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REPORT ON SABLE ISLAND, IN THE ATLANTIC OCEAN.

BY CAPT. H. W. BAYFIELD, R. N.

Sable Island was discovered very early in the sixteenth century, and although the strong and irregular currents around its formidable sand-bars, together with the prevalent fogs, soon made it the dread of navigators, it appears nevertheless, to have been not unfrequently visited, in those early times, by the Portuguese, French, and English fishermen. Cattle and swine are said to have been landed there by the Baron de Lery in 1518, and by the Portuguese in 1553.

The first of these reports wants confirmation: the second was so far credited, that it induced Sir Humphrey Gilbert to visit the island in 1583, in the hope of obtaining supplies. He, however, found no cattle on the island, and having lost one of his three vessels on its dangerous bars, he sailed for England with the other two. But this distinguished half-brother of Sir Walter Raleigh, celebrated for the virtues of public and private life, was destined never again to behold the land of his birth; for his vessel, the *Squirrel** foundered in a violent storm which she encountered on the passage home, and all on board perished!

In 1598, the Marquis de la Roch landed forty convicts on the island, of whom twelve only were found alive at the end of seven years, when a vessel was sent to bring them back to France. Although the total wreck of a French ship supplied them with some provisions, and also with the materials for the huts that prevented them from perishing from want of shelter in the first winter, yet twenty-eight of these miserable people appeared to have perished from the difficulty of subsisting so large a company upon the walrus, seals, fish, and berries, which formed their only food, and which it must have been exceedingly difficult to procure. If therefore, the reports of cattle having been previously landed on the island be true, they must have been exterminated before these unfortunate people arrived there. It is, however, certain, that they were introduced very soon afterwards, and that they multiplied exceedingly, for in 1635, the number of horned cattle on the island, was estimated at 800 head.

It is said, that the island was several times stocked with cattle, as a humane provision for the shipwrecked; but that notwithstanding their rapid increase, the danger of remaining long near the island, and latterly a proclamation of the Governor of Nova Scotia forbidding them to be killed, they were as often extirpated by unprincipled persons, who hunted them for their hides and tallow. At last they were replaced by the present race of wild horses, but when, or by whom, designedly or accidentally from wrecks, is not known. Haliburton, from whose interesting history of Nova Scotia I have drawn most of the foregoing particulars, states, that there was for many years 'a small herd of wild hogs on the island, which became exceedingly fierce, but that the climate which had always restricted their increase, finally overcame them altogether, the whole having perished during an unusually severe winter. It is also stated, that these creatures, from their occasionally feeding on the dead bodies that came on shore from wrecks, were regarded with the utmost horror and distrust, and that they were not replaced in consequence. In addition to the horses, English rabbits, and rats have been introduced, and have multiplied exceedingly. The rats which have come on shore from wrecks, feed upon the rabbits, and keep down their numbers; whilst they themselves perish in vast numbers from the climate during severe winters. They nevertheless remain so numerous as to be a serious inconvenience in winter, when they swarm about the houses and stores of the establishment.

There do not appear to have ever been any indigenous quadrupeds,—for the black foxes, that were formerly found on the island, and have long since disappeared, most probably came on shore originally from drift ice; several instances of bears and foxes having landed on the island from ice, having occurred in comparatively recent times; affording an interesting example of the mode in which species have been distributed, and conveyed to habitations apparently the most unlikely, notwithstanding the obstacle presented by a wide expanse of intervening sea. When we consider the number of such instances, that must have occurred in the course of many centuries, our surprise will probably be excited more by the paucity of animal life on an island of such extent, and affording such ample means of subsistence, at the time of its discovery, than it would have been by its abundance, did we not perceive in the absence of rocks and trees, the want of that shelter from the climate, and from natural enemies, which would be indispensable for the preservation of many species. From the commencement of the sixteenth century to this day, shipwrecks appear to have been frequent on this island, for at that early period of American History, the valuable and extensive fisheries, the fur trade with the Indians, the desire to introduce the gospel and to form settlements in the new world, seem all to have combined in promoting that spirit of enterprise and love of adventure so characteristic of the age.

