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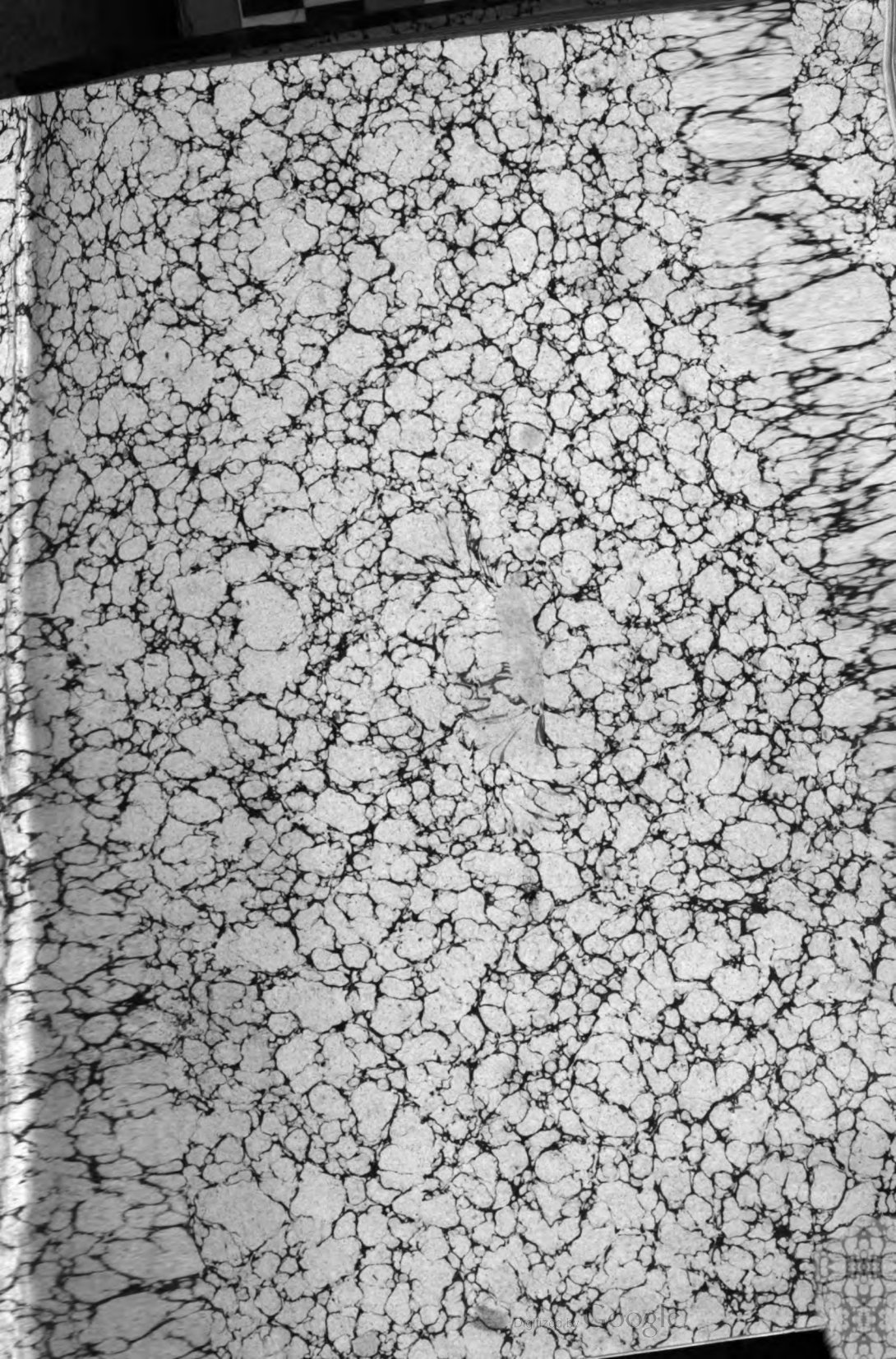
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**THE**  
**NAUTICAL MAGAZINE.**



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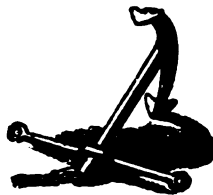
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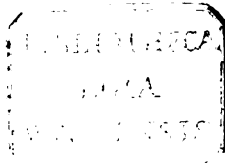


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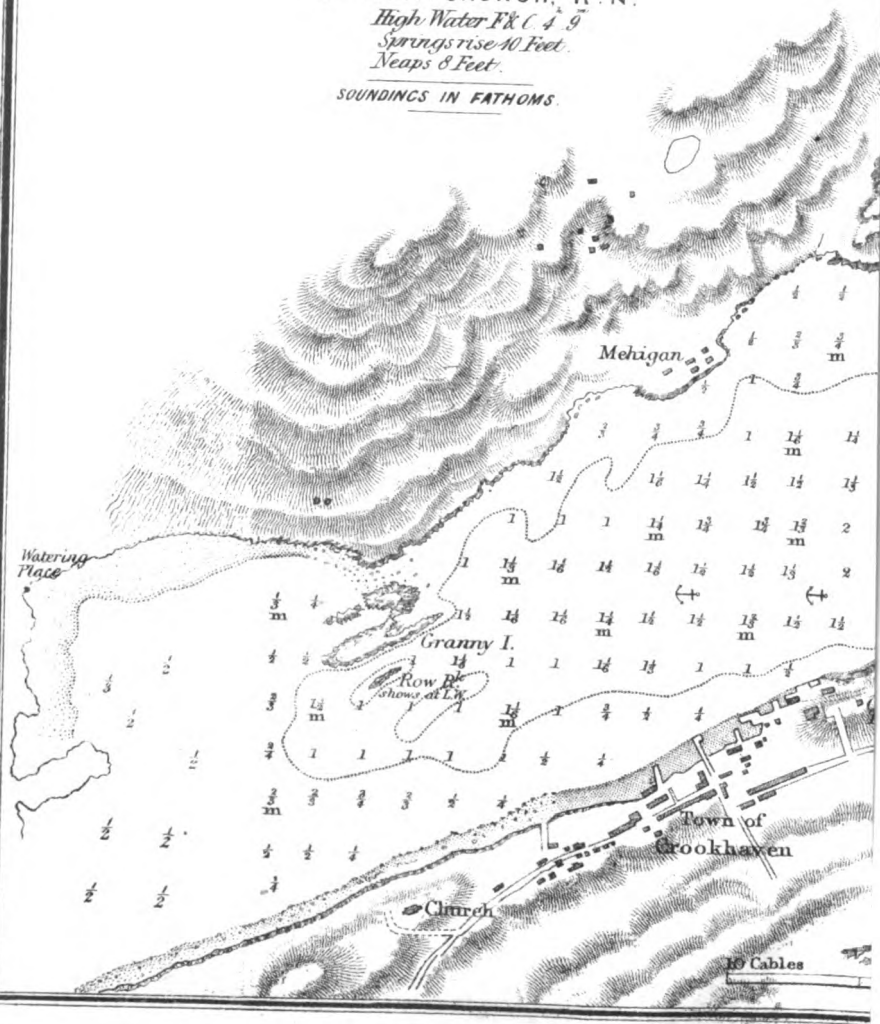


# CROOK HAVEN

BY COM<sup>R</sup> J. WOLFE, &  
LT W. H. CHURCH, R. N.

*High Water F&C 4.9*  
*Springs rise 40 Feet*  
*Neaps 8 Feet.*

SOUNDINGS IN FATHOMS.





THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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JANUARY, 1855.

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PROCEEDINGS OF H.M. DISCOVERY SHIP "PLOVER."—*Commander R. Maguire.*—*Extract of a Letter from Behring Straits.*

Port Clarence, 18th August, 1854.

In accordance with my last communication, dated from the outer roads of Port Clarence, the 24th August, 1853, I proceeded to sea at 3h. a.m. on the following day, shaped a course for Behring Strait, and passed through the eastern channel at noon with a light wind and strong favourable current. In the afternoon we were boarded by a boat from the American whale ship *R. Morrison* of New Bedford, lying to a kedge waiting for a wind to take her over the current to the southward; the only intelligence we received was that they considered the season a month later than any former one they had experienced; and giving them the information they required as to where the most whales had been met with, and the position of the ice, we parted company.

Our passage to the north was delayed by contrary winds, although much assisted by the current; and it was not till the morning of the 29th we made Point Hope, where I hove to for a short time for a party of Esquimaux landed there by us on our passage to the southward from Point Barrow; seeing no appearance of them, we proceeded onward and entered the ice in loose streams on the morning of the 31st.; and previous to noon, when we observed in lat,  $70^{\circ} 22' N.$ ,  $161^{\circ} 30' W.$ , we had to stand to the S.E. in order to gain more open water. During this, a very fine day, and nearly calm, we were surrounded with whales and walrus, and it seemed to me that a ship in pursuit of

the former might have made good her cargo without incurring much risk from the ice, as it was light and open.

On the following morning we found ourselves amongst very heavy ice, and by forcing our way to the S.E., gained open water, making the land about Wainwright Inlet at 10h. a.m. the same day. We hove to off the Seahorse Islands in the afternoon to allow two native oo-mi-aks to come up. We found most of them were old acquaintances from Cape Smyth, who came on board in their usual clamorous style, and did not lose much time in making known their wants of tobacco, &c. We could gain no satisfactory intelligence from them as to the state of the ice to the northward; and their boats becoming in danger from the ice getting closer, they were sent away, and we pursued our course, assisted by a strong favourable current, with thick foggy weather, making it difficult to avoid the grounded masses of ice along shore. In this way we were carried stern on to a heavy piece of a cubical form, the bowsprit being saved by a smaller piece of ice intervening, and we were drifted past at the rate of two miles an hour.

I would gladly have made the ship fast, as we were approaching a very shoal point, (Cape Franklin,) and night coming on; but we were carried along at too quick a rate to afford a chance of doing so without incurring considerable risk of getting separated from some of our people. Passing the cape in  $4\frac{1}{2}$  fathoms, we had a clear run for six hours, when we were again stopped by the ice in Pearl Bay; and by the evening of the 2nd September, to avoid being beset in the event of a change of wind, the ship was warped and forced through five miles of close ice, and secured to a grounded floe within one mile of the shore. The next four days were passed in exposed positions close to the shore, making a few miles whenever an opening occurred; young ice forming in the nights of sufficient thickness to hamper the boats materially in laying out the warps; frequent fogs, however, caused us to take wrong leads, and when the weather cleared up, we could see from the cliffs on shore a clear lane of water outside, without being able to take advantage of it.

It is under such circumstances, when the shore offers no shelter, and the lanes of water are too narrow for a ship to beat in, that steam becomes so available, particularly in this passage, where if a ship is caught in a breeze from the westward, she would be very fortunate if not forced on the beach by the ice.

While thus detained off Refuge Inlet I sounded along shore, and found the beach sufficiently steep to allow the ship to be hauled within her own length of the shore, which was so far satisfactory; as I considered our chance of lightening the ship and hauling her up where we were was preferable to that of getting out again to the southward if the unfavourable state of the ice should prevent our advancing.

Visiting the inlet, we found it most vexatiously wanting, to people in our situation, in depth of water at its two entrances, both of which were so shoal that it was with difficulty we got the boat inside, although there is a depth of 13 and 14 feet close to on the outside, otherwise its appearance is everything that could be desired. Some

natives approaching us from the northward, I landed in that direction, being anxious to communicate with them; and found they were from Cape Smyth, who seeing the ship under sail in the morning, came down the coast to visit us. The head man of the party was an old acquaintance, who had made himself very useful and friendly when we transported our boats over the ice in the previous July. He proposed returning on board in our boat, which I willingly acceded to, and brought also a companion for him, imagining that I might by that means get some useful information as to the state of the ice to the northward. I think, however, we give them credit for more knowledge in that way than they possess; and for ship-work we have found their experience of no value.

The next morning, after some hours with the warps, we gained a lead of open water, and ran for two hours to the N.E., when the weather became so thick, that we lost our lead for the land, and although abreast of Cape Smyth, we had three or four miles of close ice intervening. Endeavouring to force our way through the slackest part, the ship became beset, and drifted to the N.E. at the rate of two miles an hour, with thick foggy weather. In a partial clear a little after noon, open water was made out from the mast-head to the northward, and soon afterwards Point Barrow and the heavy ridge of ice hummocks off it, the current setting us fast past them. All sail was made to bear towards the hummocks, either to force our way between them, or to make fast, to avoid being carried off the land: the closeness of the barrier as we approached precluded any hope of the former, and the rapid rate the current was carrying us made our approach a business of some hazard in the event of being brought in contact with the grounded ice. The wind favouring us, we succeeded in making the ship fast to the grounded berg in  $7\frac{1}{2}$  fathoms, and between twenty and thirty feet high, where we held on against a drift of heavy ice, from which the ship sustained some severe pressure. A shift of wind relieved us of this inconvenience, and left us undisturbed for the night.

The natives of Point Barrow having made us out previous to our seeing the land from the ship, came off in their oo-mi-aks, the lane of water between the hummocks and the land being about four miles, hauled their boats upon the ice, and walked across to the ship. The head people were allowed to come on board before we were secured, much to the satisfaction of the two men from Cape Smyth, who had become rather anxious about getting on. As our visitors were for the most part those who make the eastern journey to Barter Point, we were surprised to see them back so early compared with the former years; but as we found afterwards that the winter set in much earlier, it may be supposed they anticipated the season. They soon mentioned having performed all our commissions relative to distributing printed notices of the *Plover's* position and intentions amongst the Eastern Esquimaux, who in their turn had promised to give them to the Mackenzie River tribe.

