. At present he is esteemed the most wealthy man in Iceland.

Before the war, about fifty vessels, chiefly galliots of 100 to 250 tons, were employed in the trade. Last year, not more than ten ships arrived in Iceland; and while we remained there, not more than seven, including three from Britain, and one galliot laden with salt from Liverpool, on account of Messrs Phelps and Company of London.

The nature of the trade with Iceland will be seen in the following tables, taken from Mr Stephenson's history of Iceland during the 18th century; and, to render them intelligible, the weights and measures are annexed.

Current Prices of Icelandic Produce, in the Year 1810.

1 Pair of Mittens, ...	4 to 6 Skillings.
1 do. of Stockings, . . .	12 to 18 do.
1 do. do. fine, ...	64 Sk. to 1 Rixdollar.
1 Woollen Jacket, ...	40 to 64 Skillings.
1 do. fine, ...	2 to 3 Rixdollars.
1 Pund Wool, ...	12 to 20 Skillings.
1 do. Eider-down, . . .	2 Rixd. 48 Sk. to 3 Rixd.
1 do. Feathers, ...	16 to 20 Skillings.
1 do. Tallow, ...	16 to 22 do.
1 do. Butter, ...	10 to 28 do.
1 Skippund Stock-fish, .	12 to 20 Rixdollars.
1 do. Salted Fish, ...	15 to 30 do.
1 Barrel of Oil, ...	12 to 20 do.
1 White Fox-skin, ...	80 Skillings to 3 do.
1 Black do.	5 to 8 do.
100 Swan-quills, ...	2 Rixd. 48 Sk. to 3 Rixd.
A Horse, ...	6 to 40 do.
A Cow, ...	16 to 24 do.
A Ewe with Lamb, . . .	2 to $2\frac{1}{2}$ do.
A Wether, ...	2 to 5 do.
A Lamb, ...	80 Sk. to 1 Rixd. 32 Sk.

The circulating medium of Iceland is the same as that of Denmark; the coins being 10 sk., 8 sk., 4 sk., 2 sk., and 1 skilling pieces. A considerable number of specie dollars are in the island, but are seldom seen; the natives being in the practice of hoarding them. The paper rixdollar is used in all transactions.

In the preceding tables, it will be seen that the island is divided into four commercial districts; viz. Reikiavik, Eskefiord, Eyafiord, and Isafiord. Formerly, there were six districts. This division is not merely nominal, regulations being established for merchant ships visiting each district, and the settlement of Danes or Icelanders as merchants. A vessel arriving from Denmark in any district, is allowed to visit all the ports included in it; but is not allowed to go into any of the harbours of the other districts.* Every person desirous of settling in Iceland as a merchant, must become a burgher or freeman, of the district in which he wishes to establish himself. A settlement is obtained without difficulty, most commonly through the favour of the Governor or the Sysselmen; and with no other expence than that of a few dollars for writings.

The districts of Reikiavik and Isafiord supply the greatest quantity of salted and dried fish; and from the latter the greatest exportation of oil takes place, on account of the productiveness of the cod and shark fisheries. The northern and eastern coasts furnish the greatest quantity of tallow, salted mutton, wool, and woollen goods. The large quantity of tallow and woollen stuffs exported from the Reikiavik district, is not owing to the number of sheep and cattle kept in this

*Reikiavik includes,	Eskefiord,	Eyafiord,	Isafiord,
Reikiavik.	Eskefiord.	Eyafiord.	Isafiord.
Havnefiord.	Rodefiord.	Husavik	Patrixfiord.
Kieblivik.	Berufiord.	Siglefiord.	Bildal.
Eyarback.	Vapnafiord.	Hofsos.	Olafsvik.
Westmann Islands.		Skagastrand.	Gronnefiord.
			Stikkesholm.
			Stappen.
			Buderstad.