

THURSDAY, NOVEMBER 22, 1877

DANISH GREENLAND

Danish Greenland; its People and its Products. By Dr. Henry Rink. Edited by Dr. Robert Brown, F.L.S. With Illustrations by the Eskimo and a Map. (London: Henry S. King and Co., 1877.)

THERE is a strange fascination about Greenland, which may be partly owing to the mystery that shrouds its early history,—partly to its being an almost Arctic country, the scanty population of which seems to furnish an example of a nation in the enjoyment of a very primitive culture; and partly because it seems very probable that it was from it started the voyagers who were the first discoverers of what is now called America.

Our knowledge of the early history of Greenland is limited to what we can gather from the Icelandic sagas or popular tales, and from these we find that about the year 986 an Icelander called Erik the Red, who had been outlawed, sailed to the west to look for some land which had some years previously been sighted by Gunbjörn, the son of Ulfr Kraku, another Icelander who had once been driven far westward by a very fierce storm. Erik found the land, made a two winters' stay thereon, giving names to many places, and returning to Iceland called this new country Greenland, because, said he, people would sooner be induced to go thither in case it had a good name.

This first colonisation of Greenland seems at the time to have been fairly successful, and several ruins are still to be found which throw a light on the habits of these seafaring people. The present Eskimo station, Igaliko, situated on an isthmus between two fjords, is thought to have been the ancient residence of Erik. One of Erik's friends, named Herjulf, had a son called Bjarni, a promising youth, and very fond of travelling abroad. One year he would spend in Iceland, another with his father in Greenland. Wishing, however, to spend one Yule-tide with his father, he set sail for Greenland, where his father was, with a crew who had never been in the Greenland Ocean before, and the consequence seems to have been that he found himself after many days near a country covered with wood, which was certainly not Greenland, and turning his back upon it to hasten to find his parent, he succeeded in landing at the very spot where his father lived. It is probable that during this voyage he had discovered the tract of country stretching from Connecticut to Newfoundland.

The news of Bjarni's venturesome voyage spread to Iceland and to Norway, and Leif, the son of Erik the Red, bought his ship, and set sail for the new country, on which they landed, and which, from finding on it a species of "fox-grapes," they called Vinland. Returning the next year to Greenland, it was no wonder that Vinland was all the talk, and Thorvald, about 1002, went to settle there and finally had a battle with the natives, in which he was killed. This Vinland was probably the present Massachusetts. Half a century later tidings from the Greenland colonies suddenly became rare, but in 1126 the then pope sent them a bishop, the ruins of whose church are still pointed out, and about 1261 the Greenlanders became subjects of Norway. From this date to

1450 tidings of the colonists, stories of their doings, and records of their misfortunes, came less and less frequently to Europe. The very sailing route passed into oblivion, and the country was only again re-discovered in 1585 by John Davis, whose name will be for ever remembered in connection with the Straits also discovered by him. Another century-and-a-half passed away before the present European stations in Greenland were founded by the well-known Danish missionary, Hans Egede, who in 1721 landed on an island at the mouth of the Godthaab-fjord and founded a regular colony. From then until now, with many a vicissitude; an epidemic of small-pox in 1734, a total interruption with Denmark (1807-1814) on account of the war; the colonies have struggled on. The trade was for some part of the former century made a private monopoly, but in order to keep up the commerce, the government was finally obliged to take it in hand, and since 1774 it has continued to be a royal monopoly. Following the steps of the extending trade, the missionary institutions have gradually incorporated the whole population into Christian communities.

Dr. Rink's book tells us in a very succinct though most interesting manner, of the results of the European transactions thus carried on in Greenland, for now over a century, and he describes the present state, and hints at the future prospects of the population. More than this, he gives us in well-written chapters, an account of the configuration and general physical features of this almost frozen up island, he tells of its "inland ice," and of the origin of the "floating icebergs." We read of the temperature, prevailing winds, the wonderful changeableness of its weather, and we find here a *résumé* of all that is known about its lakes and streams, its mysterious fjords, and of its great fields of drifting ice. Nor is the natural history of the country overlooked, for we have a chapter on its geological and mineral products. Of these latter cyolite appears to be the only one that has become a regular article of trade, about 10,000 tons thereof being exported each year. There are also chapters on its plants and animals, with special ones on the capture of whales and seals, and on the Greenland fisheries.