By this means it is possible that any parties travelling along the coast from the ships may receive them. A very intelligent man of

Point Barrow, who clearly understands, through the medium of Mr. Simpson, the surgeon, the purpose for which the *Plover* was stationed there, and who previous to setting out was desired particularly to make the inquiry, informed us that none of the eastern people they met had ever seen or heard of ships being on any part of the coast they frequent, making it probable that the *Investigator* and *Enterprise* have not communicated with the shore to the westward of the Mackenzie from the time of their leaving the Return Reef of Sir John Franklin, where they were visited by the natives of Point Barrow, in their successive years of passing, 1850-51. Our informant and two others had procured muskets from the eastern people on their last journey, making up the number of four amongst the Point Barrow tribe, all of the Hudson Bay Company manufacture. Gunpowder was much asked for in consequence, and tobacco was not forgotten in their rejoicings at seeing us again.

By 2h. a.m. the following morning, the wind had cleared a passage for us through the hummocks, and with the earliest daylight, 3h. a.m., we stood through into the open water. Making a few tacks to windward, we were in a position to weather Point Barrow, and steer for the passage into Elson Bay. In doing this there was much difficulty in hitting the narrow channel from a late fall of snow obliterating the marks and deceiving us as to distance. From this cause the ship took the ground on the south side, but was easily warped off with a kedge; and by noon of September 7th, we were anchored in Elson Bay, considering ourselves very fortunate, as it was far from certain, at one period of our passage, that the ice would admit of our proceeding. The ship had been severely tried, and bore the marks of some heavy rubs; but, strange to say, she leaked less than when she left Port Clarence.

I now proposed securing the ship without loss of time in her winter quarters, to enable me to take the boats to the eastward, to examine the passage through the chain of islands in that direction (the *Plover's* group) for a ship channel, and to collect wood for building a house. A succession of easterly gales, however, prevented our doing either; and sludge ice forming in the bay as early as the 11th instant, I abandoned the idea of taking away the boats; and on the 17th, the ice having set permanently fast, the ship was moored into her winter quarters near the position occupied the former year, and there housed in.

On the completion of the latter, and of a house built on the neighbouring spit to receive our deck load of provisions, the decks were cleared, and a winter routine established, calculated to afford the necessary cleanliness, occupation, and exercise to ensure good health, which, I am glad to say, the crew have enjoyed.

To carry out their lordships' instructions relative to depositing notices of our proceedings and intentions, and of the store of provisions to be left at Point Barrow, I made a sledge journey as far as Cape Halkett, distant 100 miles, considering it the most extreme position we could gain at that season, between the 7th and 18th of October,

which is a very favourable period for ice-travelling, as the snow has not then attained a thickness to cause an impediment. We buried 120 lbs. of pemmican at Cape Halkett, and left two separate marks to point it out. Marks with notices cut on boards were also placed on several prominent headlands for the guidance of any parties falling back.

Compared with last year, the winter set in with great severity, the ship being frozen in ten days sooner, and the temperature falling below zero on the 28th of September, sixteen days earlier than in the previous season. This winter was altogether colder than the last, with a considerable less fall of snow and the sky generally clearer; but there is some reason to consider it nearer the mean climate of the place. Associated with this was a more frequent display of aurora borealis, suggesting the idea of this phenomenon being connected with terrestrial radiation.

With the low temperature was also remarked the absence of southerly gales and strong breezes near the solstice, but these, though later, were not altogether absent. Commencing on the 10th January, the thermometer rose to within five degrees of the thawing point; and the wind, at S.W., on the morning of the 13th blew with such force as to drive the ice completely off the coast, as in December, 1853, leaving the ship within two cables' length of the open water.

The sun was invisible for sixty-six days, reappearing on the 21st of January, and during the spring months a hazy state of the atmosphere gave rise to frequent parhelion, which on several occasions were more numerous than I had before observed.

On the 8th of April, a circle of white light surrounded the horizon at the same altitude as the luminary, and upon it were counted as many as ten images, diminishing in brightness as they receded from the sun towards the opposite point of the horizon, which was occupied by a pillar of white light. Below the sun was also a white spot, and a faint display of prismatic colours above.

The conduct of the natives during our second winter has been a very pleasing and satisfactory contrast with their former behaviour. We found them, on our return, as quiet and orderly as any civilized community, entering into the regulations made for the time of visiting the ship without any show of opposition. The result has been a most amicable intercourse, no occurrence taking place to cause the slightest misunderstanding. Owing to their want of success in killing whales in the autumn, and, during the winter, a similar bad fortune in catching seals from a greater prevalence of westerly winds closing the open water, they have suffered severe privations from the want of food and fuel; and many deaths have occurred in consequence.

No attempt could be made on our part to afford general relief to such a large number. In some cases of disease and to those who had lost their supporters by sickness and disaster assistance was given.

A very melancholy case of the latter occurred on the 2nd of October, when three men, who were out on the ice sealing, were carried away by a portion of the floe suddenly breaking adrift, and, as the



wind was blowing along the land, they were carried down the coast, often within view of it, and lived without sustenance the extraordinary time of twelve days, when the wind brought them in contact with the land ice between Icy Cape and Cape Lisburne, where they reached the shore. Two of the party, who were elderly men, died soon afterwards, although they had previously met with a store of walrus flesh; the third man eventually returned home a shadow of his former person and died also some days afterwards of disease of the lungs. Mr. Simpson, the Surgeon, was unceasing in his attendance, carrying him daily some nutritive food and wine to endeavour to restore his strength, but without avail.

As five natives have been carried out and lost from Wainwright Inlet this winter, and two cases having occurred at Point Barrow in our first winter, one of which was fatal, it seems to be a casualty they are more or less accustomed to.

In consequence of the general scarcity of food, they availed themselves of the first possible opportunity of carrying their *oo-mi-aks* over the ice, in the spring, to the open water, and launched them in pursuit of whales as early as the 26th of April, ten days sooner than they had commenced on the former year; yet, with fine weather and an open sea in their favour, they met with no success in proportion to their wants. A few of them attributed their want of good fortune, through some superstitious belief, of which they have a good many, to the presence of the ship, and others to the then prevailing easterly winds making the open water too extensive. The true cause of the falling off in their supply, I think, may with better reason be attributed to the sea being fished out by the large number of vessels that annually enter Behring Strait in pursuit of whales.

Several of the officers wishing to avail themselves of invitations they had received from the principal boat owners to accompany them in a trip and witness their method of capturing whales, I gave them permission to do so; and, although none were fortunate enough to see a whale struck, it gave the natives an idea that we placed every confidence in them, and tended to strengthen the good feeling existing between us. The officers have described their conduct to them as considerate beyond their expectations, showing that our good opinion of them had not been misplaced.

By the 21st of June the whaling *oo-mi-aks* were all brought to the land, when an interval of ten days' festivity took place to celebrate the return of the boats and the preparations for the summer excursions.

We received invitations to witness some of their dances, and the officers and portions of the crew attended at three. I availed myself of one of these occasions to distribute some of the presents supplied for the purpose, requesting them in return, through the medium of their chiefs, to supply any of our countrymen with food if they should meet with them in distress along the coast whilst on their extended journey. This request was repeated quickly from one to another and answered with a general shout of acquiescence, and I believe it would

be fulfilled to the extent of their means, which I am sorry to say are very precarious and not to be relied on.

I may here remark that in speaking to the Esquimaux of the time since the *Investigator* and *Enterprise* have been heard of, they invariably answer "Oh, they must have got on the land by this time," tantamount with them to being quite safe, as the region where they could not make out subsistence must be barren indeed.

On the 2nd of July, the eastern expedition, consisting of fifteen oo-mi-aks, carried on sledges, with seventy-five people, pitched their tents close to the ship, and printed notices containing information of our position, provisions buried, &c., prepared for distribution amongst the Eastern Esquimaux, were given to each of the men, who were requested to make inquiries whether any white people or ships had been met with or heard of by the Mackenzie River tribes. As the Point Barrow people are now well aware of the circumstances connected with the ships gone to the eastward and the object for which we were stationed there, I think they may be depended on; should any parties have reached the shore to the westward of the Mackenzie it will be known at Point Barrow on the return of the natives at the end of each summer.

I made a further distribution of presents on this occasion; which included a small supply of gunpowder to those provided with muskets, this article at all other times having been withheld from them. They received also a liberal supply of preserved meat tins (much prized for cooking and other purposes) which put them in a disposition on setting out that would, if their professions are to be relied on, prove very beneficial to any of our unfortunate friends who may happen to fall in with them on their journey.

During two winters passed at Point Barrow, I saw there was much information that was new and interesting to be gained from the natives, of whom very little was previously known; and as their intercourse extends to Point Barter on the east and to Point Hope on the south, a distance of eight hundred miles of coast-line, they form the connecting link with the eastern people, the particulars of which are new and interesting.

In acquiring this knowledge, I found Mr. Simpson, the Surgeon, who has now passed his fifth winter in these regions, the most successful; his knowledge of the language and untiring attention enabling him to gain as good an insight of the people as an intercourse of two years afforded. I therefore requested him to draw up a statistic account of the tribes we have been in communication with, for their Lordships' information, and I have much satisfaction in placing before them the result of that officer's industry and research.

As soon as the temperature would admit, the carpenters were employed making a runner sledge, and preparations made for an extended journey to the eastward. It is a matter of great regret that the frequent movements of the ice during the winter and spring preclude any attempt to travel upon it, and that our efforts to assist in the search for the crews of the ships already in the ice should be neces-

sarily confined to the coast-line eastward; and even that is so frequented by the Esquimaux in the summer that they would be almost certain to hear of strangers if they had arrived on the coast.

Since hearing of these people having discovered the caché left by Captain Moore at the Seahorse Islands, after some of the tins were exposed by the wash of the sea in a gale, they have become fully aware of our practice of depositing provisions in this way. It is, therefore, with great anxiety and some misgiving I entrust food in localities almost certain to be visited by them, and which are besides of a nature offering scarcely the means of concealment.

A spring travelling party, consisting of Mr. Gordon, Mate, eight seamen, and myself, with one runner sledge, reached as far as Point Berens in the month of April, and returned to the ship on the 5th of May. In consequence of the River Colville flowing in May, the journey could not prudently be deferred until the low coast-line became visible by the thaw, and, therefore, but little could be added to our previous knowledge of it. I was surprised to meet a party of four Indians, called by the Esquimaux Ko-yu-kun, at Point Berens, who followed our track from their hunting ground at the mouth of the River Colville, as I had, on my former journey, seen no traces of the coast being frequented by them at this season, and had the assurance of the people of Point Barrow that neither Indians nor Esquimaux ever visited it except in the summer.

Presuming on the certainty of these assurances, I had provided my party with only two guns, and seeing these strangers each armed with a musket, and being in some measure warned by the attack on the Russian port of Derabin, and the murder of Lieut. Barnard by the same tribe, I did not carry out my intention of going into Return Reef, but contented myself with noting our visit and position on the post erected by Comdr. Pullen in 1849, and distributing notices amongst the Indians. I was unfortunately also unprovided with articles for presents or barter, so I fear the impression we made was not so favourable as could be desired. Indeed their disappointment at not being able to trade, (as they evidently considered that our journey could have no other object,) was but too plainly shown in their countenances to be mistaken.

On this journey, which I feel sorry to say was not attended with any beneficial results such as we anticipated, conspicuous marks, with boards attached to them, having the necessary information relative to the *Plover's* movements, and provisions buried cut on them, were placed on the several headlands, in compliance with their lordships' instructions.

Having understood verbally from Commander Trollope, that he would be off Wainwright Inlet as soon as the ice might be expected to clear away, I was desirous of opening a communication with him, and despatched Lieut. Vernon, with a travelling party, consisting of Mr. Hull, second master, and eight men, on the last day of May. Lieut. Vernon was directed to proceed in the first instance to Wainwright Inlet, and having erected marks sufficiently conspicuous to be

observed from the sea, and distributed notices amongst the natives, he was at liberty to travel as far in the direction of Icy Cape as he judged prudent from the appearance there of the thaw.

In that part of his journey he was directed to make inquiries of the natives relative to the rivers that discharge themselves into the sea, as we have been informed of one flowing from the Colville towards Icy Cape. Information was also to be obtained, if possible, of the positions of the veins of coal on the coast, washings of which are abundantly strewed along shore as far to the northward as the Seahorse Islands. The second master, Mr. Hull, was sent to obtain a practical acquaintance with the coast line, the sameness of which offers no marks to fix the position of a ship passing it. On our passage to the northward last year, some discrepancy occurred in the bearings and distances of the land as seen from the ship when fast to the ice in Pearl Bay, and as it was marked in the chart, which it was desirable to have cleared up.

Lieut. Vernon arrived at Wainwright Inlet on the 7th June, having fulfilled his instructions, then proceeded towards Icy Cape the following day, but he was stopped by the depths of the pools of water on the ice, and returned to the ship on the 15th. The land floe between Point Barrow and the Seahorse Islands was found to be all of this winter's formation to the distance of half a mile from the land, where the ridge of the hummocks commences, which extending a mile further, placed the open water about a mile and a half from the shore.

Mr. Hull was enabled to ascertain by observations and angles that the coast-line between Refuge Inlet and Point Belcher has been drawn too far to the northward and westward, the error in Pearl Bay amounting to six miles N.W.b.N.

This journey was particularly useful in giving us the native names of the different points and winter huts, and in establishing the identity of the river falling into the Wainwright Inlet with that reported by the natives to be a mouth of the Colville.

Judging from the severity of our second winter compared with the first, and from the published accounts of experienced people on the subject, who describe the openness of the summer as being much governed by the temperature of the previous winter, and as in our former year we did not get clear of winter quarters after a mild winter until the night of the 7th August, I deemed it prudent to place the crew on two thirds allowance of provisions for five months, so as to enable me to take advantage of the whole open season, otherwise it would have been necessary to have deserted the ship on the 21st August, only fourteen days later than the time of our being released in the former year, to ensure a probability of our reaching Port Clarence by the boats, in compliance with their lordships' instructions. As this step would be necessarily attended with such difficulty that I determined to remain by the ship under every circumstance, feeling certain of being released sooner or later, the last few days of the two previous years being the most favourable, of which I should not have been able in the former case to have availed myself, and remaining after the 21st August it was

necessary to take into consideration every possible contingency of another winter without further supplies.

