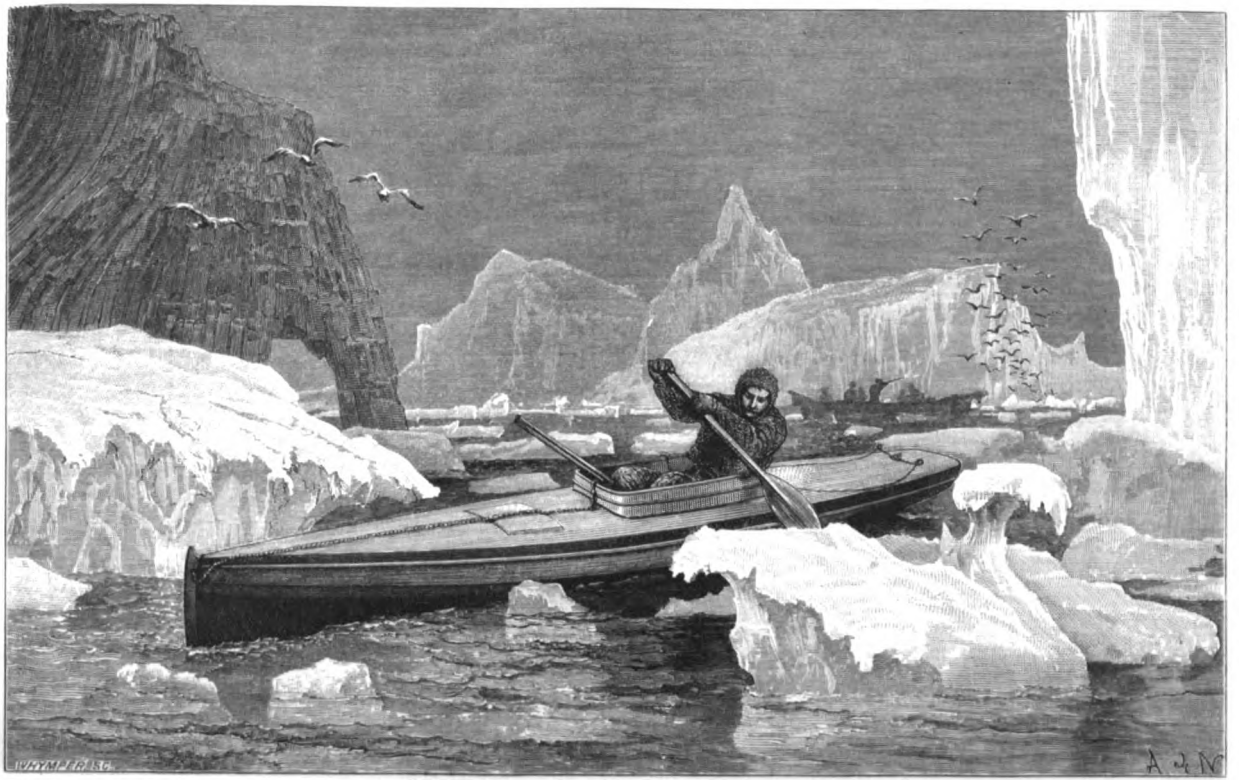

THE SCREW-PROPELLER CANOE AMONGST ICEBERGS, ON THE COAST OF NORTH GREENLAND NEAR NOURSOAK.

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THE

ALPINE JOURNAL.

AUGUST 1873.

Some Notes on Greenland and the Greenlanders. By Edward Whymper (*continued*).