From an Eskimo point of view the commercial importance of the seal and whale fisheries is very great. The flesh and blubber of these animals not only supply the Greenlander with nutritious food, but also provide him with heat and light. The sealskins too afford material for clothes, boats, and tents, and whaleskin called "matak," yields a favourite article of diet. It may give some idea of the vast numbers of these animals killed yearly to summarise the average annual catch as follows: Of *Phoca fætida*, 51,000; of *P. vitulina*, 2,000; of *P. groenlandica*, 33,000; of *P. barbata*, 1,000; of *Cystophora cristata*, 3,000; and of narwhals, white whales, and walruses nearly 1,000. The right whale has nearly disappeared and the mean annual catch of the "humpback" whale is scarcely over two.

The most important fisheries in addition appear to be those of the cod fish, the halibut, and the capelin.

Perhaps there was not much to be said about the manners and customs of the people in the olden time; the change in religion seems to have very early modified the social condition of the people, and this portion of Dr.

Rink's book is the one that satisfied our curiosity the least. The sketches of Greenland life by natives, as translated from the "Greenland Journal," are interesting, but they tell us of very little except marvellous escapes from snowstorms and icebergs. The great endurance of suffering, as detailed in some of these stories, demonstrates that heroes can be found even in Greenland; the sublime spirit of martyrdom seems to breathe in the account of the "Kayakers cast ashore in a snowstorm."

Scattered through this volume are some sixteen plates, representing Greenland ways of life. These are exact copies of partially coloured drawings executed by natives entirely after their own ideas. The greater number are the work of a seal-hunter living in Kangek, who, falling sick, could not leave his bed. With the drawing which forms plate 16, he wrote to say that increasing illness prevented him from doing more, and he ended the letter with "from exhaustion I must cut my letter short, this too will be my future fate," and shortly after he died.

E. P. W.

OUR BOOK SHELF

A Sketch of the Geology of Leicestershire and Rutland.
By W. J. Harrison. (Sheffield: W. White.)

THIS is a creditable compendium of what is known regarding the geology of the two countries of which it treats. It was originally prepared by its author for White's "History and Gazetteer of the Counties," and has been reprinted in a separate form. It can be had embellished with twelve photographs of various parts of the crystalline nucleus of Leicestershire. These are not particularly successful. Mr. Harrison has done well to put the best of them as a frontispiece. It represents the "coarse ashy slates" of Charnwood Forest. As a local guide this book may no doubt be useful; fuller information can be found in the works which Mr. Harrison cites, and especially in the maps and memoirs of the Geological Survey.

LETTERS TO THE EDITOR

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The Editor urgently requests correspondents to keep their letters as short as possible. The pressure on his space is so great that it is impossible otherwise to ensure the appearance even of communications containing interesting and novel facts.]

Expected High Tides

If I may judge from the note published in your issue of November 8 (p. 38), and Mr. Jenkins' letter in the last number of NATURE (p. 45), it would appear that the general public are unaware of publications which contain information respecting high tides.

The Admiralty tide tables contain the time and height of every tide in the year for twenty-four of the principal ports of the United Kingdom. There are also numerous other tide tables published, which give the heights as well as the times of high water. Amongst these may be mentioned Holden's Liverpool tables, which contain, besides Liverpool, eight other ports (London included), and at Liverpool are held in higher estimation than the Admiralty tables, inasmuch as Holden's predictions take into account the effect of the diurnal inequality at Liverpool, which heretofore has been neglected in the Admiralty tables. There are also published at South Shields, Ainsley's, and at Hartlepool, Pearson's tables, and at Bristol, Arrowsmith's tables (formerly Bunt's), which have deservedly a high reputation for Bristol and the Bristol Channel ports generally.