This privation was necessarily much felt by every individual on board; but I have much pleasure in stating was borne with a very good feeling, and although it had the effect of weakening the physical force of the crew, this was restored by our shooting parties, who, after the birds came, provided weekly a good supply of wild fowl, which were served out in addition to the ship's provisions.

I may here remark that the supplies of provisions received for the last two years have been excellent in quality, particularly one of preserved meat received from H.M.S. *Amphitrite*, in 1852, manufactured by Messrs. Dickson, Hogarth, & Co., of Aberdeen. They bore no high sounding title, being plainly styled boiled beef, and the canisters being strong, few instances occurred of any proving unfit for use. In the second year, the supplies received by H.M.S. *Rattlesnake* were most liberal; but the canisters were slighter than those of the former supply, and were more frequently damaged, particularly the preserved vegetable, many tins of which were unfit for issue, although the canisters showed no external sign of injury, and the vegetable presented a wholesome appearance, but had become quite acid and unfit to be eaten. The salt meat of the older supplies has invariably come under the limits of the circular in boiling, and instances have occurred of a four pound piece not exceeding one pound when boiled; the same may be said of the beef received from the *Rattlesnake*, and in some instances the pork also.

A good deal of this waste has been attributed to the fact of its being frozen, as it is necessarily stowed on the upper deck while at sea, and landed when in winter quarters.

The dried vegetable called Jullunne, is an admirable invention, and was found invaluable by the travelling parties, cooked with the pemmican; the vegetables preserved in this way, although much concentrated, and made easy for stowage, retain quite as much of their original flavour as those preserved in the more bulky form of tin canisters. The potatoes prepared by the same method are not spoken so favourably of, as they require a good deal of boiling, and do not when cooked possess much of the flavour of the fresh root. Edwards' potato is certainly preferable, although a little more bulky for stowage; this is made up for by its other good qualities.

The pickles and cranberries were of the best description, but ran short of their respective weights as much as one third, which is of consideration where another supply is not available.

Until the 11th of May the low temperature of the season continued; but during the remainder of that month it rose very considerably, and gave great hopes of an early season for navigation. June and the first part of July, were also warmer than the same period of the preceding year, and easterly winds prevailing to a greater extent, the sea as far as could be seen along the coast from Cape Smyth not only remained open, but the passage forming the entrance to our winter harbour became freed on the 15th of the latter month.

In the mean time the subject of building a house and burying provisions, in accordance with their lordships' orders, for any parties falling back on Point Barrow after the ship had left, was a subject of serious consideration, being beset in an increased degree by the same difficulties and apprehensions I have already mentioned in reference to making caches along this coast within the range of a numerous populated settlement.

The point of the spit near the ship seemed the best adapted, and without doubt the only available position likely to be visited by parties retreating for relief, should any come this way; and on it, as soon as the natives, who travel eastward every summer, had passed, I had a house constructed by placing posts of driftwood on the highest part, to be above the wash of the sea, stretching between them skins and tarpaulins, to form the walls against which an embankment of gravel was thrown up. The roof was also made of driftwood, so as not to excite the cupidity of the natives, and covered with skins and tarpaulins.

The purpose of building the house was explained to them, and they promised to preserve it in the same state we left it until our return, or the arrival of the "Kalill-sin" people, as they call the crews of the *Enterprise* and *Investigator*.

One of the end posts of the house was left about twenty feet high, so as to be conspicuous; and on the ridge of the spit towards the village, distant a hundred yards, a similar post was erected, and a direction board placed on each.

Provisions, consisting of two months' pemmican and preserved meats, and one month's bread, tea, cocoa, sugar, &c., for a party equal to the *Plover's* crew, (41,) with a small cask of spirits, were buried in three separate portions; one inside of the house, and one on each side of it, at different distances, in a line with the two posts, in the hope that if one should be discovered by the natives the other two might escape their notice.

Papers of directions were then printed and distributed amongst the people remaining at the village, promising them a reward on delivery to any white people who might arrive there.

Having thus fulfilled my instructions to the best of my abilities and judgment on the night of the 19th July, I considered my next duty was to take advantage of the first easterly breeze to get out of winter quarters and proceed to the southward; and having recalled a shooting party then encamped on the mainland six miles distant, I sailed from Point Barrow on the evening of the 20th July, being eighteen days earlier than I was able to do in the previous year after a mild winter.

In the first part of our passage we had moderate but contrary winds and thick weather; but the sea was so much clearer than on any of the previous years, we met with no obstruction from ice; and on Sunday the 23rd, the sky cleared up, and at noon we were able to make out the marks at the entrance of Wainwright Inlet erected by our travelling party in the previous month, and on the north spit of which nineteen native summer-tents could be counted from the ship. Lieut. Vernon landed and succeeded in placing a board on the mark, and dis-

tributed notices amongst the natives of the *Plover's* having passed. He was followed on board by several boats filled with natives, for whom I waited, in order to make them presents and allow them to barter their peltry.

To them, papers of the same purport were given (as had been done the day before, off the Seahorse Islands, to the crews of two boats that came alongside,) under the promise that they should be delivered to any other ship they might see on the coast; thus ensuring the information of our having passed being received by Commander Trollope should the *Rattlesnake* have sailed from Port Clarence before my arrival there.

Several days of strong west and S.W. winds followed, in which we had to carry a press of sail in order to hold our own, twenty-five miles north of Cape Lisburne. On the 29th, we picked up a strong favourable wind at N.W.; and off Point Hope, on the 30th, we boarded the American whale ship *Gideon Howland*, of New Bedford, who gave us a confused account of the state of affairs in Europe, and of one of the discovery ships having made the N.E. passage.

We carried a strong favourable breeze to the southward, passing through Behring Strait on the afternoon of the 31st, and arrived in Port Clarence at 2h. a.m. of the 1st August, where we had the happiness to find H.M.S. *Trincomalee*; the *Rattlesnake* having sailed for the northward to meet us on the 15th July.

On receiving my instructions for the ensuing year, it was with sincere pleasure I found that Captain M'Clure had been so successful and had received such timely support. But I regret not being able to give any further information relative to the progress of H.M.S. *Enterprise*; which ship, I think, must necessarily be obliged to take the same course along the north shores of America as the *Investigator*. Her success in doing so, however, has not been the same or Captain Collinson must have overtaken Captain M'Clure when stationary in 1852, or communicated with him by travelling parties in the spring or summer.

In taking the responsibility their Lordships have been pleased to confer on me, relative to remaining another year at Point Barrow, I gave the subject the deliberation its importance deserved, and, although I am of opinion that it is unlikely, from the progress to the eastward Captain Collinson must have made along the coast in 1851, that he will return by the western route, I thought such an event was possible; and, whilst there was a hope of being of assistance to him under such circumstances, it was determined, with the approbation of the senior officer present, Captain Wallace Houstoun, that the attempt should be made to return to Point Barrow,—the *Plover* being thought by myself and the officers on board as capable of doing again in what we consider a favourable season what she had already done under unfavourable circumstances, together with our experience of the three former years in making that passage; and, although her state cannot be pronounced as good, we are in every respect, with the exception of a few changes which have been made, capable of bearing another winter in this climate.

It may appear unaccountable that we should not have heard of Captain M'Clure from the natives after passing Jones Island (Return Reef), but as they assert that there are no inhabitants on any part of the coast between Point Barrow and Demarcation Point, where Sir John Franklin noted some winter Esquimaux huts, except the summer travelling parties from these two extreme positions who meet yearly at Barter Island, and as Captain M'Clure by his track chart does not seem to have touched near Point Demarcation, the chain of communication with the different tribes was interrupted, it would require a lapse of several years for the news to be brought by the slow mode of native communication from Cape Bathurst or Point Warren to the Point Barrow parties visiting Barter Island. It is not too much to hope that in the course of another winter some information relative to the progress of the *Enterprise* may be obtained from the natives at Point Barrow.

It may be a matter of interest to know that the Chief met with by Captain M'Clure at Jones Island in 1850, possessing a musket made by Barnett (1840), is the same who so pertinaciously followed Commander Pullen in the previous year, and upon whom he had to fire, and who also figured so disagreeably on board the *Plover*, is now our great ally, O-mig-a-lom', the Chief at Point Barrow.

On the 12th August the *Rattlesnake* arrived, five days from Cape Colle, where they had obtained information of our early and unexpected release from Point Barrow on the 20th July. All our arctic supplies having been received from her, and there being no further cause for our detention, it was determined by the senior officer we should return to Point Barrow on the 19th August.

I beg leave to take this opportunity of saying how much I feel indebted to Captain Houstoun for the most cordial co-operation in supplying our defects and in giving us all the assistance we could require.

In the opening of the season 1855, I propose returning to Port Clarence, in accordance with their Lordships' orders, and proceeding to San Francisco without much loss of time, in order to avoid the heavy gales that may be expected later in the season. Commander Trollope, in H.M.S. *Rattlesnake*, proposes to remain until the end of September, so that the latest intelligence may be brought from Port Clarence. This arrangement will render it probable that we shall both arrive at Valparaiso about the same time.

Permit me, in conclusion, to express my highest admiration of that zeal which has characterized the conduct of all on board, both officers and crew, and of that perfect unanimity which has at all times existed.

All the ships being now on their way home, we may express our admiration of the well arranged and judicious mode in which the proceedings of all of them have been conducted in a perilous navigation and in a climate where the strictest attention to the crew was necessary to preserve them, and which has been done in the most satisfactory and creditable manner by the officers in command. Thus terminates the Behring Strait search. We yet trust that Franklin's party will be traced from Beechey Island to the mouth of Back River.



PRINCIPAL DEPRESSIONS ON THE SURFACE OF THE GLOBE.—*By*  
*Dr. Buist.*

(Concluded from vol. xxiii. page 639.)

Turning from Assal I shall take up the depressions in India, few and inconsiderable as they are, before dealing with those of Western and Central Asia. The most noticeable are the Runn of Cutch, the Boke, the Null, and Lake Loonar. The remarkable thing about the first of these is, that it has obviously been subjected to a variety of descents and upheavals within the human or probably historical period. Any one who reads the *Periplus* with care, will, I think, come to the conclusion that a vast space from the Indus eastward, which is now dry land, was in the time of Alexander covered by the waves. There is a Hindoo tradition that the sea in days of yore swept over the present Runn and extended for miles beyond it; and a line of position along the old sea margin indicates by their names the ports, custom-houses, and other chief points along the shore. A saint, offended with the wickedness of the people, cursed the land, and ordered the sea to retire; an event believed by Col. Grant to have occurred in the eleventh century. The ruins of the city of Bhalibapoor, near Bhow-nugger, are now found from ten to fifteen feet below the surface of the soil; but the houses, it is clear, must have been constructed on dry land, and sunk beneath the waves for at least the distance just named, when a fresh upheaval brought the whole up to its present position. The Runn of Cutch, now vastly circumscribed in its area from the time of the holy man's malediction, was to a considerable extent submerged by the earthquake of the 16th of June, 1819, of which sufficient mention has already been made, and now forms in part a lake, in part a salt water marsh. Considerably to the north of this, in the Collectorate of Ahmedabad, are two remarkable hollows some way from each other, called the Null and the Boke. They both appear the results of volcanic agency; the water they contain is salt; they receive supplies from rivulets but give off none. The only hollow in India of any note, is the basin of Lake Loonar, a depression situate among the Shiel Hills in the centre of the Deccan. It is about 500 feet below the level of the surrounding country, and seems to be the crater of an extinct volcano, lava being in abundance at no great distance. The water it contains is nearly saturated with subcarbonate of soda, the Natron of the lakes of Egypt.

We now come to the consideration of the largest and most wonderful depression in the world,—that of Central Asia,—not including that of the Dead Sea, an account of which will be given last. From the borders of the Gulf of Finland and the Black Sea to those of the Yellow Sea, extending all across Central Asia, there is a space nearly 4,000 miles from east to west, and at its western extremity nearly half as much from north to south, comprising in all an area of above three millions of square miles, containing lakes and rivers numberless, but which send not one drop of water to the ocean, evapora-

tion subliming into the air all the moisture that appears on the ground. In the western portion of this the ground sinks in some places above 80 feet beneath the level of the ocean, affording a vast space of from 760,000 to 800,000 square miles in area, or larger than the Mediterranean, to all appearance the basin of an old inland sea, at no time more than slightly connected with the Northern Ocean. This depression comprehends the whole of Trans-Oxonia, including the basins near its lowest part, of the Aral and Caspian, the surface of the latter being 83 feet beneath the Mediterranean. From his observations on these points Humboldt arrives at the following wonderful but far from improbable conclusions:—

“1. That before the times which we call historic, an epoch very near in point of time to the latest revolutions on the surface of the globe, the Lake Aral may have been entirely comprehended in the basin of the Caspian Sea, and that then the great depressions of Asia, (*the cavity of Tauran,*) may have formed a vast interior sea, which may have communicated on one side with the Euxine, and on the other side, by means of cracks more or less wide, with the Icy Sea, and the Lakes Telegoul, Talas, and Balkhache.

“2. That even in the historic times, we must not admit too generally that the soil has followed the successive changes which seem to be indicated by the chronological series of opinions emitted by ancient historians and geographers. These authors seldom represent the geography of their epochs;—they choose between preceding opinions, and their absolute silence respecting certain facts or natural phenomena, is no argument against the existence of these phenomena.

“3. That very probably from the time of Herodotus, as at the epoch of the Macedonian expedition, the Aral formed but a lateral appendage of the Oxus, and that it communicated with the Caspian only by the arm which the Scythian Gulf of that sea extends so far to the coast, and receives the River Oxus.