AFTER becoming aware of these matters in 1867, it seemed to me that it was desirable I should make myself acquainted, at the least superficially, with the exterior land before making another attempt to penetrate into the interior, and last year's journeyings were directed with this view, and with the ultimate aim of producing an original map of the coast-line. I resolved to trust to my own devices, to be my own interpreter, and, if possible, to go out so provided that I could act, if necessary, independently of the natives. For these gentry have some excellent qualities, but they have also not a few which are eminently distressing to the traveller. I say nothing about their smell—that can be overcome; nor of the hordes of creeping things which roam over them—you must risk the encounter; but it *is* distressing, after you have engaged and paid in advance a crew to go a few days' journey, to have a man come just before you start and say that he has no boots, or no socks, or no shirt. You remind him that he has had five dollars in advance, but you find that he has nothing; for he has taken the precaution which is adopted by the British merchant before he becomes insolvent, and has settled it all on his wife, who has immediately eaten it up. You are obliged to pay a little more in advance, and beg that he will go at once to the store and supply his wants. 'The store is closed for to-night.' 'Go to-morrow, then.' 'To-morrow is Sunday; the store is not open on Sunday.' 'Well, on Monday then.' Monday comes, there is a gentle breeze which just ruffles the sea; all your natives shake their heads, for in Greenland it is not the fashion to go to sea unless there is a dead calm. Tuesday

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comes, the wind has fallen, and so has one of your crew fallen sick. Again you suggest that you have paid five dollars in advance. The man acknowledges it, and says that he would be most happy to repay you, but points to the fact that he has nothing. You can only grin and bear, for it would be no use to appeal to the trader, who would tell you that he has no power to compel the natives to fulfil their engagements. At last, after a multitude of delays, the sick man is replaced by another, and all your natives declare themselves ready to start. You point to the baggage and tell them to put it in the boat. 'First we will drink a little coffee,' say they, and all your natives vanish again. This custom of drinking coffee immediately before leaving on a journey is universal and invariable, and occupies one to three hours, as the case may be. Attempts to combat it are both useless and impolitic. Upon one occasion, after having had almost a whole day frittered away upon one excuse or another (during which time my natives had probably drank coffee half-a-dozen times at least), when they said, 'first we will drink a little coffee,' I so far forgot myself as to shrug my shoulders. The Danish trader, who was standing by, put his hand upon me and said very gravely, 'You must not do that.' 'Why not?' 'If you do,' he said, pointing to the retreating natives, 'none of them will go with you.' Such would have been the case. In Greenland you must look pleased when you are annoyed, good-humoured when you are angry, and happy when you are cheated, for if you do not none of the natives will accompany you.

After this solemn coffee-drinking is over, you do really start, and your natives, who are greatly excited, row away at the rate of perhaps five or six miles per hour. You say to yourself, 'Dear me, I had no idea these Eskimo fellows could pull so well,' and begin to calculate that six times five is thirty. After you have gone a few hundred yards, however, your natives suddenly leave off pulling, you hear a shout behind, and, turning round, you perceive a kayaker, who is paddling desperately after you. Something dreadful seems to have happened—perhaps the colony you have just left is on fire. Not a bit of it. When the kayaker comes up he hands in an old sock, and, after a few minutes' conversation, he turns round and paddles home again. This sock will appear again by-and-by. It had been accidentally forgotten, and its recovery affords your crew ten minutes' subject for conversation. Long before this time has expired, No. 3 rests on his oar and lights his pipe, and as the seats are close together, he stops Nos. 2 and 4 as well. After you have gone about a dozen yards more,

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No. 4 gets out *his* pipe, and, as he borrows matches of stroke, the whole crew ceases to pull. About this time the nose of No. 5 begins to bleed, and he lays his head over the side of the boat for a quarter of an hour. Then the steersman points out an eider-duck which is approaching, and all who have guns immediately blaze away, most likely without doing any execution; but if by chance they wing the bird, it drops into the water several hundred yards astern or on one side, which causes you to go so much out of your course. After these superhuman exertions all stop and look intently at you, and at last one of them plucks up courage and says 'snaps.' Now, I explained in a previous paper* what 'snaps' means in Greenland, and I am not going to repeat that description; but let me say that, after the coffee-torture, there is no torture so severe to which the traveller in Greenland is put as the 'snaps' torture. It is inflicted upon him morning, noon, and night. He has to pour out liqueur-glasses full of the nasty corn-brandy in cold weather, in wet weather, and in stormy weather. He has to stop in the middle of important work to do it, he has to stop when time is of the utmost consequence to do it, and he is awoke out of his sleep to do it; and he must always do it smiling away, as if it were one of the greatest pleasures of his life. In the short season of last year, although the 'snaps' was cut down as far as possible, I dispensed more than ten gallons of this abominable corn-brandy, which quantity amounted to about three thousand glasses.