Any one who will select from these publications the highest

perigeon spring tides about the time of the equinoxes, and will send them to the papers, can apparently earn for himself the credit of "predicting" high tides.

The increased range of tide in the Thames of about twenty inches during the last twenty years, is undoubtedly due, among other improvements, to the construction of the embankments, the increased water-way at the bridges at Westminster, and notably at Blackfriars, the improved line of wharfage continually being carried out, and the removal from the Pool of the colliers, which at low water acted as a dam, and prevented the improvement of the bed of the river.

An overflow in the Thames at above-average spring-tides is now a matter of meteorological circumstances only. It has been observed, I believe, without exception that the overflows have been caused by a strong northerly wind; the most disastrous overflows, however, have followed a strong south-west wind, changing suddenly to a stiff north-west wind. The reason is obvious. An increased amount of tidal water with a south-west wind and generally low barometer, is carried from the Atlantic to the northern parts of the North Sea, a sudden change in the wind to north-west brings the whole of this water to the southward, with probably little or no disastrous effects until it reaches the mouth of the Thames, where it meets with the tidal water of the English Channel brought through the Straits of Dover. It then rushes up the Thames, and an additional height is given to the water, amounting sometimes to as much as four feet or more if there is much flood water meeting it, and an overflow is the consequence. I find the effect of a south-west wind on the tide in the Thames, as traced on a self-registering tide-gauge I have placed at Greenwich pier, is to depress the water considerably. The high water of Monday morning succeeding the heavy gale of Sunday, November 11, was nearly two feet below the predicted height, the extreme pressure of wind, as registered at the Royal Observatory, being 31 lbs. on the square foot. In the middle of October the effect of a south-west gale was still greater, probably owing to its longer continuance, although the registered pressure did not exceed 23 lbs. No overflow need therefore be feared from a continued south-west gale.

Mr. Jenkins is perhaps unaware that Mr. Saxby has "predicted" high tides for many years, and that on one occasion, I believe in September or October, 1869, the Astronomer-Royal wrote reassuring the public that there was nothing extraordinary in the then forthcoming spring tides to occasion unnecessary alarm. If Mr. Saxby has discovered some law by which he can foretell the direction and force of the wind he will undoubtedly confer an inestimable boon by its publication, but from the following extract from the *Times* of November 5 he does not appear to claim any such knowledge:—"Capt. Saxby further states: 'If the wind should blow from a northerly quarter on either the 7th of November or 22nd of December next, very full tides may be reasonably expected.'" The spring tides about December 22 are slightly below average, and as no overflow has yet occurred with below-average spring tides, but little apprehension need be felt respecting them.

With respect to the actions of Venus and Jupiter; although theoretically they cause tides, the values have hitherto not been evaluated, being almost insensible.

The high tide of October 26th was entirely due to the northerly wind; the effect due to the maximum northern declination of the moon is very small in the Thames, and is more than counterbalanced by its effect in decreasing the value of the lunar semi-diurnal tide.

Mr. Jenkins' statement respecting two great tides revolving through the year exactly six-and-a-half synodic months apart is merely on account of thirteen semilunations being very nearly equal to seven anomalistic months, and therefore the lunar perigee has again the same phase with respect to new or full moon. I may mention that ninety-nine semilunations exceed four years by about eighteen hours only, and also fifty-three anomalistic months by less than thirty-three hours. So that after a cycle of four years the perigeon spring-tides fall very nearly on the same days of the year. This of course fails to take into account the variations due to the moon's declination.

The following table of the heights of the above-average spring-tides for London for next year may be useful not only to riverside owners and dwellers, but also to marine naturalists, who will on these days have unusually favourable opportunities at low-water of engaging in their pursuits. If at such times the barometer should be high the low-water level will be still further depressed. It will also act as a guide to tourists wishing to avail themselves of the best chances of witnessing the bore in rivers,