“4. That either by the simple phenomenon of the increase of growth, (the preponderance of evaporation over aqueous supply,) or by plutonic crevices or elevations, the Scythian Gulf (the Karabogas) has been progressively contracted in its narrowest dimensions, and that by the retreat of the gulf, the bifurcation of the Oxus has been developed, that is, has become more and more manifest. One portion of the waters of the Oxus has preserved its course towards the Caspian by a river bed, which modern travellers (posterior to the middle of the sixteenth century) have found dried up. What was at first but an enlarged appendage of a lake, which communicated laterally with the Oxus, has become the limit of the inferior course of this river. It is thus that Nature on a great scale has repeated the phenomenon which the hydraulic systems of the Yaryakchi exhibit to the east and N.E. of the Aral, of the Tchoui, and Talas, terminating, after a course of 130 or 160 leagues, in the lakes Telegoul, Kaban-koulak, and Talasgol.”

By far the most profound and striking if not the most extensive depression on the surface of the globe is that of the Lake of Asphal-

tites, or Dead Sea, in Palestine. The most remarkable characteristics of this lake were well known to the ancients, and it is described by Deodorus, Pliny, Strabo, and Josephus, and, though never surveyed with anything like tolerable care, it has for long formed a favourable resort for travellers. Lieutenant Symonds, of the Royal Engineers, in 1843, measured its depression by actual leveling, and found the surface of its waters to be 1,312 feet below those of the Mediterranean. Lieutenant Lynch, of the United States Navy, crossed and recrossed it repeatedly in 1847, taking soundings as he went. He confirms the researches of Symonds, and he speaks of having made astronomical and barometrical observations, but gives us no results. And, wonderful to relate, while we organize expeditions to examine the Icy Seas, at an expense of hundreds of thousands of pounds,—send parties into Central Africa to search for we know not what,—mount the fearful table-lands of the Andes,—survey with philosophic care the sacred lakes of the Hindoos, hid deep in the bosom of Himalayas,—permit officers to assume all sorts of disguises, and practise every variety of questionable deception, to be enabled to violate the sanctity of the great Mahommeha shrine, and to inspect that which it is deemed sacrilege for the unbeliever to behold, and is not worth describing even if it could be legitimately seen,—we are content with merely looking at a spot of earth which has more claims on our curiosity as Christians, as well as geographers and philosophers, than any point on the surface of the globe. There is not, to our shame be it spoken, up to this moment anything like a decent or even a creditable account of the physical geography of Palestine in print! and the vague and general account of it now about to be given, gleaned from all the best authors on the subject, meagre and unsatisfactory as it is, is half guess-work. This most discreditable want it was my purpose next spring to have encephoured, to some extent, to have remedied, by taking the levels from Akaba down to the Dead Sea, and so up again by the Valley of the Jordan, and to the sea level, and surveying then all round by the old sea margin by a circuit of probably some 400 or 500 miles. The fulfilment of this purpose, not unlikely to be deferred for the present by another and a very different variety of geographical operations, will, I trust, be resumed should I ever be permitted to revisit my native country.

The Dead Sea is supposed at one time to have united with the eastern limb of the Red Sea, known by the name of the Gulf of Akaba. A sloping valley of unknown elevation called the Wadi Araba, the highest part of which forming the barrier which separates the two, is somewhere betwixt 460 and 495 feet above high-water mark, and this is supposed to be within 25 or 30 miles of Akaba, the total distance betwixt the two seas being 106 miles. The fact of the Dead Sea being very much below the Mediterranean, as well as the existence of an enormous depression enclosing and surrounding it, was known to the ancients, who conferred on it the name of Hollow Syria. One of the first surmises of its enormous depth was given in 1841 by Sir David Wilkie, who made it 1,200 feet by barometrical obser-

vation--probably the extent to which his barometer was cut. Two years afterwards, Lieut. Symonds made it, by leveling, 1,320.2 feet, and this is now the admitted depression. Lieut. Lynch, in 1847, fathomed water to the depth of 1,500 feet, so that the hollow is in all 2,620 feet below the surface of the sea. The bottom of the sea consists of two submerged plains; one 13 feet and the other 1,300 feet, at an average, below the surface. The area and upper borders of the hollow, indicated in all likelihood by an old sea margin, and to which the waters would again rise were a canal, as has been proposed, cut into it from the Mediterranean on the one side and Red Sea on the other, are unknown to us. Along the axis of the lake and valley of the Jordan, from the water-shed in the Wadi Araba to Cesarea and Phillipi, is probably 190 miles, with a bifurcation of about 210 miles to the eastward, terminating about Mount Hermon, where the streams run in opposite directions. Its greatest breadth appears to be about thirty to forty-five miles, and the area of the whole depression, which is very irregular in form, perhaps somewhere about 7,000 square miles. The lake itself is about forty miles by nine, with a probable area of 185 square miles; in circuit, including all its indentations, it seems about 420. The rocks around on the west side seem to be mainly of the chalk formation, mixed with old volcanic basalt and, occasionally, to all appearance, with recent lavas. Close by the lake, about one-third along from the northern shore, are masses of yellowish limestone, with great beds or pillars of rock salt; and the whole soil and bottom of the lake are covered with saline incrustations, petroleum oozing from the beach and spreading itself in many places in films over the surface. Pieces of sulphur lie scattered around,—whether the products of a volcano or the results of the decomposition of the salt does not appear. Near the mouth of the Jordan hot springs abound. Around the northern shore, and especially manifest in the basin of the Jordan, are horizontal lines or terraces of alluvial matter on the mountains, terminating in abrupt declivities of sand, which lead again to lower terraces or beaches closely resembling those of the ocean, with here and there conical hills, with flat horizontal tops, all obviously the result of aqueous action.

From these and other circumstances, it is inferred that the Dead Sea was depressed to its present level not by simple evaporation but by the sudden sinking of its bottom, sufficiently indicated by the abrupt breaks down in the bed of the Jordan. If the original theory be correct, that the Dead Sea was at one time connected with the Gulf of Akaba, it is very probable that the ridge of the Wadi Araba may have risen when some of the convulsions occasioning or deepening the depression occurred, just as the Ulla Bund arose when the village of Sindree, and the portion of the Runn of Cutch around, descended, in June, 1819. There is not the slightest reason to associate any of these convulsions, which must have been on a scale vast enough to destroy all animal life, with the destruction of the cities of Sodom and Gomorrah; and the surface of the country in the days of the patriarchs was probably not dissimilar to what it is at the present day.

Dr. Graves enumerates a number of points in which the Great Salt Lake of America and the Dead Sea resemble each other. They are both situated in deep valleys, the mountains surrounding them being marked with terraces or old sea margins,—proofs of a succession of sudden sinkings in the earth beneath. The shores of both abound with deposits of salt, with petroleum, and with sulphur; near both are hot springs and other volcanic phenomena. In the valleys of both are fresh-water lakes,—Tiberias in the one and Utah in the other,—through which, in both cases, flow the rivers Jordan, in both cases losing themselves in the salt-water lakes. They closely resemble each other both in area of surface and dimensions of basin. The waters of the two are almost equally heavy and equally salt, though they differ entirely in the nature of their saline contents, as will be seen below; and they are most unlike each other in matter of depth.

In 1,000 grains of Water.

	Dead Sea.	Great Salt Lake.	Common Sea Water.
	sp. gr.	sp. gr.	sp. gr.
	1.22	1.17	1.027
Mur. Magnesia . . .	145.8	.....	.....
„ Lime . . . . .	31	.....	.....
„ Soda . . . . .	78	200	.....
„ Potash . . . . .	6	.....	25
Other Salts . . . . .	6	20	5
	<hr/> 266.8	<hr/> 220	<hr/> 30

It will thus be seen that, though in all likelihood the great American lake owes its saltiness to the rivers washing away the salt from the rocks around and carrying it down to be concentrated as in a great salt pan, a like explanation by no means suffices for the saltiness of the Dead Sea, whose ingredients are wholly different from those composing rock, or common rock or sea salt.

*Depths of the Sea.*—I have confined my observations to the depressions on the surface of the dry land, chiefly dealing with those which were either beneath the level of the adjoining countries, and not filled up with water, or those receding far beneath the surface of the ocean, both embosoming lakes in their depths, both receiving supplies of river water, but yielding none. The channel of the ocean in the structure and in the diversity of its surface seems in all respects closely to resemble that of the dry land, which has itself, indeed, at no distant period, occupied its depths, and still bears on its surface loads of marine remains. Our lesser islands are but the summits of mountains whose bases rest on the valleys or table-lands far down in the main, presenting at times slopes as smooth and gentle, and precipices and cliffs as lofty, rugged and abrupt as any of those made visible to the eye of man. The sounding-line discloses hills, mountains and valleys, with chasms and recesses as diversified and remarkable as any which the regions exposed to the upper air supply, covered with a dense and

varied vegetation, and thickly peopled with numberless races of stirring inhabitants, to some of which in point of size the giants of the superterrane animal kingdom—the elephant, the giraffe, the rhinoceros, and the hippopotamus—are but pigmies. The mean level of the whole solid land above that of the sea is 1,000 feet,—that is, were our mountain masses smoothed down, and our valleys and sea margins brought up to one general table-land, its surface would be 1,000 feet above that of the ocean. The mean level of Asia is 1,150 feet, that of Africa we know nothing, that of Europe 670, and that of America 930 feet, North America being 750 and South America 1,130. The mean depth of the ocean, again,—that is, of its basin, were this scooped out and smoothed in the floor till it resembled a tank or cistern, is about 22,200 feet, or four miles. It has been measured to the depth of nearly seven miles, or about 36,000 feet,\* and it covers three fourths of the surface of the globe. Were the solid part of the earth, therefore, to be removed, and thrown into the sea, the highest mountains would fall short by 10,000 feet of filling up its deepest recesses, and the whole mass would be submerged to the depth of a mile at least.

Vast as these inequalities are when represented in figures, the relation they bear to the diameter of the earth is insignificant. On that magnificent three-foot globe now before you, on which the hand might cover the whole space anything like tolerably known to us, the highest of the Himalayas would be represented by a grain of sand, and the enormous-looking depressions, just described, by a scratch which would little more than penetrate the varnish,—so very small a way beneath the surface does our knowledge extend and our research penetrate. Yet this thin film in space furnishes the habitation of all the vegetable and animal tribes that have been formed, and the examination of the minutest portions of it taxes to the uttermost the intellect, and occupies and exhausts the energies of man.

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**THE BINNACLE COMPASS—Corrected by Itself.—By A. B. Becher,  
Commander, R.N.**

The pilots now their rules of art apply,  
The mystic needle's devious aim to try.

The wayward steel to truth thus reconciled,  
No more th' attentive pilot's eye beguiled.

*Shipwreck.*

WHEN Falconer wrote the above lines in his celebrated *Shipwreck*, he little dreamt of that insidious element lurking in every ship and exerting its baneful influence on the Compass, known to seamen by the name of Local Attraction. When he alluded to

\* There are good reasons for doubting this. See N.M.

“The mystic needle's *devious aim*,”

he really meant, as every one else would in his day, that *deviation* of the needle known to seamen as the Variation of the Compass, which he considered very fairly as its *devious aim* from the true North.

But we have now, and have had for many years, as seamen well know, a deviation from the variation either with it or against it, and this at length has become so great, that it is exciting more general attention than formerly. This is the subject of the following lines.

The Mariner's Compass, that all important little gem, which has been hitherto the seaman's guide and well-tryed friend in all parts of the world, is losing caste,—is getting a bad character! And as there is no choice of another servant to supply its place, unless something be done, and that quickly, to reclaim it from the effects of bad company, it is easy to foresee the consequences. There will be nothing but wrecks upon wrecks! and causes sufficient for these there are already without adding another to them!

In the march of improvement which distinguishes these days from all others, when nearly every thing in a ship, fore and aft, above-board and in-board, is patent, the compass has been comparatively forgotten. The motto which it bears, “*agitè mais constant*,” has been too severely tried, and in consequence its wanderings from the path of duty are become so considerable, that unless something is speedily done this invaluable servant will be lost indeed!

Now all this is literally true of the compass. When not interfered with by modern iron inventions, it did its work well, as in the days of our forefathers. But from the first commencement of the use of iron in ships,—from the gradual introduction of that material into all the numerous appliances of their furniture, and lately into the construction of ships themselves, the effect on the compass has been so considerable, that it has at length in some cases refused duty;\* and its complaint has become so serious as to admit of being no longer disregarded. There is even the screw making matters worse. The effects of this machine are well known to have been such as to set the compass-card actually spinning on its pivot, rendering this gem of the mariner the laughing-stock of the young sailor; but presenting a heart-rending picture to the veteran. Matters were different in his day. The compass had fair play then, and no one knows better than he does that the claims of the compass are paramount to every other. He well asks, what will supply its place? Not the stars as of old; not the direction of the wind as with the ancient navigators by keeping it on one part of the vessel! these methods will not do now, when sailing on great circles is the order of the day; for what is to keep ships on great circles after they are found but the compass!

The compass then must be reclaimed from the effects of all this bad

\* Case of the *Keera* from Newcastle to Sydney; also the *Thomas Hamlin* to Aden, whose master says, the compasses have almost put me mad. These are accidentally preserved in the *Nautical Magazine* for 1853, by having been communicated to the Admiralty.

company; it must be looked after and treated fairly, and it will be found after all that when a due allowance is made for all those attractive inducements to which it is liable, there is virtue in it yet, and the same good service will be rendered by it as it has been accustomed to give to our forefathers.

To Christopher Columbus is justly attributed the discovery of the variation of the compass, and to old Dampier, or some one about his time, that of local attraction, or the deviation of the needle from its magnetic meridian. While the former has given us fair play, being all open and above-board, the latter is a secret enemy, concealed from common observation, and unless detected and its effects avoided, the destruction of the ship is tolerably certain. Without then troubling ourselves about its history, or going into the detail of this subject to be found in the voyages of Dampier, Cook, Flinders, and others of our own countrymen as well as foreigners, and leaving to philosophers the discussion of antagonistic forces on the compass, we will at once proceed to show how it may be released for all practical purposes from the dangerous assaults of this insidious enemy.