The incessant stoppages which occur upon one excuse or another when one is being rowed by Greenland crews, render it almost impossible to cover more than twenty miles in a day. Half as much again could be accomplished by the same amount of exertion if the natives would condescend to keep to their course, instead of dodging about to one side or the other in search of amusement or sport. First impulses cause one to attempt to check their erratic tendencies, but a little experience shows that it is most unwise to do so. For the native, when he comes with you, is little tempted by your money, and comes because he supposes that he will have a jolly time, that he will be amused, that you will keep his stomach well-filled, or that he will visit his friends in neighbouring settlements; and it is quite foreign to his intentions to work hard, or to submit to privations, or to visit uninhabited places, far away, where he will not meet with the amusements which he intends to enjoy. From these reasons you will perhaps understand why

* *Alpine Journal*, vol. v. p. 22.

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it is desirable that a traveller should be able to act independently of the natives.

The first desideratum is a boat or canoe that can be managed by a single person. When I returned home in 1867 I brought along with me a native kayak or skin-canoe to see whether it could be adapted to my purposes (model exhibited). I soon acquired a considerable degree of expertness in turning it bottom up, but all my efforts to keep my head above water were failures until the canoe was provided on each side with an outrigger float of cork. There was, however, a second and a fatal objection to its use. It would not carry one half of the things which were indispensable, so I looked out for another craft of greater capacity. The ordinary English canoes were even less suitable than the kayak, for they were less strong, scarcely more capacious, and almost equally unstable. There may be expert canoists among my readers who may think it a small matter to be upset; but allow me to say that whatever you may do in Europe, or in warmer climates, you must not be capsized in Greenland. The water is seldom more than two or three degrees warmer than 32° Fahrenheit, and its temperature is generally 29° to 30°. A few minutes' immersion in water of that temperature is sufficient to numb the hardiest person. I was relieved at last from all perplexity on the score of a boat by a clever engineer of my acquaintance informing me that he was constructing, in conjunction with a fellow-workman, a screw-propeller canoe which was to be driven by the feet. This boat was almost exactly adapted to my purposes. It would take on board all that was necessary, had little tendency to capsize, and weighed about 120lbs. Packed in a huge case, which resembled an overgrown coffin, it made two stormy voyages across the Atlantic, and came home safe again. There was some little difficulty at first in getting it shipped at all, for the Thames river-side sharks humorously pretended to decline 'the job,' on the ground that I was smuggling Tichborne out of the country.

This screw-propeller canoe served me extremely well, and I felt that with it I was prepared for whatever might happen. Although I say that it would carry all that was necessary, you must understand that it seldom or never did carry all my baggage, which, as a rule, was taken in another boat; as it was not my intention or wish to do without the natives, but only to be able to act independently, provided they would not accompany me. Fortunately, I had no serious trouble with them, except on one occasion quite early in the season, when, owing to bad interpreting, they supposed that they were to go to a spot twelve

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miles to the north of the right place. When they came to land I pointed out that it was not right; but they held to their bargain, and persisted that it was the place to which they had contracted to come. The squabble was protracted, and ended by their saying that if I liked to stop there they would stop, but that if I didn't like to stop there they would go home at once. On this I fired up, and ordered them to put all the things out of the boat, and to go home, admonishing them further that the Danish trader at their settlement would be sure to send them back to fetch me. This display of vigour rather took them aback; they gave in, came on to the right place, stayed there a week (notwithstanding that it was uninhabited) and travelled several weeks afterwards with me as well.