Hence numerous voyages were undertaken, many of which were to various parts of Breton Island, Nova Scotia, and the Gulf of St. Lawrence. Canseau, now Canso Harbour, seems from the first to have been much frequented, especially by the French;—doubtless so also was the Passage de Fonsac, now the Gut of Canso:—and Sable Island, with its formidable long bars, lies directly in the way of vessels passing between those places, and the ports of Europe and Newfoundland.

In the following century the island appears to have been much frequented by the New England and French fishermen, for walrus, as well as seals and fish. The walrus, whose teeth were exceedingly valuable, are now seldom seen; but seals still visit the island periodically in considerable numbers, and are taken by the people of the establishment. As the trade between Europe and the American colonies increased, so also did the number of shipwrecks, until at last Sable Island became the terror of seamen. The trade of Nova Scotia suffered so greatly, that, in 1801, measures were adopted by the Government and Legislature of that colony for the relief and removal of shipwrecked persons, and for preventing the plunder of the wrecks. Hence the origin of the present humane establishment, so creditable to the colony; and for the support of which, the British Government has borne an equal share of the expense, since 1827. The necessity for such an establishment will appear evident, if we try to imagine the dreadful misery, which must have been repeatedly endured by the shipwrecked, during the many dreary winters of the three intervening centuries, from the discovery of the island to the formation of this provision for the unfortunate. Many fatal shipwrecks occurred, during that long period, of which no record was left, but the bones of the lost! These are exposed to view from time to time, by the action of the winds and waves upon the loose sand, of which the island is composed. A dreadful example of this is recorded in the *Nautical Magazine* for 1843,* wherein is related the discovery of the remains of a part of the 43rd regiment, under Major Elliott, which, together with the huts they had constructed out of the wreck, had been buried under the sandhills for nearly a century. The transport in which they had embarked was never heard of until this discovery, and was supposed to have foundered at sea.

* This voyage is full of interest, from the circumstance of Newfoundland being taken possession of, the discovery that was made by it and the fatal events by which it was attended. The ships arrived at Penguin, [now Fogo], Island, and went on to Conception Bay, and afterwards to St. John Bay. Sir Humphrey Gilbert took possesion of Newfoundland, and received presents from all the vessels he found there, particularly those of the Portuguese. Mutiny and sickness broke out in his fleet, while in St. John Bay, by which many were lost. He sailed in search of Sablon [Sable] Island, on which he was told that the Portuguese had landed cattle thirty years previously. His ship struck on a sandbank, [probably off Sable Island] and several of her crew were lost. The admiral was saved, and went on board a small vessel of his fleet, the *Squirrel* of ten tons!] and shaped his course for England. But having passed the Azores in September, they were overtaken by a storm; and the small vessel, in which the admiral embarked, foundered, with all on board. Mr. Barrow, in his valuable Chronological History of Voyages into the Arctic Regions, quotes the following passage concerning Sir Humphrey Gilbert, from Prince's Worthies of Devon. 'He was an excellent hydrographer, and no less skilful mathematician; of an high and daring spirit, though not equally favoured by fortune; yet the large volume of his virtues may be read in his noble enterprises; the great design whereof was to discover the remote countries of America, and to bring off those savages from their diabolical superstitions to the embracing the gospel of our Lord and Saviour Christ; for which, his zeal deserves an eternal remembrance.'' The day before his vessel foundered, she having recovered from being nearly overwhelmed by a sea, Sir Humphrey was seen sitting abaft, with a book in his hand, and was heard calling out to his crew, " Courage, my lads! we are as near heaven by sea as by land!"

The average number of wrecks on the island for some years past has been about two each year; but the superintendent informed me, that this conveys but an inadequate idea of the loss of life and property; for there is frequent evidence of the loss of vessels on the long bars, after a long continuance of foggy weather. Of these unknown vessels the only records are the fresh fragments of the wreck and cargo, or the drowned bodies of the crew.

The position of Sable Island was first determined with any pretension to accuracy, by Admiral Sir Charles Ogle's officers, (Messrs. Jones & Jancey), in 1828, and the Admiralty charts were corrected accordingly. The correction however, seems not to have been generally adopted, and the discrepancies, amounting to upwards of twenty miles of longitude, between the corrected and uncorrected charts, seems to have added in some cases to the just apprehension with which the island has been regarded.