Still there are two names connected with local attraction that must never be forgotten. The first is that of Flinders, who made the earliest experiments on it in this country on board ship; and the other that of Barlow, who made the important discovery that all the influences of iron bodies exerted on the compass are on their surfaces.

On the return of Captain Flinders from the survey of Australia, about 1811, in consequence of his representations, the Admiralty directed him to make a series of experiments on board of one of his Majesty's ships at Sheerness.

The results of these experiments are thus stated:—

1st. That a compass gave different bearings of the same object when placed in different parts of the ship.

2nd. That when the ship's head was on the magnetic north or south, no effects arose from local attraction, proving that when the ship was in that position the attraction of the various masses of iron on board acted in unison with the magnetism of the earth.

3rd. That when the ship's head was east or west, the effects of local attraction were greatest, and that at the intermediate points the deviation of the needle varied nearly in the proportion of the sine of the angle between the bearing of the ship's head and the magnetic meridian to radius.

4th. That the maximum of variation, in the same compass, would be different in different parts of the world; or, in other words, that the force of the local attraction of the vessel varied with the dip of the magnetic needle, or in proportion to the distance from the magnetic equator.

Flinders died in 1814, and the subject of local attraction lay almost untouched, until Mr. Bain, a master in the Royal Navy, took it in hand, and wrote a pamphlet on it, which appeared in 1817. There was a great deal of merit in this little production; all his opinions were sound: but, although his remarks and observations were



accompanied with ample proofs of the importance of attending to them, he failed to give those plain and straitforward directions which the seaman expects. The subject was then taken up by Professor Barlow, a name well known in the annals of science. The polar expedition of 1818 afforded him an admirable opportunity for confirming still further the laws laid down by Flinders, as the ships not only passed through a considerable variety of variation, but necessarily approached the north magnetic pole. Constant observations were accordingly made on board the *Alexander* and *Isabella*, at the suggestion of the professor; and it was found, before they had nearly reached Greenland, that the compasses of one ship differed as much as  $11^{\circ}$  from those of the other; and that the same compass gave results differing  $10^{\circ}$  in different parts of the same ship. As the two vessels proceeded up Davis Straits, the compasses became sluggish; and in the subsequent voyage of Sir Edward Parry, as he passed through Barrow Strait they became totally useless; thus confirming the conclusion of Flinders, that, although the absolute magnetic force of the earth would be greatest at the magnetic pole, yet its horizontal or directive power would then entirely cease, having become gradually less in proportion as the angle increased which the dipping needle makes with the horizontal plane. But while the horizontal needle is thus forsaken, as it were, by the earth's magnetic power, the various magnetic bodies in the ship which surround it, are still acting on it with a directive force which *relatively* increases as the directive force of the magnetic pole diminishes.

The discordances in the variations observed at sea, and the difficulty of arriving at the actual inclination which the magnetic meridian makes with the true one, can only be attributed to the want of a due observance of the foregoing facts. But these facts are now so universally admitted, that it is unnecessary to multiply proofs either of their existence or of the evil consequences which may arise from their neglect. We will therefore at once proceed to the best practical methods of determining the local attraction of any vessel, and of applying the proper correction for its effects to the compass courses.

Whatever may be the number of compasses any merchant ship may take to sea, only one at a time should be used on deck, and that should be always in its proper and only place, the binnacle; most ships, however, have a second binnacle, and the compass in this serves as a check on the other. Like two of a trade, however, they seldom agree—wrangling generally about half a point: and if this should prove a constant difference it were well, and they may be considered one and the same. But were no other compass than these admitted above hatches, all bearings taken for any purpose whatever would then be made with the steering compass. A good steering compass being once installed in its proper place in the binnacle becomes responsible for the whole magnetic affairs of the ship; a most onerous duty, it may be, to perform, but one that it is quite capable of undertaking.

Magnetism under its most finished appliances is but an unsatisfactory subject in point of precision. It can scarcely be ranked among

the exact sciences. Indeed, the more perfect the needles, the more evident become their discordances. Any magnetic needle is but a means of knowing at all times the direction of the true meridian, by applying its ascertained variation. Two magnetic needles are seldom known to give exactly the same magnetic meridian, even when free from local attraction. The natural conclusion from this is, that we must not attempt to deal with the compass by hairs' breadths. If we can be certain always that it will give a bearing within the same degree of the horizon in our dealings with it we shall have good reason to be satisfied; for even this, in the words of a worthy professor, is "quite sufficient for the common purposes of navigation." And this conclusion will be amply confirmed when we consider what a ship's course really is; whether she be sailing by the wind or going large;—how often she is yawed off it by the heave of the sea or by bad steering, in the latter case;—or by keeping a luff more or less close and getting off the wind in the former, (besides the repeated displacing and replacing of the binnacle itself,) it must be admitted that a ship's course, or the track she makes over the sea, is anything but a mathematical line. The course she is making good from hour to hour at the best is but an average between all her deviations from it from the above causes. And what is a degree of the horizon? about twice the diameter of the sun! The navigation of a ship would be perfect indeed if after any voyage, however short, she would make a cape or a lighthouse within such limits. Such perfection is, however, well known to be impossible, and compasses graduated to degrees, without affecting minutes, may well be considered "sufficient for the common purposes of navigation."

England sends forth her ships to all parts of the world; those of the State provided against this evil of local attraction by a knowledge of its amount and, thereby, the means of applying the remedy for it. That this method is a secure one is proved by no loss ever having yet occurred from the effects of local attraction. Her merchant princes send forth their ships, we are not quite prepared to say how, but may not be far wrong if we add, each according to his fancy: some following the example of the State and others by attempting a counter attraction on the needle, which is but a temporary correction of an evil; for the means which may be effectual in one part of the world may not be so in another, because they are applied as a constant quantity to an evil which is variable. With all this, however, we have nothing to do. Our purpose is to reclaim the steering compass from the error of its ways by yielding to the influence of local attraction, and, having done this, to assert and vindicate its right to perform all the magnetic duties of the ship.

Two conditions are essential to a good bearing with that very sensitive instrument, a compass, on board ship: one is that the ship's head be perfectly steady, and the other that the compass be entirely at rest. Any observation taken where these conditions are not secured will be at best but a guess. Now every course steered by a ship and every bearing taken from her deck is supposed to be done with

the Binnacle or Steering Compass. But the Binnacle Compass is ill adapted for taking bearings. The position of it is inconvenient. It belongs to the helmsman, and its duty is to give the course of the ship. And yet it is easy to use the Binnacle Compass for all these important purposes; not by laying the hand or a glass across it in the direction of the object, as of old, but by finding a substitute for it. A *Repeating Card* is all that is wanted; this, *properly attended to*, would be a representative of what is actually in the Binnacle; and, when fitted with the necessary vanes, &c., similar to the azimuth compass, would be capable of doing its work by being adjusted to the direction of the ship's head like its master in the binnacle. If we can keep this in a condition so as to represent faithfully that in the binnacle in any part of the deck we can do all we want with the Binnacle Compass, or, in other words, we can do with this representative of it, even much more than we can actually do with that in the binnacle.

It would consist in every part of the azimuth compass itself excepting the needle, and, as it may be placed, with its lubber-line in the direction of the ship's head, in any convenient part of the deck, by merely setting its card to correspond with that of the Binnacle Compass we have at once the representative of the latter, as long as this correspondence between the two remains perfect. To preserve it so, all that is necessary is for a person to watch the Binnacle Compass while observations are going forward with the Repeating Card, and to call out to the person observing how the changes take place, who will then adjust it accordingly.

Binnacle Compasses have not often cards with the circumference graduated to degrees, but there is no reason, even on economical grounds, why they should not; in which case, the Binnacle Compass and its Repeating Card may be always made to coincide within that limit. Even with those at present in use half a quarter or an eighth of a point may be the range of agreement. Whatever point of the Binnacle Compass the ship's head may be upon, the Repeating Card may be set to the same in any place chosen for it, that place being defined by marks in the deck (as in H.M. ships) to receive the three legs of its tripod stand, with its lubber-line towards the ship's head, an arrangement which may be previously secured.

The only adjustment necessary after the lubber-line is placed in the direction of the ship's head, by means of the tripod legs going always to the same places on the deck, as in ships of war, is to turn the Card round its centre (for it is not on a pivot) to the same degree against the lubber-line as indicated by that of a proper Binnacle Compass. In doing this the lubber-line may be pressed out so as to touch the Card without fear of injuring it, by which all error of parallax will be avoided.

The Repeating Card on being adjusted to the indication of the Binnacle Compass, as given by the lubber-line, becomes then another Binnacle Compass, and, being fitted with cross vanes, is capable of being used as if it were really an Azimuth Compass for all the purposes to which this is applied.

Previous to taking *every* bearing the adjustment should be carefully made by the observer who is using it, a person being appointed by him to watch the Binnacle Compass while he is taking his observations;—not by looking at it sideways, but by seeing the centre of the card just under the lubber-line. He will then obtain (with a proper Binnacle Compass) a correct reading of the degree and parts of a degree on which the ship's head is lying, and is to give the same to the observer, who will immediately adjust his repeating card accordingly, and then immediately make his observation. The same of all the rest.

Assuming that the merchant ship is as valuable to her owners as those of the State are to the country, let us proceed to show what is done to protect these from the effects of local attraction.

An azimuth compass is usually employed in H.M. ships for this purpose; being placed at a distance from the Binnacle Compass in the line of least attraction; a line, as found by Flinders, varying but little from the fore and aft direction of the vessel when it is near the magnetic meridian; and the process of finding the local attraction with it is then performed. The resulting observations must be referred to the Binnacle Compass, or they are of no use in the courses of the ship. The direction of the ship's head by the latter is noted at each observation of the former, and the local attraction found being afterwards applied, a table is formed for the Binnacle Compass. The azimuth compass in its established position may be subject to local attraction different to that in the Binnacle, and thus corrections for each compass are found. But with a Repeating Card, as above described, which would be a representative of the Binnacle Compass, in this operation *one* set of observations only can be obtained, and *that is the set really wanted.*

This representative of the Binnacle Compass, if duly adjusted to it, is sufficient for every possible purpose of the deck, either for giving bearings or for finding the amount of local attraction.

The first principle to be observed in finding a ship's local attraction, is to place her in the same condition with regard to everything on board as she would be at sea. For as it is *there* that this allowance is to be made for the compass, it must be found with everything in its place that is likely to affect it if she were there. It is of no use slighting this. If it be not attended to the results will assuredly be erroneous. The late Capt. Johnson has shown that the iron quarter davits for the boats being up or down, affects the compass,—even a telescope funnel being up or down affects it; therefore everything stowed on deck or near it must be in its place. It is often the case that something additional is placed on board merchant ships the last thing before sailing. It should be insisted that the *LAST THING* before sailing must be only to swing the ship for her local attraction.

In the case of steam-vessels it is shown, in a paper prepared for the last meeting of the British Association, by Mr. Saxby, and since published, that an increased amount of local attraction will be found when the steam is up, and therefore that the process of finding it should be gone through when the steam *is* up.

One of the two following ways is then always adopted for obtaining this quantity. The first and most independent method is with *one compass* only; the next is with *two compasses*, one on board and the other on shore; but even in this method one compass is sufficient when the Repeating Card is made the substitute for each, as will be hereafter shown. The first method requires the bearing of a distant object to be observed with the compass when the ship's head is on each of its thirty-two points. If the ship could be turned round on a pivot, like a locomotive on a turn-table, any well-defined object a short way off, and at which the circle described by the compass in the process of turning would be inconsiderable, would answer for observation. But we have not attained to such perfection yet, and a somewhat larger figure is described by the ship herself as she is now swung afloat; and therefore to render this inappreciable, a more distant object becomes necessary, and six miles at least from the ship is deemed essential for it. The bearing of this object, while the ship's head is on each point of the compass, is to be noted against that point.

A ship lying ready for sea, with all her cargo and everything on board, may thus find her local attraction by a single compass. She must be prepared with warps, so that her head may be placed on each point of it; a well-defined object on shore must be selected, distant, as we have said, about five or six miles from her; then, as the ship slowly presents her head to each point, the bearings as they are obtained are to be immediately noted in a table, arranged in the following form, the column No. 1 having been previously written.

No. 1. When the Ship's Head was	No. 2. The Object bore	No. 3. The Correct Bearing of Object was	No. 4. The Local At- traction was	No. 1. When the Ship's Head was	No. 2. The Object bore	No. 3. The Correct Bearing of Object was	No. 4. The Local At- traction was
N.	N. 18 E.	N. 17 E.	1° W.	S.	N. 14 E.	N. 17 E.	3° E.
N.b.E.	N. 17 E.	.....	0	S. b. W.	N. 16 E.	.....	1 " "
N.N.E.	N. 16 E.	.....	1 E.	S. S. W.	N. 17 E.	.....	0
N.E. b. N.	N. 15 E.	.....	1½ "	S. W. b. S.	N. 18 E.	.....	1 W.
N.E.	N. 14 E.	.....	3 "	S. W.	N. 19 E.	.....	2 "
N.E. b. E.	N. 14 E.	.....	3 "	S. W. b. W.	N. 20½ E.	.....	3½ "
E.N.E.	N. 13½ E.	.....	3½ "	W. S. W.	N. 22 E.	.....	5 "
E. b. N.	N. 13 E.	.....	4 "	W. b. S.	N. 24 E.	.....	7 "
E.	N. 12 E.	.....	5 "	W.	N. 24 E.	.....	7 "
E. b. S.	N. 10 E.	.....	7 "	W. b. N.	N. 25 E.	.....	8 "
E. S. E.	N. 9½ E.	.....	7½ "	W. N. W.	N. 25 E.	.....	8 "
S. E. b. E.	N. 10 E.	.....	7 "	N. W. b. W.	N. 24 E.	.....	7 "
S. E.	N. 10 E.	.....	7 "	N. W.	N. 23 E.	.....	6 "
S. E. b. S.	N. 11 E.	.....	6 "	N. W. b. N.	N. 22½ E.	.....	5½ "
S. S. E.	N. 13 E.	.....	4 "	N. N. W.	N. 20½ E.	.....	3½ "
S. b. E.	N. 14 E.	.....	3 "	N. b. W.	N. 18½ E.	.....	1½ "
	210½				333		
					210½		
					543½		

Now, if the foregoing observations were made with the Repeating Card, we should have at once the deviations of the Binnacle Compass. But if they were made with the usual Azimuth Compass they will give only the deviations of this compass, and these only when it is in

the position in which they were made. And in order to obtain the deviation of the Binnacle Compass by them, another column must be added showing the direction of the ship's head by this Compass at each of the foregoing observations of the Azimuth Compass; then, in another adjacent column, may be shown the deviations, obtained therefrom, of the Binnacle Compass. Thus, let us suppose when the ship's head was N.E.b.E. by the Azimuth Compass, that it was N.E. by that in the Binnacle;—then a point to the left of the Azimuth must be steered by that in the Binnacle, whatever may be the correct compass course, cleared of local attraction, for the ship's head being N.E.b.E.