These journeys up and down the coast, tame as they may seem to be, were sufficiently adventurous and exciting. In consequence of the rapidity with which squalls arose, it was necessary to coast the shores closely, so as to be able to come quickly to land. A great part of those shores was fringed with immense icebergs, which had drifted from the Umenak fiord and the Tossukatek ice-stream, and were undergoing rapid dissolution. Sometimes the sea was covered for mile after mile with *débris* of these bergs, packed too closely for my canoe to get through. At these times the larger boat went ahead to force a passage, whilst I followed closely in its wake, and even then it required constant watchfulness to avoid contact with the ever-thawing and revolving masses which, had we come into collision, would have smashed in my thin planks as easily as an egg-shell. To the bergs themselves we usually gave a wide berth (and so will any man who values his life), for besides the slices that fell from time to time from their cliffs above, huge masses shot up unexpectedly from their depths beneath. It seemed to me that there was always more danger to be apprehended from the grounded bergs than from those which were not fixed, though these latter can also perform very wonderful antics.

We were coasting the northern shores of Disco Island and passed an iceberg which was about a mile from the land. It was a large berg, a quarter of a mile or more in diameter, with a pinnacled summit rising a hundred and fifty feet above the sea, and cornices around its base, showing where the water-line had been at different periods, and, lower still, flutings which marked the fretting of the waves. The sea was like a mirror and dotted, round about the ice, with countless eider-ducks. In a moment, the huge mass split into three nearly

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equal portions which fell outwards into the sea with a terrific roar. The frightened birds took wing and hurried off, whilst the riven ice continued to revolve until what had been the base of the iceberg became the summit. One gigantic prong, a most audacious-looking thing, which had been a projecting tongue beneath, uprose in the air like the sail of a windmill to double the altitude of all the rest, and carried in its recesses an immense volume of water which fell back in an imposing cataract as the ice became erect. Even the stolid Eskimaux gasped with wonder as they saw this happen, for the body of water was vast enough to appear green against the sky whilst falling from a height which must have greatly exceeded that of Niagara. The prong wheeled round, and whilst still high in the air dashed against another of the great masses and was smashed into a thousand pieces. The concussion seemed to shake the very sea, and the noise which followed was deafening. Gigantic waves rolled out from the centre of commotion, and were shivered into spray against the frozen walls. Underneath the water the combat was equally ferocious, and shattered blocks momentarily rose to join the *débris* on the surface. At last the three original masses were divided and subdivided into hundreds of pieces, which gradually came to rest, though the sea for miles around was covered with undulations which had been produced by their disruption. In a quarter of an hour the uproar almost ceased, for the destruction of the majestic iceberg which had been such a splendid spectacle was completed, and not a fragment could be seen that rose thirty feet above the water, though its ruins covered a space which was not less than a mile in diameter; but long afterwards our boats were tossed in the heaving sea, and the echoes rolled back from the cliffs of Disco as the swell broke against the rocky shores.

The risks of being caught in squalls at sea, or of being detained upon inhospitable shores through stormy weather setting in, are the most serious ones which have to be taken into consideration in Greenland. The food question there, as almost everywhere else, is the most important of all. You cannot rely upon providing for your daily wants with your gun, but, as a rule, must take your food about with you. All the stuff for my own especial use I took out from Europe, as I found that the Danish stores, although nominally able to supply almost all the heart can desire or the stomach wish, do not answer to the calls which are made upon them. For example, I came last year to one settlement where the only stores for sale were china buttons, fish-hooks, and lucifer-matches; all very good things in their way, but rather indigestible. As a

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general rule, however, a considerable portion of the food that is required for one's natives can be obtained at the Danish stores. When the Danes travel with Greenlanders it is customary for them to give them about a pound each of bread per day, coffee and sugar twice a day, snaps three times a day, and a shilling to one and three pence in money. Whatever the natives require beyond the above-named things they have to provide for themselves; but there is seldom any difficulty on this account, for the Danes very rarely do more than travel from one settlement to another, starting from one place in the morning and arriving at the next within twenty-four hours. In my case it was not possible to leave the larder to supply itself in this easy fashion, as I went sometimes for ten or twelve days away from the settlements and lived under canvas. My plan was to offer premiums to the natives for everything eatable that could be obtained. Thus I paid two and threepence for a seal, sixpence for an eider-duck, fourpence for a ptarmigan, and so on. The arrangement was popular with the natives, as it was a novelty to them to be paid four or five times the usual prices, and at the same time to have the articles returned for consumption. Our diet was occasionally varied by burgomaster, great black-backed or kittiwake gulls, though it generally consisted of ptarmigan and eider-ducks.