Hence it became desirable to verify its position, and the result of our observations for that purpose is as follows:—

	Latitude North. °	′	″	Longitude West. °	′	″
The west flagstaff near the principal establishment	43	56	42	60	3	19
The west extreme of the Grassy Sandhills	43	56	52	60	9	00
The north-east extreme of the Grassy Sandhills	43	59	05	59	46	0.15

The longitude is here given under the assumption, that Halifax tablet in the dockyard, is in 63° 35′ 19-5″ W., and will be subject to any correction to which the latter may hereafter be found liable. The latitude *may be* 10″ too far north, that being the usual error of the instrument, when observing the sun or stars to the southward, but this is of no importance to seamen.

The position above given, is substantially the same as that of Sir Charles Ogle's officers, the only material difference being in the west extreme of the Grassy Sandhills, which was found to be two minutes 18 seconds longitude further east from Halifax Dock-yard observatory; showing an average annual diminution in the length of the island, 0.1 of longitude, or 73 fathoms of distance, during the twenty-three years from 1828 to 1851.

This confirms the statements of Captain Darby and Mr. Kenna, the former and present superintendent concerning the continual washing away of the west end of the island, of which a remarkable instance is related by Captain Darby, to have occurred in 1811, and recorded in the *Nautical Magazine* for 1838.†

* TIMES, September 17th, 1842.—The Halifax Papers published the following singular discovery:—

"The following facts have been made known to us by a gentleman of this city, who has had his information from the best authority—viz., Captain Darby, sen., Governor [as he is called] of Sable Island. For the last twenty-five or thirty years there has been a large mound or pyramid of sand, about 100 feet high, on the island, and not very far from the residence of Captain Darby. The winds for some years have been gradually diminishing its height, and after a severe blow some weeks since, it was completely blown away, and singular to say, a number of small houses, built of timber and planks of a vessel, were quite visible. On examination they were found to contain a number of articles of furniture and stores, put up in boxes, which were marked '43d Regiment;' the boxes or cases were perfectly rotten, and would not admit of their being removed. A brass dog-collar was however, discovered by Captain Darby, brought to the city, and presented to Major Tryon, who belongs to the 43d Regiment.—[Halifax Herald.] Captain Darby has endorsed this announcement. Addressing the editor of the 'Halifax Herald,' on Wednesday, he says, 'The houses are appearing at the base of the hill, about two miles long and sixty or seventy feet high, lying parallel with the south end of the island, the eastern end of which hill is about fifty-five feet high, covered with grass and other vegetation, about twenty-three feet above the level of the sea; these houses appear as the sands wear away with the action of the winds. There appeared at times numerous bullets of lead, a great number of military shoes, parts of bales of blankets and cloths, brass points of sword scabbards, bees'-wax, a small glass, convex on both sides, a copper half-penny of George II., dated 1749, some military brass buckles, a great number of brass paperpins, a very small dog's brass collar, with 'Major Elliott, 43d regiment,' engraved on it, numerous bones, some whole and some broken, with the scalp of hair and head-dress of a young female, a piece of gold band. There are three buildings, which seem to have been constructed of the fragments of some ship; they are situate about ten feet apart, in a triangular form, and are ten to twelve feet square.'

† We quote the passage alluded to here by Captain Bayfield, as it is not only an interesting trait in the history of the island, but also goes far to account for the difference in the positions of the extremes of Sable Island in different charts alluded to by a correspondent, T. F. F., in the *Nautical Magazine*, for November last, (p. 615), who will perceive, that of the positions he quoted for it, Norie's chart is the nearest to Captain Bayfield's.—ED.

On the 30th of September, 1811, there was a severe gale of wind from S. S. E., that washed away all of the dry part of the north-west bar, extending four miles and a half north-west from the high part of the island, and half a mile broad. The greater part of it was covered with grass, and on the outer part of it was a hill elevated about twenty-five or thirty feet above the level of the sea, on which the rigging and sails of a brig that was wrecked there that summer were placed for safety; but these were all lost, when it washed away. There is now, over the same extent of bar, four or five fathoms of water. The sea has been reducing the western end both since and before that time, at the rate of nearly one-sixth of a mile annually.