The observer having now filled up column No. 2 with the observed bearings, and being satisfied with their accuracy, he is to add them all together, making in this example  $543\frac{1}{2}$ , which, being divided by the number of observations, 32, the result, 17, will be the mean and therefore the correct magnetic bearing of the object from the ship, and therefore  $17^\circ$  is to be entered on every line of column No. 3.

The differences between the figures in columns No. 2 and 3 are then to be regularly inserted in column No. 4, and as they represent the effect of the local attraction of the ship upon the needle in the binnacle, for every successive point of the compass, they cannot be more conveniently placed for the ready reference of the navigator in correcting his day's work, and these differences, being the deviation of the needle on each point, are to be marked East or West. When the north end of the needle is drawn to the eastward, the local attraction is marked E.; and when to the westward it is marked W.

A table of the points ready corrected, such as the following, should then be formed, a copy of which should be in the possession of every person on board who keeps a reckoning.

Courses by Compass.	Courses Corrected for Deviation.	Courses by Compass.	Courses Corrected for Deviation.	Courses by Compass.	Courses Corrected for Deviation.	Courses by Compass.	Courses Corrected for Deviation.
N.	N. $1^\circ$ W.	E.	S. $85^\circ$ E.	S.	S. $2^\circ$ W.	W.	S. $88^\circ$ W.
N.b.E.	N. $11\frac{1}{2}^\circ$ E.	E.b.S.	S. $71\frac{1}{2}^\circ$ E.	S.b.W.	S. $12^\circ$ W.	W.b.N.	N. $86\frac{1}{2}^\circ$ W.
N.N.E.	N. $23\frac{1}{2}^\circ$ E.	E.S.E.	S. $60^\circ$ E.	S.S.W.	S. $22\frac{1}{2}^\circ$ W.	W.N.W.	N. $75\frac{1}{2}^\circ$ W.
N.E.b.N.	N. $35\frac{1}{2}^\circ$ E.	S.E.b.E.	S. $49\frac{1}{2}^\circ$ E.	S.W.b.S.	S. $32\frac{1}{2}^\circ$ W.	N.W.b.W.	N. $63\frac{1}{2}^\circ$ W.
N.E.	N. $48^\circ$ E.	S.E.	S. $38^\circ$ E.	S.W.	S. $45^\circ$ W.	N.W.	N. $51^\circ$ W.
N.E.b.E.	N. $59\frac{1}{2}^\circ$ E.	S.E.b.S.	S. $27\frac{1}{2}^\circ$ E.	S.W.b.W.	S. $52\frac{1}{2}^\circ$ W.	N.W.b.N.	N. $39\frac{1}{2}^\circ$ W.
E.N.E.	N. $71^\circ$ E.	S.S.E.	S. $18^\circ$ E.	W.S.W.	S. $62\frac{1}{2}^\circ$ W.	N.N.W.	N. $26^\circ$ W.
E.b.N.	N. $82\frac{1}{2}^\circ$ E.	S.b.E.	S. $6\frac{1}{2}^\circ$ E.	W.b.S.	S. $71\frac{1}{2}^\circ$ W.	N.b.W.	N. $12\frac{1}{2}^\circ$ W.

Then it will be seen that if a ship were apparently steering S.E. by the compass, she would be actually steering  $7^\circ$  to the southward of that point, or S.  $38^\circ$  E., and in working the day's work this would have to be taken as the real compass course, and corrected as usual for variation, leeway, &c.

The above mode of discovering the amount of local attraction is both simple and effectual, and should on no account be neglected. And it might be further carried out on our coasts to enable ships to find their local attraction while under way. It has been proposed by Ad-

miral Sir John Ross, in 1819, and by Mr. John Burdwood, an experienced Master in the Royal Navy, in 1846, to place columns or marks in pairs here and there on our coast, and make known their true bearings from each other, so that a ship in passing their line of bearing would know whether it corresponded with that given by her compass.\* If it did not, the difference would arise from the effect of local attraction when her head is on the point of the compass she was steering.

This mode of obtaining local attraction is well adapted for the use of steamers. The facility they have of moving in all directions would enable them to cross this transit line, as it may be called, with their heads on each point of the compass, and thus to obtain their local attraction on every point while under way. Thus, the correct magnetic bearing of the two objects (the variation being previously applied) would be entered in the third column of the table, and their bearing from the vessel in the second, against the point or course on which her head is as it is obtained; and thus the local attraction is deduced by the difference between the real magnetic bearing of the marks and that observed on each course. When approaching the line of transit, the speed of the vessel might be slacked to merely sufficient for keeping steerage way, to give the observer time. He should be quite prepared for his observation as the objects come on, and would be materially assisted by another person looking out with a glass and giving timely notice of the vessel's approach to and crossing the line. This would be a neat operation, and would require smooth water and clear weather, an observer with a quick eye, a good assistant, and a due attention to the helm in keeping the vessel's head on the several points of the compass as she crossed the line of bearing. The observer should also be so placed as to have an uninterrupted view of objects around with the vessel's head in any direction. There are many open bays on our coasts where this operation could be carried out; offering ample space for a steam-vessel to obtain her local attraction by this method, and perhaps also out of the strength of the tide.

There are many ways in which during light weather and smooth water a ship may also find her local attraction at sea. In cases where the observations are limited to the four cardinal points and the four lesser ones, they would even be serviceable, as some conclusions may be drawn as to its amount on others from the former table. How often the local attraction on these might be obtained by azimuth, or amplitude, or the bearing of the pole star when the chart from the position of the ship would supply the variation,\* and that found includes in it

\* *Nautical Magazine.*

† Halley published a variation chart, perhaps the first of its kind, in the year 1700. He had collected a vast number of observations of the variation, which having noted in their proper places on a Mercator's chart of the world, he was enabled, by drawing lines through them, to trace the corresponding degrees of variation; or, in other words, to show the course of the magnetic curves. Another chart of this kind was published by Mountain and Dobson in 1741, and another in 1756-7, and from the apparent facility of observing the variation, it was even seriously recommended to mariners as a means of ascertaining their longitude. The inefficiency of such means is so obvious, that these charts are now only used for giving a general view of the

the deviation. Again the pole stars never above a degree and a half from the pole, and may be safely considered as always true north. Even the sun\* at noon gives the true South, affording another means of finding it. Also, when distant land beyond the horizon is in sight, how easy to select a well defined peak, and use it to find the deviation by; noting its bearing on as many points of the compass as can be had, and finding its true bearing on one of them from the sun to serve for all the rest. In a steam-vessel, too, where there is more local attraction than in any other vessel, there is more facility for getting the variation by this means. Many of our readers may remember to have seen the peak of Tenerife, at the distance of a hundred miles, clear and distinct above the horizon. Such an object, if the weather be fine and the water smooth, offers an admirable opportunity for obtaining it by the above method, in which the mean of all the bearings will give the correct compass bearing of it, and thence the deviation may be obtained without any other observation.

The peak of Orizaba, well known to West India navigators, has afforded Mr. Burdwood, when master of H.M.S. *Eurydice*, the means of obtaining the deviation on more than half the points of the compass, while lying at anchor, by noting the bearing as the ship's head came to the different points. But as it was not obtained completely round, the correct compass bearing had to be obtained on shore. The peak was so distant that all parallax was rendered inconsiderable, as in the above case of the Peak of Tenerife.

We have hitherto been treating of the method of finding the deviation by means of a distant object. But a nearer one offers perhaps greater facilities, as it may be obtained when the ship is lying in a wet-dock, where she is far more manageable for being turned through the points of the compass than anywhere near a tideway. This method usually employs two compasses, one on board and the other on shore. But like the former it may be accomplished with one, provided we have a single true or magnetic bearing from the station adopted for the shore compass.

amount of the variation in different parts of the world. Yeates published another such chart in 1817; and more recently Professor Barlow has given us all the modern observations in a small chart, which he followed up by a variation globe. The beautiful charts of the Atlantic and Mediterranean, published a year or two ago by the Admiralty, are, however, the best of their kind.

\* A kind of equal altitude about noon, the bearing of the sun being taken at each altitude, would give a fair approximation to the true meridian, and thence the variation might be obtained, including the local attraction. Thus, suppose when the sun is rising very slowly near noon, the index of a sextant be left fixed with the altitude on it a few minutes before the sun is up, and a good bearing be taken of it with the compass. The sun passes the meridian and falls to the same altitude; the observer is on the look out, and when the altitude is the same the bearing is again taken. The mean of the two bearings may be considered the true meridian, and this mean bearing will be the angle which the magnetic meridian given by the compass as affected by local attraction makes with the true one. The difference between it and the real variation known previously, gives the amount of deviation produced by the local attraction when the ship's head is on the point of the compass where it was at the time of observation.



Let us suppose that we had a wooden or stone pedestal, like that of a sun dial, on a pier near the ship, and could place on it the Repeating Card used above in a correct position so that it would show the magnetic meridian as a compass would do. We could observe the bearing of the compass on board with it equally as well as with any second compass. And by means of the Binnacle Compass itself, of which we are now going to determine the deviation, this might be previously done. The correct magnetic bearing of any well defined object might be determined with this from such pedestal or position, that would enable a *careful* person to place the Repeating Compass Card in a position so that the North and South points of it would coincide with the magnetic meridian;\* and, this done, we might go to work in due order, as easily with this method as with the former, (our Repeating Card being now on shore instead of on board,) taking our bearings of the compass on board by means of the cross vanes, just as well as if our Card were fitted with a needle;—another advantage being that it really represents the same compass, while it is free enough to move on shore, but distracted by local attraction in its place on board.

Having pointed out how unnecessary a second compass is, or, rather, what may be done without one, simply by means of a repeating card properly fitted with cross vanes like an azimuth compass, we will now proceed with the method before us.

The bearing of the compass on shore is now to be observed from the compass on board, when the ship's head is on the several points of this compass; and, at the same time, (by preconcerted signal,†) the bearing of this by the shore compass is also to be observed, and the observations duly recorded against each point in the order in which they stand. The two bearings on each point, viz, that from the ship of the compass on shore, and that from the shore of the compass in the ship, should evidently be the reverse of each other; but they are not so; the compass on board being unable to respond correctly on account of the deviation produced on it by the attraction of the iron of the ship. And the compass on shore, therefore, is to be considered the authority as giving the correct compass bearing to be used, the

\* The points of the Compass themselves might even be represented on the plane surface of the pedestal, and a circle on it might be graduated to degrees, fitted with a pair of cross sight vanes to move in the centre, by which a ship's deviation might be obtained without any shore compass. All that would be required is to determine the correct position of the magnetic or the true meridian on the surface of the pedestal, which there are various ways of doing—by sun and stars,—and either of them can be drawn accordingly. The sight vanes might be made removable, and only placed there while in use; and the surface of the pedestal, if considered necessary, might have a cover to protect it from the weather, like any common sun dial.

† This signal might be made by the ensign of the ship or any smaller flag. It should be hoisted to the dip as preparative, to warn the shore observer, who will thus be prepared to get his observation. And when the ship's head is on the required point, it should be run up to the truck as a signal to the observer on shore that the observer on board is taking his bearing, and for him to do the same. This done, the observer on shore waves a pocket handkerchief or makes some signal to show that it is so, and the flag on board is then *dipped* to be ready for the next observation.

reverse of which should have been shown by that on board at each observation.

Then the difference between each pair of bearings throughout the whole of the points of the compass will be the amount of deviation of the compass on board on each point to which they belong. The compass on shore is merely a substitute for the distant object used in the former method, the ship then being *considered* quite stationary in consequence of its distance. But in the present method the proximity of the object (which is the shore compass), and thence the parallax, renders the actual change of place in the ship of so much importance, that, instead of one bearing answering for all, the reverse bearing must be obtained for every observation.

The observations being recorded as they are obtained, will appear in the second and third columns of a table prepared for them; the first column of which will contain the points of the compass on which the observations are made, and the last will contain the deviation on each deduced from them.