The reference to the last-named birds recalls an old perplexity, which I mention because some reader may perhaps be able to throw light upon the matter. Eider-down is a valuable article of commerce, and is greatly in demand for quilts. At Copenhagen it is worth twenty shillings a pound, yet in London eider-down quilts weighing four pounds and a half are sold for six and thirty shillings. Now what I want to know is this—If eider-down is worth first-hand twenty shillings a pound, and quilts weighing four pounds and a half are sold for thirty-six shillings, how much chopped straw and old feathers has the British tradesman to insert to realise his honest profit? I suggest this question as a proper one for middle-class school examiners.

I acquired popularity cheaply with the Greenlanders by allowing them an unlimited amount of coffee, but I shall never, no never, get accustomed to their peculiar method of making that beverage. When we came to land, whether in morning, noon, or night, they immediately dispersed to collect wood and water; and as soon as the fire was raised the green berries were placed over it in an old frying-pan which we always carried about with us, to be roasted, or, properly speaking, to be burnt. As soon as this part of the operation was completed

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(and it usually consumed at least an hour), the kettle was put on the fire to boil, and the berries were pounded between two stones, first of all being put inside an old and very dirty sock. I fondly imagined that they would use a coffee-mill if I gave them one, but they declined it on the ground that it was a complicated machine which destroyed the true aroma of the berry! They admitted that an old seal-skin glove would answer nearly as well, but maintained that nothing could equal the unapproachable bouquet which was imparted by a dirty old sock or stocking.

The customs of the natives are eminently distressing to the fastidious traveller. On the other hand, it must be admitted that they have several good qualities which go far to make amends for their filthy habits. Their good-humour is seldom put out; you can trust yourself amongst them, solitary and unarmed, without fear of treachery or violence; and, notwithstanding their communistic tendencies, they have acquired a worthy respect for the property of strangers. I lost nothing during the whole time I was away, although hundreds of objects were frequently and unavoidably exposed or left in their charge, many of which could have been easily purloined, and must have been extremely tempting to them.

So much for the natives. There is no country upon the face of the earth which can more properly be termed mountainous than the land which they inhabit. I have seen almost the whole of its coast now (at a greater or less distance) from Cape Farewell up to 71½° N. lat., and I know that there are scarcely a dozen miles out of these 700 miles of latitude where the country possesses a lowland character. There are, I should suppose, immediately bordering the coast, thousands of peaks 3,000 to 7,000 feet elevation. Some few, though not many, are higher, and none are very much higher. There are no great peaks towering above their fellows as Mont Blanc towers above the rest of its chain, and in this respect the western coast of Greenland resembles the western coast of Norway; but as far as I know the Norwegian coast, it will not for a moment compare with the Greenland coast, where the mountains in all respects save altitude are scarcely inferior to the noblest of the Alps. Still it must be confessed that the want of dominating summits, which are so valuable for the purposes of exploration, is a very great drawback which is much to be regretted. Upon myself it has had a disastrous influence, for I have sometimes gone on day after day and week after week, constantly expecting to discover, though never finding, a peak rising well above all the rest, and

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so have been led to pass by mountains whose ascents might have yielded good results. In general, the mountains look their best at the end of the spring or at the commencement of summer, when the snow, although rapidly disappearing, still remains in great beds and in all the gullies, displaying the architecture of the peaks, and giving relief to the precipices; but by the middle of the summer, under the influence of perpetual sunlight, the snow vanishes with extraordinary rapidity, and at the end of August the mountains are stripped bare, and often exhibit from summit to base scarcely anything except naked rock. These general observations apply to the whole of the western coast of Greenland—the remarks which follow concern only those districts in which I have actually set foot. First, I will say a few words regarding the elevation of the land, next a word respecting the snow-line, then a little touching the constitution of the mountains, and lastly something about the interior.