Easterly, southerly, and S. S W. winds, set a rapid current along shore in shoal water, to the N. N. W. and N. W.; that is, along the shore of the western end of the island, but not the eastern or middle, as there the current, with southerly and south-west winds, sets to the eastward. The natural tendency of the flood-tide is toward the coast. When it strikes the island, it flows to the eastward, over the north-east bank, and to the westward over the north-west bank, and passes the west end in a north-west direction, so rapidly that it carries the sand with it; and the hills of the west end being high and narrow, they are undermined at their base by it, and tumble down some thousands of tons of sand at a time. This, the current beneath catches and sweeps away to the north-west, increasing the bank. As soon as this current passes the extreme point of the dry bar, it tends more across the bank to the north-east, the motion of the sea contributing to keep the sand in motion; the current carries it to the north-east, and spreads to the north-west. Although across the bank from the island, to the distance of fifteen or twenty miles to the north-west, there is a flood and ebb tide, the flood setting to the N. N. E., the ebb to the S. S. W., the flood comes over a broad flat bottom until it arrives at the highest ridge of the bar, bringing the sand with it so far. It then finds a deep water suddenly to the eastward of the bar, and its strength is as suddenly lost, the waters pitching over this bank settle gently in deep water, and the sand going with the current does the same, and keeps the eastern edge of the bar and the bank very steep, but to the southward and westward it is flat and shallow.

The ebb tide, setting gently to the southward and westward, meets the steep side of the bank; and rising above it, passes over and increases in strength, merely levelling the sand that had been brought up by the last flood. It does not carry it back until the next flood comes, which brings up a fresh supply from the washing of the island; and so alternately the sand changes with every flood and ebb tide. The consequence is, that although the west end is several mile to the eastward of where it was in 1811; yet, the shoalest or eastern part of the bar or bank, has the same bearing from the dry land that it had then, which plainly shows that the bar and bank have increased eastward as fast as the island has decreased in the same direction. But the distance of the outer breakers has not increased more than about two miles. In 1829 their whole distance from the land being from ten to fourteen miles, in rough weather bearing north-west from the island. There is a passage across the bar inside, about four or five miles broad, with three or four fathoms of water. Since 1811, about twenty-six years, an extent of four miles and a half of high land has been washed away which averages rather better than one-sixth of a mile every year. In the last few years it is nearer to one-fourth of a mile every year, owing to the land being much narrower than i was the first fifteen years of the elapsed time. The whole of the island that does not wash away, grows in height; the most windy seasons cause the greatest elevation of parts where loose sand can be blown on to them; but the island in general grows smaller.

The eastern end of the island has not wasted much in length since my knowledge of it,—nearly thirty years. The high land [about a mile of it] has blown down with the wind, [but not washed down with sea, as at the west end,] and now there is a low, bare, sandy beach, extending in a north-east direction from the high land about three miles. I think about one mile of this was high land, or sand-hills, thirty years ago; the other two miles were formed by a low sandy beach, as at present; the elevated portion of the one mile of course has been blown into the sea, and gone to increase the shoal water on the bar, being carried there by a strong flood tide setting to the N. N. E. The bar itself extends from the dry part E.N.E., and at the distance of twelve or fourteen miles from the land, a very shoal spot always breaks, except when dry, at which time seals may be observed lying on it. Between this spot and the land is a passage about five or six miles wide, with from three to four fathoms of water on it. This bar and bank is also very steep on the north-western edge, and shallow and flat in the opposite direction. The bar travels to the northward slowly, the northwest bar travels to the northward and eastward rapidly. The variation of the compass, by amplitudes, on the 9th of February, 1837, was 20° 22′ west, and I think, increasing.

The lake in the island fills up very fast, generally by sand blowing into it from all directions, and partially by the sea flowing over the south coast in many places in heavy weather, and conveying the sand with it. The improvements on the island have very much increased within the last few years. When the French frigate was cast away in 1822, the crew all except the officers, had to cook and live in the little hollows and sheltered spots about the island, for the want of buildings to cover them; and yet they were grateful and uncomplaining. I have since seen Englishmen, with a comfortable house over their heads, good convenience for cooking, and plenty to eat, yet dissatisfied and grumbling. There are now seventeen considerable buildings on the island, besides some three or four small ones, that would upon an occasion afford shelter to four or five hundred persons.