No. 1. When the Ship's Head was	No. 2. The Shore Compass bore from on board.	No. 3. The Compass on board bore from Shore Compass.	No. 4. Deviation.	No. 1. When the Ship's Head was	No. 2. The Shore Compass bore from on board	No. 3. The Compass on board bore from Shore Compass	No. 4. Deviation.
N.	S.36° W.	N.36° E.	0	S.	S.32° W.	N.31° E.	1° W.
N.b.E.	S.30½ W.	" 34 " 2½ E.	3½ E.	S.b.W.	S.33 W.	" 31 " 2 "	" "
N.N.E.	S.30 W.	" 34 " 4 "	4 "	S.S.W.	S.34 W.	" 31 " 3 "	" "
N.E.b.N.	S.29 W.	" 34 " 2½ "	2½ "	S.W.b.S.	S.34½ W.	" 31 " 3½ "	" "
N.E.	S.29 W.	" 34 " 5 "	5 "	S.W.	S.35 W.	" 31 " 4 "	" "
N.E.b.E.	S.29 W.	" 34 " 5½ "	5½ "	S.W.b.W.	S.34 W.	" 30 " 4½ "	" "
E.N.E.	S.29 W.	" 34 " 5½ "	5½ "	W.S.W.	S.33 W.	" 33 " 5 "	" "
E.b.N.	S.25 W.	" 35 " 8 "	8 "	W.S.S.	S.40 W.	" 34 " 5 " "	" "
E.	S.27 W.	" 33 " 7 "	7 "	W.	S.40 W.	" 34 " 5½ "	" "
E.b.S.	S.27 W.	" 33 " 6 "	6 "	W.b.N.	S.41 W.	" 35 " 6 " "	" "
E.S.E.	S.27 W.	" 33 " 0 "	0 "	W.N.W.	S.40 W.	" 35 " 5 " "	" "
S.E.b.E.	S.27 W.	" 32 " 5½ "	5½ "	N.W.b.W.	S.39 W.	" 35 " 4 " "	" "
S.E.	S.28 W.	" 32 " 4 "	4 "	N.W.	S.40 W.	" 36 " 3 " "	" "
S.E.b.S.	S.28 W.	" 32 " 4 "	4 "	N.W.b.N.	S.40 W.	" 38 " 2 " "	" "
S.S.E.	S.27 W.	" 30 " 3 "	3 "	N.N.W.	S.39 W.	" 37 " 1½ "	" "
S.b.E.	S.30 W.	" 31 " 1 "	1 "	N.b.W.	S.38 W.	" 38 " 0 "	" "

In determining whether the deviation in column 4 has been east or west, the observer has now to consider how the needle has been influenced, to give the bearings in column 2. He is to suppose himself always as being at the centre of the card, and then, looking in the direction of the object on shore, he will determine whether the needle has been drawn to the right or the left.\* If it has been drawn to the right the deviation is to be marked EAST, and if to the left WEST.

\* The terms *right* and *left* are adopted in preference to any other in regard to the compass, because once understood they can lead to no mistake. At all times when referring to the compass the observer is always supposed to be at the centre of it, and looking in the direction of the point or bearing mentioned: this once understood, there can be no doubt which is to the left and which to the right of that point. The terms are moreover most properly applied, for the needle with its card is merely intended to indicate the different points of the sensible horizon of the observer, a circle at the centre of which therefore he must always be situated.

Taking the first pair of bearings in the table, it will be seen they are the reverse of each other, and, therefore, our needle on board was free from local attraction. But when the ship's head was N.b.E., the object really bore S.34°W. from the ship, instead of S.30½°W., as given by the compass. The needle had, therefore, been drawn to the right, and the deviation is marked *East*. The same is the case at N.N.E., and throughout the easterly points it is evident the needle has been always drawn to the right. But the opposite effect is shown in the next column, where all the bearings are thus made larger; showing the deviation as having been here to the left: it is, therefore, all marked *West*.

Some confusion is said to have arisen (perhaps from the degrees being reckoned both ways from each end of the needle) in determining whether the deviation is East or West, which by attending to the rule conveyed in the following statement will be avoided.

<i>When the object</i>	<i>bears between</i>	{	<i>And the Ship bearing is</i> (greater) or (less) than the <i>Shore Bearing</i>	}	<i>The Deviation is</i>
N. and E. ....	.....	{	Greater .....	}	West
			Less .....		East
S. and E. ....	.....	{	Greater .....	}	East
			Less .....		West
N. and W. ....	.....	{	Greater .....	}	East
			Less .....		West
S. and W. ....	.....	{	Greater .....	}	West
			Less .....		East

By *Ship Bearing* must be understood the bearing taken on board; and by *Shore Bearing* that taken on shore.

But it may accidentally happen that the two compasses, that on board and that on shore, are either nearly in the magnetic meridian of each other or nearly East and West of each other.

In both cases, the shore bearing reversed will always be the correct compass bearing, but the needle of the compass on board, from the effect of the local attraction, may so far alter its deviation with the ship's head, on some of the points, as to change the bearing of the object from one side of it to the other; that is, from being East of it, it may become West of it. In this case, while the two bearings are of the same name (the shore bearing being reversed) our previous rule holds good, the difference between them being the deviation, to be marked East or West, as above. But when the North or South end of the needle on board passes the object and gives its bearing on the opposite side of it, so as to make Westerly what was Easterly, or Easterly what was Westerly, the deviation evidently retains the same name as before, but is the sum instead of the difference of the two bearings.

The following case of the *Simoom* will illustrate this:

No. 1. Ship's Head by Compass.	No. 2. Bearing of Compass on Shore.	No. 3. Bearing of Compass on board.	No. 4. Devia- tion.	No 1. Ship's Head by Compass.	No. 2. Bearing of Compass on Shore.	No. 3. Bearing of Compass on board.	No. 4. Devia- tion.
N.	N. 1° W	S. 8½ E.	7½ W.	S.	N 17½ W	S. 10° E	8½ E.
N.b.E.	.....	.....	1½ "	S.b.W.	.....	.....	4½ "
N.N.E.	N 10½ W.	" 6 "	4½ E.	S.S.W.	N. 12½ W.	" 11½ "	1½ "
N.E.b.N.	N. 14½ W.	" 5½ "	9½ "	S.W.b.S.	.....	.....	1½ W.
N.E.	.....	.....	12½ "	S.W.	N. 8 W.	" 12½ "	4½ "
N.E.b.E.	N 20½ W.	" 8½ "	17 "	S.W.b.W.	.....	.....	8½ "
E.N.E.	N 22½ W	" 4½ "	18½ "	W.S.W.	N. 1 W.	" 12½ "	11½ "
E.b.N.	.....	.....	19½ "	W.b.S.	N. 2½ E.	" 13 "	16½ "
E.	N. 25½ W.	" 5 "	19½ "	W.	N. 7 E.	" 13½ "	20½ "
E.b.S.	.....	.....	19½ "	W.b.N.	.....	.....	22½ "
E.S.E.	N. 25½ W.	" 6½ "	20½ "	W.N.W.	N. 11½ E.	" 13 "	24½ "
S.E.b.E.	N. 34 W.	" 7½ "	10½ "	N.W.b.W.	N. 12½ E.	" 12½ "	25 "
S.E.	.....	.....	14½ "	N.W.	N. 11½ E.	" 13 "	24½ "
S.E.b.S.	N 21½ W.	" 8½ "	12½ "	N.W.b.N.	N. 10 E.	" 12½ "	22½ "
S.S.E.	.....	.....	10½ "	N.N.W.	N. 7½ E.	" 11½ "	18½ "
S.b.E.	N. 18 W.	" 9½ "	8½ "	N.b.W.	N. 3½ E.	" 10½ "	12½ "

The foregoing table is from a return made by H.M.S. *Simoom*. The minutes of the degree in the return, are, however, rejected for the nearest quarter of it, as reading compasses to minutes may safely be looked on as a piece of amiably affected accuracy neither required by the end attained nor justified by the means employed; and unnecessary in shaping a ship's course. There is also some slight difference in the return, the ship's head not being always exactly on the point stated, and it will be seen that where no bearings have been observed, the mean between the two adjacent observations has been taken for the deviation.

In illustration of the rule, it will be seen in the foregoing example, when the ship's head was N.W. (and the same of the other points between West and North) that the object which should have bore N. 13° W. really bore N. 11¼° E., showing that the needle had been drawn past the object through 13° on one side of it and 11¼° on the other, making the deviation 24¼° to the West, or the *sum* of the two bearings.

In the second case abovementioned, that of the compasses being nearly East and West of each other, so that the bearing on board passes the East or West points in some positions of the ship's head, the ship's bearing must be still reckoned from that end of the needle which the shore bearing indicates, the excess above 90° being added to it, and the foregoing rule will hold good as in other cases.

Adopting our former plan, the following table may then be constructed from that in p. 26 by applying to the several compass points the amount of deviation due to each, in the same way as if it were East or West variation, and the results will be the correct *compass* courses of the ship, while her head is on either of the points against which they stand. The usual allowances for leeway and variation will of course be made to them in the day's work.

Courses by Compass.	Courses Corrected for Deviation.	Courses by Compass.	Courses Corrected for Deviation.	Courses by Compass.	Courses Corrected for Deviation.	Courses by Compass.	Courses Corrected for Deviation.
N.	N 0	E.	S. 83 E.	S.	S. 1° E.	W.	S. 84 W.
N. b. E.	N. 14 E.	E. b. S.	S. 72 E.	S. b. W.	S. 9 W.	W. b. N.	N. 84 W.
N. N. E.	N. 27 E.	E. S. E.	S. 61 E.	S. S. W.	S. 19 W.	W. N. W.	N. 72 W.
N. E. b. N.	N. 36 E.	S. E. b. E.	S. 50 E.	S. W. b. S.	S. 30 W.	N. W. b. W.	N. 60 W.
N. E.	N. 50 E.	S. E.	S. 41 E.	S. W.	S. 41 W.	N. W.	N. 49 W.
N. E. b. E.	N. 61 E.	S. E. b. S.	S. 29 E.	S. W. b. W.	S. 51 W.	N. W. b. N.	N. 35 W.
E. N. E.	N. 73 E.	S. S. E.	S. 19 E.	W. S. W.	S. 62 W.	N. N. W.	N. 24 W.
E. b. N.	N. 86 E.	S. b. E.	S. 10 E.	W. b. S.	S. 72 W.	N. b. W.	N. 11 W.

Having ascertained the amount of local attraction exerted on the needle as well as the direction in which it is thereby made to deviate from the magnetic meridian, when the ship's head is on each point of the compass, and formed the preceding table, it is evident that all bearings must be corrected for the amount due to that point on which the ship's head is whenever they are taken. In this process it is necessary to be careful to avoid applying the correction the wrong way; for as the several points and therefore the degrees on the card are always reckoned from that end of the needle which is nearest to them up to 90° at the East and West points; the same correction becomes additive to some and subtractive from others, being applied to the right if Easterly and to the left if Westerly to obtain the correct compass bearings.

At all times of taking bearings then the point on which the ship's head is *must* be noted: then the following rule for applying the deviation will prevent all mistake.

When the Deviation is EAST and } The object bears between } N. and E. } ADD to Compass Bearing  
 } S. and W. }  
 } S. and E. } SUB. from Comp. Bearing  
 } N. and W. }

When the Deviation is WEST and } The object bears between } N. and E. } SUB. from Comp. Bearing  
 } S. and W. }  
 } S. and E. } ADD to Compass Bearing  
 } N. and W. }

Let us suppose the following cases:

Bearings at anchor, Fort N. 24° W., Mill N. 50° E., Lighthouse S. 44° E., Ship's Head E.S.E.

To correct these for Deviation we find (in Table p. 26) with Ship's Head E.S.E. there are 6° E. deviation. Therefore following the above:—

Fort N. 24° W. subtract 6	=	N. 18° W.	} Correct Compass Bearings.
Mill N. 50° E. add 6	=	N. 56° E.	
Lighthouse S. 44° E. sub. 6	=	S. 38° E.	

We thus obtain the correct compass bearings of the objects.

Suppose in the above example the Ship's Head was S.W. instead of E.S.E. The Ship's Head S.W. gives 4° W. deviation. We should then have

Fort N. 24° W. add 4°	=	N. 28° W.	} Correct Compass Bearings.
Mill N. 50° E. subtract 4°	=	N. 46° E.	
Lighthouse S. 44° E. add 4°	=	S. 48° E.	

The above arrangement is so simple as scarcely to be necessary, and any one can make it for himself on considering it with the compass in his mind. But it will be found convenient to form it for reference so as to avoid disturbing the process of calculation.

In shaping a course determined on from the chart, when the compass course to be steered is found by allowing the variation, (the opposite way, because it is from the *true* to the *magnetic*,) the column of *corrected* compass courses is to be entered with it, and the compass course against it is that which is to be given to the helmsman. Thus suppose the *correct* compass course required to be steered be N. 45° E. In the column of "courses *corrected* for Deviation" it would evidently fall between N. 36¼° E. and N. 50° E., and would be N.E.¼ N. in the adjacent column. Again, let N. 54° W. be a required compass course. This falls between N. 60¼° W. and N. 49° W., or about N. W.¼ W., in the adjacent column of "Course by Compass."

Experience has proved that the local attraction exerted on the compass by the iron of the ship is continually varying, and therefore every favourable opportunity should be taken of finding it by the methods above-mentioned in different parts of the world. It is known that it not only varies in amount, but its East and West character is also liable to change. A knowledge of this very important fact, renders it highly necessary to perform the operation of swinging the ship periodically, and led to the following order on the subject regarding Her Majesty's ships, and which order is inserted at the commencement of every log book.

"As the deviation or error of the compass, caused by local attraction of the ship, becomes changed in amount by any change in the ship's geographical position, and may become entirely reversed in its direction by the ship proceeding from the Northern to the Southern hemisphere, it is invariably to be tested by azimuth and amplitude observations when at sea, and the ship is to be swung for ascertaining the change of error on arrival on a Foreign Station; and also once in each year;—the same is to be inserted in the log book, and a copy sent to the Admiralty with the quarterly returns of December."\*

From among several returns of ship's deviation made in compliance with the foregoing order the annexed examples are quoted, by which the changeable nature of local attraction on the mariner's compass will be seen, causing deviations which, unless allowed for, would inevitably lead ships to their destruction, and showing thus the importance of the above order.

\* It is also directed in the same order that a general track chart on a small scale be inserted in each log,—a most useful appendage as showing at one view the part of the world in which the log has been kept. We also read in it that *Bottle Papers* for currents having been ordered, any bottles seen floating are to be picked up, contents reported, and the bottle again thrown overboard with the original paper redated, &c.