In the neighbourhood of Egedesminde the hills are perhaps lower than in any other part of Greenland; they have been much degraded by glacier-action, and are monotonous in the extreme. The highest points are probably not more than 500 feet above the sea. In the vicinity of Christianshaab their elevation is more considerable, and some points exceed 1,500 feet. Round about Jakobshavn the highest mountains are more than 2,000 feet above the sea, and the general elevation of the land steadily increases as the Waigat strait is approached. On the mainland side of the Waigat, in the southern part, the highest summits are more than 3,000 feet; at the northern end 4,250 feet; and in the centre 6,000. The most important mountain on this side of the strait, a grand snow-capped peak with several large glaciers, is situated nearly midway between its two extremes, and it is, I believe, considerably over 6,000 feet in elevation. On the side of the Noursoak peninsula which faces the Umenak fiord, there are numerous peaks rising immediately from the sea to a height of more than 7,000 feet, and this elevation is nearly maintained in the islands of the fiord. These islands contain some of the most imposing mountains that I have ever seen, extraordinarily steep, with glaciers streaming from the summits right down into the sea. The island on which the colony of Umenak is situated, although much less elevated than the other islands which I have just mentioned, is remarkable for having a mountain that appears to be inaccessible.* To the north of the Umenak fiord there are

* See illustration accompanying the last number of the *Alpine Journal*.

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the large mountains with pointed summits, which I discovered in last August were more elevated than any others known in Danish Greenland. Their very situation is unknown at present, for neither I, nor any others, have travelled in their direction; and, looking to the fact of the constant increase in the elevation of the mountains the farther we proceed to the north, I shall not be surprised if still more elevated summits are discovered beyond them.

Last year I coasted the larger part of the great island of Disco, and circumnavigated the whole of it. It is a mass of mountains from one end to the other, but none of its peaks attain so great a height as the highest of the mountains in the Umenak fiord, although there are some peaks towards its northern extreme that do not fall much short of them.

The snow-line in Greenland is generally stated by authors, who know nothing whatever about the matter, to range from 1,500 to 2,000 feet. This is certainly not nearly high enough (if by the term 'snow-line' is meant the lower boundary of a region in which great snow-beds and fields are permanently found), yet I am scarcely prepared to state what height should be assigned to it. The fact is, that not a few of the highest mountains which I have seen have *not* a snow-line. Indeed, I can go farther, and say that many of the higher mountains have no snow whatever left upon them by the middle of the summer. Even taking into consideration the fact that both of the years in which I was in Greenland were exceptionally warm ones, I am disposed to think that 4,000 to 4,500 feet is a much closer approximation to the truth than the 1,500 to 2,000 feet which have heretofore been stated as the height of the snow-line.

The mountaineer in Greenland, besides experiencing all the usual difficulties, meets with some which are the result of the peculiar constitution and structure of the mountains. In the districts between Egedesminde and the southern part of the Waigat strait, the rock is almost exclusively gneiss. The whole of this land has been at some early period completely covered by a sheet of ice, and the rocks have been ground down to an extent that cannot be seen in the Alps. The expression '*roches moutonées*' seems to me to be inapplicable to these ice-eroded rocks, as they for the most part want the peculiar characteristics which gave rise to the term. I propose to call them *roches nivelées*. They are so smooth that it is all but impossible to walk upon them in boots such as we employ in the Alps, and the Greenland skin-boot is necessarily resorted to. The gneiss comes to an abrupt termination at the southern end of the Waigat, and, although it still forms the

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bases of the mountains, and peeps out occasionally underneath the other formations, no great mountains of it are again met with until the termination of the Umenak fiord is approached. The immediate mountains are formed exclusively of basalts and sandstones, the highest summits being invariably basalt.