JOSEPH DARBY.

To the Honorable the Collector of Her Majesty's Customs at Halifax, N.S.

There appears to have been no change whatever in the north-east end of the island since 1828; nor any material change, according to the statements of Caytain Darby, and the people on the island, since the commencement of the present century. Further back all is conjecture, the island being then without inhabitants, and its position undetermined. How long, therefore, this irregular, yet constant waste of the land, at its west end has continued, is unknown; but if it has continned during the whole of the three and a half centuries, that have elapsed since its discovery, the island must originally have extended beyond the extremity of the north-west bar, where there is now a depth of 10 fathoms of water, at the distance of seventeen miles from the present west extreme of the Grassy Sand-hills. Neither is this very improbable, for the north-west bar, is reported to have become longer of late years, in proportion as the island has shortened.

The bars are said to be 'travelling' to the northward, and the island to become annually narrower and higher; but there is no sufficient data either to prove or disprove these assertions in the absence of any regular survey of the island before the present year. If, however, we were to take the height of the Sand-hills as usually stated, and compare it with the real elevation above the sea, we should be compelled to say, that the island had become lower; but no reliance can be placed on such estimations, or rather they are almost always exaggerated.

Whether the present waste of the island be owing to any change in the currents, or to a gradual subsidence of the bank, of which the island is the summit, must at present therefore, be mere conjecture; but if the latter be the true cause, as seems by no means probable, then the narrowing of the island would follow as a necessary consequence. The early navigators of the sixteenth century, were not remarkable for accurate or full descriptions. They have supplied us with no sufficient data to judge of such questions; but their casual and very general account of the island, would lead us to suppose a reduction of its length not improbable; whilst it indicates no observable difference in its nature or form, or in its position relatively to the neighbouring continent of Nova Scotia, from the nearest point of which, (White Head), it is distant about eighty-five miles.

Our trigonometrical survey will however, supply all that is wanting, for estimating in future the annual waste of the island, in length, breadth or height; any changes that may take place in the position of the most remarkable Sand-hills, in the opening, closing, or filling up of the long pond, and in the length and direction of the formidable long bars.

The present length of the island, from the extremities of the Grassy Sand-hills at either end, is sixteen and two-thirds nautical miles in a direct line of true bearing, N. 82° 22′ E., and seventeen-and-a-quarter nautical miles, if we follow the curves of its shores. Its extreme breadth is exactly one mile. It is formed of two nearly parallel ridges of sand, shaped like a bow, and meeting in a point at either end. It is wholly or partially covered with grass for considerable spaces, in others scooped out by the winds into bare crater-shaped hollows; or heve up into Sand-hills, attaining the extreme elevation of seventy-five feet above the sea at high water. Between these ridges a long pond, in some parts twelve feet deep, extends from the west end for a distance of eleven miles.

A low valley, in which are ponds of fresh water, continues from it for the remaining distance of six miles and a quarter, to the north-east end of the island.

The pond which is said to be gradually filling with blown sand, had formerly an entrance on the north side, that admitted small vessels; but the entrance has been more generally on the south-side, where it has been closed since 1836, the flowing in over the low sandy beach only in high tides and heavy gales; as it does also at the west end.

The north-west bar is dry only three quarters of a mile out from the end of the Grassy Sand-hills, but it has several patches of sand nearly dry, about a mile further out; and which are supposed to have collected around the remains of old wrecks.

The north-east bar is dry four miles out from the Grassy Sand-hill; the sea washing over the outer half of that distance only in rough weather. At the distance of one mile and three-quarters out on this bar a sand-hill, about ten feet high, and with some grass on it, has accumulated around the wreck of a vessel lost there in the year 1820.

It does not therefore, require many years to form one of those sand-hills and clothe it with vegetation; they are still more easily dissipated by the fury of the tempest and the action of the waves. A single gale, as on the 30th September, 1811, has been sufficient to wash away and submerge several miles of the west end of the island, although for the most part covered with grass, and having, near the extremity a sand-hill, twenty-five feet high.

If we add the dry parts of the bars to the length of the island as before stated, the whole extent of sand dry at present will be twenty-two nautical miles; and if again we add to this distance the still greater length of the bars under water at either end, the whole will form a bow or cresent concave to the north, and extending over fifty-two miles of sea! Caught within the horns of this cresent in a strong northerly gale, the situation of a vessel would be extremely perilous; for the ebb tide sets to the southward, directly on and over the bars, usually at the rate of one and a half or two knots, and when accelerated by winds, much faster; whilst the flood stream runs a ta much less rate in the opposite direction.

The whole extent of the north-west bar, from the end of the Grassy Sand-hills to the depth of 10 fathoms, is nearly seventeen miles; the dry part being succeeded by nine miles of foaming breakers in bad weather, and the remaining seven miles, from 5 to 10 fathoms of depth, being usually shown by a great ripple, or a heavy cross sea. The direction of this bar is N. W. ½ N. magnetic, for the first twelve miles, then W. b. N. for the remaining distance; beyond which the water deepens gradually to the westward for many miles.

[*To be concluded in our next.*]

Miscellaneous.

ARTIFICIAL PRODUCTION OF FISH.

The following interesting article we copy from an old country paper. A mode, similar to the one therein described, has been adopted to a considerable extent in Scotland, for artificially producing fish, and has succeeded remarkably well. A gentleman of this city, who is very conversant in such matters, informs us, that several individuals in Scotland, have succeeded in realising handsome sums by thus obtaining large quantities of fish, which are bred in natural or artificially constructed ponds, from whence they are supplied to stock similar receptacles in any quantity required. It is a little remarkable, that in the Penobscot river and its tributaries, a variety of excellent fish abound, which are not even known in the Saint Croix; although these rivers originate at the same common source! By adopting the course suggested by the article below, it is probable that this evil might be effectually remedied at a very trifling expense.

It may not be generally known that the means of producing fish to an incalculable extent, in lakes and rivers, have been discovered, and have within the last three years been employed on a grand scale, and with extraordinary success, in different parts in France. Some years ago, two fishermen, named Gehin and Remy, of La Bresse, in the depatment of the Vosges, found that from various causes the stock of trout for which the rivers and lakes of that department are famous, greatly declined; and they attentively studied the habits of the male and female trout at spawning time, with the view, of possible, of discovering the means of checking the evil. After long and patient observation they fou d that not one in a hundred of the eggs deposited by the female in the bed of the river, and fecundated by the milt of the male, came to maturity—the rest being devoured by other fish, washed away, or destroyed by mud. They found also, that of the fish which did become excluded or hatched, the greater part were destroyed by the larger fish of their own or different species. It then struck them that if they were to collect the eggs and apply the milt themselves, instead of leaving the fish to do it, and afterwards to secure the young fish from the voracity of the large ones, they would in the course of a few years, obtain an inexhaustible supply. Accordingly they seized a female trout just as she was about to spawn, and by pressure on her belly caused her to deposit her eggs in a vessel containing fresh water; they afterwards took a male, and by pressing his belly in the same way, caused his milt to spurt on the eggs. It is by pressure on the belly that the male and female always relieve themselves at spawning time. These two men then, in imitation of the fish, placed the eggs on a layer of gravel, which they deposited in a box full of holes. The box they fixed in the bed of a flowing stream, and covered it with pebbles, and leave them. In due time the eggs excluded, and almost every one was found to be good. They thus obtained from one female, several hundred fish. They took precautions for keeping the little creatures in water where they were out of danger, and supplied them with a little food. Applying this operation a year after to a great number of fish, they obtained several thousand trout; and in a year or two more the numbers had literally increased to millions. After they had stocked all the rivers and streams of the Vosges, and some in the Moselle and the Haut and Bas-Rin, Dr. Haxo, secretary of the Societe d' Emulation des Vosges, drew the attention of the Academy of Sciences and of the Government to the discovery. The Academy declared that it was of immense national importance, though it had been long known to scientific men as a scientific curiosity; not, however, as of practical utility. The Government on its part saw that the application of it to the rivers and streams of France would not only afford employment to a vast number of persons, but would enable an immense addition to be made, at scarcely any expence, to the people's food. It accordingly took the two men into its service, and made them apply the system to different waters. They have done so with complete success—rivers and lakes in which there were no fish are now teeming with them. Nor have they confined their operations to trout alone, but have extended them to salmon, carp, pike, tench and perch: and in each case with complete success. Indeed, their system is applicable to all sorts of fresh water fish, and to those which after spawning in rivers descend to the sea. Amongst the rivers they have already stocked are those of the Isere, Haute-Loire, Allier, Lozere, Meuse, Meurthe, and the Haute-Seane. Several gentlemen of property have also tried the system with success on the estates in Burgandy, Brie, and Normandy. In addition to the breeding of fish in enormous quantities, it enables fish of different species to be naturalized in strange waters, or removed from river to river. So great is the importance which the Government attaches to the plan, that it has nominated a commission of eminent scientific men to superintend the operations of Gehin & Remy. The *Moniteur* announces that the Minister of Marine and Colonies has also ordered, that experiments shall be made to apply it to salt-water fish at the mouth of rivers, and off the coasts, and especially to lobsters. M. Valenciennes, an eminent ichthyologist, and member of the Institute, has been charged to examine the mouths of rivers and the coasts from Havre to La Teste; and to state in what places the experiments may be tried with most chances of advantage. M. Milne Edwards and M. Coste, also members of the Institute, have been directed to make similar investigations between Cherbourg and Granville, and in the environs of Trouville. It is to be hoped, that the system of Gehin & Remy will be brought into practice in England, Ireland, and Scotland. It will afford cheap and nourishing food to millions at a mere trifling expense; and will be of vast importance in keeping up the fishery trade.—*Galignani.*