The sandstones of these districts are for the most part coarse and crumbling. They attain in some places a height of 1,300 or 1,400 feet, but seldom or never more. As they are eroded with great facility, the streams which course down the mountain sides cut deeply into them, and form profound and highly picturesque gorges, which, however, are extremely inconvenient to the traveller, who has frequently to make great detours to avoid them. These gorges are good hunting grounds for fossils, though somewhat dangerous ones, for their sides have an ugly way of falling in without notice, and so too do the old snow-beds which generally are found in their most profound parts all the year round. I was clambering up one of the gorges last year, and touching the sides of the snow-beds to steady myself as I walked over the rocks in the stream, when a mass of hard snow, which I estimate must have weighed not less than 25 to 30 tons, fell into the stream about ten yards behind me, completely blocking up the ravine.

The basalt mountains have also their own particular disagreeable peculiarities. Loose basalt *débris* lying over fast basalt is a most vexatious thing to the temper, and is scarcely less dangerous, when lying at a considerable angle, than new snow over old snow. We had to pass over a considerable amount of this, at an angle of about 30°, when making the ascent of the mountain Kelertingouit (in the Umenak fiord) last year, and for a time it completely stopped our progress. We pawed and pawed in it without advancing a single step, and it seemed as if it would not be difficult to start an avalanche of it. The dykes of basalt, which pierce the older basalts and the sandstones, are also frequently a considerable hindrance, and so too are the walls of columnar basalt which frequently intervene. We had to clamber two such walls on the ascent of Kelertingouit, and in descending all of us had to be lowered down them like bales of goods. The basalt cliffs not unfrequently rise sheer for 3,000 to 4,000 feet, though there is generally one side to all the mountains with moderate slopes. Such is the case with Karkarsoak (a mountain at the northern end of the Waigat), where on the side of the strait there is more than 4,000 feet of precipice, though on the side facing the land there is nothing to hinder one literally walking to the top, which I did with a single Eskimo lad.

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From all the principal summits you perceive the vast glacier-clad interior of the country, stretching from north to south in an unbroken line, with a crest as straight as a sea-horizon. As I have already said, there are no marks upon it which enable one to calculate the altitude to which it rises, or the distance to which it extends. But having now seen it from several elevated and widely separated positions, as I find that its summit line always appears lofty, even from the highest mountains which I have ascended, my impression is that its height is generally not less than 8,000 feet, and in some places perhaps surpasses 10,000 feet. Whatever its altitude, it is the only great region on the surface of the earth that is known to be enjoying a glacial period, such as has been supposed, with a high degree of probability, to have existed at former ages over a large portion of the world. Whether it actually extends unbroken over twenty degrees of latitude, and in some parts over more than as many degrees of longitude, or whether it is divided by great fiords into numerous islands, and contains vast lakes in its interior, are questions which no one can answer at the present moment, and are some of the questions which I hope to be able to answer at a future period.

MOUNTAINEERING IN THE GREAT ATLAS. By JOHN BALL, F.R.S. Read before the Alpine Club, March 4th, 1873.

IN the spring of 1871 Sir John Drummond Hay, the British Minister in Morocco, obtained from the Emperor for Dr. Hooker, the eminent director of the Royal Gardens at Kew, permission to collect plants in the range of the Great Atlas. It is well known that, owing to the fanaticism of the inhabitants and the jealous policy of the rulers of Morocco, that great mountain range has been hitherto inaccessible to travellers. About the beginning of this century Mr. Jackson had been allowed to accompany a body of troops despatched by the then reigning Sultan from Morocco to Tarudant, and on the way crossed one of the lower passes in the main chain; but in his excellent work on Morocco that traveller has given no particulars as to a route which has probably never been traversed by Europeans, excepting in the capacity of slaves taken from ships wrecked on the West Coast. Gerhard Rohlfs had in our own time succeeded in travelling in disguise through the eastern part of the Great Atlas, but under conditions which allowed him to give little information as to the country; and

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