From late Papers.

ERICSSON'S CALORIC ENGINE.—We recently published a very full description of this recently discovered application of atmospheric air, in obtaining motive power for the propulsion of vessels. We now subjoin an extract from the N. Y. Commercial Advertiser, again referring to this great invention. Further developements are watched for with intense anxiety by the scientific world.

"THE ERICSSON.—It is expected that the caloric ship Ericsson will be ready for sea about the first of November. One of her engines is nearly completed and the work is being actively carried on. Visitors are not permitted to go on board at present."

The route from Liverpool to Montreal by way of Boston is 250 miles less than by way of New York. About one third of the goods received at Boston by the Cunard steamers are for the British Provinces.

BUSINESS IN BOSTON.—On Saturday last, there were 61 clearances at this port—the largest number says the Traveller, ever before cleared in one day. Of this number 23 were for the British North American colonies.—*International Journal.*

LOVE AND MURDER.—The Ennis Journal states, that a few days ago a young girl named Keane conceived she saw some coolness on the part of her lover, and suspected him of attentions to another. She consulted a "doctress" in the neighbourhood, who made up a love potion for the truant, which Miss Keane contrived to administer to him. The result was death. The potion was composed of cantharides, which she mixed up in the whisky punch of her lover.

ELOPEMENT OF AN IRISH HEIRESS.—A fair maiden, still in her teens, worth £15,000 ready money, and enjoying in her own right in addition £100 per annum, (residing in her uncle's house near Athy,) eloped on the afternoon of Wednesday week with a young gentleman, who represented a barony on the Queen's County grand jury at the last assizes.

ELOPEMENTS FROM THE HAREM.—During the recent fire near the summar palace of the Sultan, the women of the harem were obliged to take refuge in the gardens of the palace. It is said several of them have disappeared. The house of the enunches was destroyed.

ERUPTION OF ETNA.—The *Giornale di Catania* of the 20th ult. says: "The lava is now running down near Milo, beyond Zaffarana, at one time in a straight course upon it, and threatening its complete destruction. It has, however, been fortunately turned aside by some obstacle, and is now flowing down an immense vallone or ravino which forms a watercourse in the winter to carry off the rains from Etna, and in the spring the melted snows to the sea. If, however, this vallone should be completely filled by the lava, the rains must find another course in their way downwards, and will cause a good deal of damage from not having their regular bed or way. The destruction of property by the lava has lately been very great, and what the lava has spared has been much damaged by the heavy showers of sand which fall in their vicinity, quite hot.

THE LATE STORM.—The northern papers are full of details of the ravages of the storm of the 2d, that was particularly violent in the German ocean. It is feared there has been great loss of life among the fishermen of the coasts: 20 boats are believed to have foundered to the north of Heligoland.