Tables of Deviation in opposite Hemispheres.

Ship's Head by Binnacle Compass.	H.M.S. <i>Simoom</i>		H.M.S. <i>Vulcan</i>		H.M.S. <i>Pandora</i>			H.M.S. <i>Acheron</i>		
	At Portsmouth Sept. 1852	At C.G.Hope Oct. 1853	At Portsmouth July, 1852	At C.G.Hope Feb. 1853	At Plymouth Feb. 1851	At N.Zealand Jan. 1852	At N.Zealand Jan. 1853	At Plymouth 1847.	At N.Zealand 1846.	At N.Zealand 1850.
N.	7½ W.	4 W.	0½ W.	3½ E.	0½ E.	0½ W.	0 W.	5 E.	2 W.	0½ W.
N.N.E.	4½ E.	5½ E.	1 "	2 "	0½ "	1½ "	0½ "	6½ "	1½ "	1½ "
N.E.	13½ "	10½ "	1½ "	3 W.	1½ "	1½ "	1½ "	8½ "	0½ "	1 "
E.N.E.	18½ "	11½ "	5 "	13½ "	1½ "	2½ "	1½ "	8½ "	0½ "	3 E.
E.	19½ "	10½ "	8½ "	17½ "	2 "	1½ "	2½ "	8½ "	0½ "	2 "
E.S.E.	20½ "	7½ "	11 "	15½ "	1½ "	2 "	3½ "	5½ "	1 E.	3½ "
S.E.	14½ "	5½ "	10 "	14½ "	0½ W.	2½ "	3½ "	3 "	0½ "	3½ "
S.S.E.	10½ "	4½ "	7½ "	7½ "	0½ "	1½ "	2½ "	1 "	0½ W.	2½ "
S.	8½ "	0½ "	2½ "	1 E.	0½ "	0½ "	1½ "	2½ W.	0½ "	1½ "
S.S.W.	1½ "	2 W.	5½ E.	8½ "	1 "	0½ E.	0½ E.	4 "	0½ "	1½ "
S.W.	4½ W.	5½ "	9½ "	14½ "	2 "	1½ "	1½ "	5½ "	1½ "	2½ "
W.S.W.	11½ "	0½ "	10½ "	20½ "	2½ "	1½ "	1½ "	7½ "	1 "	0½ W.
W.	20½ "	15½ "	9½ "	18 "	3½ "	1½ "	1½ "	7 "	2 "	0½ "
W.N.W.	24½ "	17 "	6½ "	12 "	4 "	0½ "	1½ "	6½ "	3 "	1½ "
N.W.	24½ "	18½ "	3½ "	8½ "	2½ "	0½ "	0½ "	4½ "	2 "	0½ "
N.N.W.	18½ "	11½ "	1 "	4 "	1½ "	0½ W.	0 "	1½ "	2½ "	1½ "

The two first vessels in the above tables, as well as the *Acheron*, are steam-vessels, and the changes which they exhibit in their deviations, arising from the abundance of iron about them, are evidently very great between England and the Cape. The *Pandora* is not a steam-vessel, and her deviation is of small amount; its regularity is remarkable, and it clearly exhibits the fact of being reversed in the Southern hemisphere.

In the foregoing pages it has been shown how the Binnacle Compass may be relieved from its troublesome assailant Local Attraction,—or rather how it may be made to do its duty by granting a fair allowance for the complaint to which it is liable, and then obtaining from it all the services to be expected from any compass whatever without the assistance of another.

That wrong bearings may be obtained from want of discreet care and due attention in keeping our Repeating Card adjusted to the lubber-line according to the indication of the Binnacle Compass while they are being taken, there can be no doubt. But the same want of care and attention to the adjustments of the quadrant or sextant, would produce equally mischievous results as our card. Why may not the same care be bestowed on adjusting the Repeating Card to the indications of the Binnacle Compass before taking a bearing as there is in seeing to the adjustments of a sextant before taking a lunar distance or the sun's altitude. It is far easier,—in fact, there is no trouble about it. Watchfulness only is necessary, notice is given, and the card is adjusted. And WHEN it is so, we are even better off than with another compass, because our card is free from local attraction, which the compass is not. All that we require is for our Repeating Card to be a true Repeating Card whenever bearings with

it are being taken, and adjusting it by its lubber-line according to that in the Binnacle, will always make it so.

Having found the deviation of our Binnacle Compasses when the ship's head is on her course by this, the difference shown by the other may be always allowed for and a Course Indicator set on it accordingly.

But where another compass is used to obtain the bearing of the object it is to be placed in a part of the deck where it is found by experiment to be most free from local attraction, and the bearings are to be observed with it while the ship's head is on each of *its* points, and the position of the ship's head by the Binnacle Compass noted in another column at each observation,—and thence its deviation will be obtained.

Our shipowners might not be inclined to supply their commanders with expensive azimuth compasses on tripod stands to find their local attraction. It may be obtained without one, as shown above, but the binnacle compasses should be unexceptionable, the edge of the card showing clearly the degrees of the circle. It would then, with the Repeating Card, in *careful* hands, be equal to all the magnetic work of the ship, and should perform it as its duty is.

But in conclusion we may observe, that as the evil is likely to be an increasing rather than a diminishing one, owing to the multiplied application of iron to ships, the remedy as applied to the ships of the State is before them, and the order enjoining its observance concludes thus,—“The Captains of Her Majesty's ships will be held responsible if the above directions are not attended to.” Surely our mercantile commanders will not be behind in these matters. The eyes of foreigners are on them, and they can, if they please, preserve the same high station among them in these little matters of science, which so nearly concern them, as they are so well known to do in those of seamanship and all physical endurance. We therefore tell them, in the words of an old Seaman, who wrote above two centuries ago, in reference to their compass and its deviation, as he said of their chart of the “Sleve,” (as the English Channel was called in his day,) “have it not in light regard, for it will give you great evidence, and is worthy to be kept as a special jewel for the seaman's use, be he never so expert.”

One word more, and this to our engineers. The civil engineer in his designs stops at nothing. He spans a river or a strait of the sea, encloses a harbour, and invades the ocean domains with success, just as he pleases,—for the public benefit. In fact, his works justly obtain the admiration of the world. Surely he might help us poor seamen in our turn. He can deal with huge machines as mere toys. Could he not do the same with our merchant shipping?—they are not so heavy as our ships of war. If he would but enable us to place the ship on a turn-table, as the engine or carriage of our railway is, how easy would be the process of turning her head to the different points of the compass to find the amount of her deviation. Instead of tug-



ging a ship against the pressure of a current of tide, and perhaps wind also, could she be placed on a turn-table in the middle of a wet dock, and left there with the ebbing tide, how completely all this would be avoided. A platform might be constructed at the bottom of a wet dock, and surely heavy rollers in sufficient number might be placed under the outer part of a turn-table about thirty or forty yards across, that would support the weight of a ship, great as it is. The pivot need not share her weight, and be only used to retain the table in its position.

A ship might be floated over it at high water, allowed to ground on it with the ebb, and supported on it all standing and ready for sea as she would be on the patent slip, the observations would be completed, and she would be ready to go off again and to sea long before the next tide. It may appear impossible to do this;—but it was once considered impossible for a steamer to live at sea, or at all events to make a profitable passage! What was considered impossible in years gone by are of every day occurrence now. We have outlived all those old-fashioned objections, and the word difficulty excites us only to enterprise and the achievement of our object; and provided that the all saving principle Economy form one of the ingredients of the scheme, we do not despair of seeing even this visionary idea (if it be so) realized, and a photograph of the imagination thus become a reality under the powerful influence of engineering science.

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ADDENDA.—Referring to the Repeating Compass Card alluded to above, the proposal being new and contrary to all notions of a compass, it may be met here and there with a smile of misgiving. But where a determination is found to accomplish a purpose, and the means proposed for doing so are sufficient and not received with prejudice, it has then a chance of success; more especially when its efficiency is backed by economy and the saving of time and the chances of mistake by a repetition of bearings.

If the seaman has before him, at any time he pleases, the representative of the Binnacle Compass, with the same fittings as an Azimuth Card for his use, of what possible advantage can it be to introduce another needle, which has its own deviation and vibration to distract and confuse him. Such, we say, is perfectly attainable. The Repeating Compass Card, properly fitted with its cross-vanes and its lubber-line, *can be kept adjusted* to the Binnacle Compass by discreet and careful attention, and thus made to show what that does at all times while in use; and what more, we repeat, can be wanted? The more the subject is considered the more evident this will be. Our ship-owners will find it less expensive, and their commanders less troublesome than the Azimuth Compass; and where it fails, the failure will assuredly have arisen from want of attention to its adjustment before a bearing is taken with it. Properly made and properly used, in our humble estimation the Repeating Compass Card would answer all the purposes for which it is designed, and, while it would emancipate the Seaman from a repetition of compasses, would give results, in the well known words of the learned Dr. Inman, “sufficient for all the common purposes of navigation.”

One binnacle amidships appears to be the fairest position for the compass,

as more likely to be free from local attraction; and if one binnacle be adopted it should never have two compasses in it, and should never be moved from its position. There have been such things as sliding binnacles for the convenience of the helmsman,—but the principle is evidently most vicious. The position however of one binnacle amidst ships renders the lubber-line invisible to the helmsman, with the steering apparatus as at present contrived. An improvement is wanted here.

In cases of iron ships, where the deviation of the Compass in the Binnacle becomes inconveniently large, as in some pointed out by Mr. Towson, in a lecture lately delivered at Liverpool, the compass might be taken from the second binnacle and fixed in a position above the level of the ship's upper works altogether. Capt. W. Allen,\* in 1833, adopted this plan successfully in the *Alburkah*, iron steamer, in which he went up the Quorra, suspending the compass from the gaff end. An intelligent commander will always find a place to give his compass fair play in. Mr. Towson mentioned the case of a ship finding her way up the Channel with her compass in the mizen-top, a height quite unnecessary.

From a little work entitled "*The Magnetism of Ships*," published last year, from the pen of Commander Walker, R.N., the following extracts may be useful to our nautical readers in the choice and stowage of compasses.

"The essential qualities of an efficient compass are great directive power combined with little weight or friction on the pivot; the compass-bowl being freely slung in jimbals attached to the box, so as to preserve a horizontal position under all cases of the ship's rolling or pitching. The steel of the needle should be of pure metal, of uniform hardness throughout, and magnetised to saturation, and the magnetic intensity of a compass needle should be preserved by all possible care. We have said that a compass card should be submitted to some test. Now a very fair and efficient test of the magnetic energy of a compass needle is to try if two similar cards will, by their mutual magnetism, support each other's weight; that is to say, if the north point of the needle of one card be applied to the south point of a similar one, and their mutual attraction be such as to support the weight of the card, the magnetic intensity of such needle may be regarded as sufficiently strong if they mutually support each other's weight along with the cards they respectively carry.

\* Capt. Allen, in a letter to the *Nautical Magazine* on this subject writes,—“In the *Nautical Magazine* of February last it is stated that in consequence of the experiments of Professor Barlow and Capt. Johnson, R.N., the compasses in iron vessels have been placed about eight feet above the deck, in order to counteract the effect of local attraction. I do not wish to dispute the merit of originality with those gentlemen; but I can show that I have a right to priority in this measure. In my answer to an official application from the Admiralty, made to me on the 27th August, 1836, I gave the result of a few experiments which I made at Milford in July 1832; by which it appeared that the deviation was very much diminished at ten feet above the deck. I suggested at that time the advantage of placing the compass above the steersman's head. It was not then attended to; but when I had an opportunity, I caused a telltale compass to be lashed to the gaff, which was secured about eight feet above the deck. By this all the courses in the River Quorra were laid down by me, and I found they were not very far from the truth. As I was one of the first who ever navigated on the ocean in an iron vessel, I am the more desirous of putting in my claim as the first who has pointed out a method of counteracting the powerful effect which such a mass of iron has on the compass.

W. ALLEN.”

“The spare compass cards carried to sea in ships should be stowed in boxes and their opposite poles connected by pieces of soft iron in the judicious manner recommended by Professor Barlow and practised in the Royal Navy.”

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*Directions for using the Repeating Compass Card.*—The intention of this Compass Card is, as its name implies, to repeat the indications of the Binnacle Compass so as to obtain Bearings with it by means of its cross vane.

Place the tripod stand so that the two similar legs are aft and an imaginary line from one to the other is at right angles to the ship's keel, as near as can be carefully determined. It will then receive the bowl, with its jimbals, of the Repeating Compass Card, with the lubber-line in it in the direction of the ship's head.

Place a careful assistant to look out on the Binnacle Compass, standing close abaft it, whose duty it will be to direct his eye to the lubber-line in the bowl immediately *over* the pivot. He is to continue watching the ship's head by the Binnacle Compass and to give the degree (if the card is graduated to it) or nearest quarter or half quarter point to the observer at all times,—announcing when a change takes place.

When the Repeating Compass Card is placed on its stand, the observer is to call for the Bearing of the ship's head by the Binnacle Compass, and is to adjust the card of the Repeating Compass to it, so as to show the same degree, by turning the milled headed screw underneath the bowl. While the ship's head is steady and the Card is in agreement with the Binnacle Compass, the observer takes the bearing he wants by the cross vanes and reads it off, repeating to his assistant the degree he has his card adjusted to for the ship's head, so that he may know that the Compass Card and Binnacle agree. Should a change of a degree or so have taken place in that by the Binnacle, it must be allowed to the right or left, as the case may be, in the Bearing obtained by the Repeating Card. But this will be always avoided by taking care that the two are in unison immediately before the Bearings is obtained.

The observer will take care to re-adjust his card immediately before every bearing he takes.

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The Repeating Compass Card is prepared by Mr. Dent, 61, Strand, London, and may be had fitted or not with jimbals.

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Any of our readers who may be desirous of possessing this article in a separate form may obtain it of Mr. Potter, 31, Poultry.

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PORT AND HARBOUR OF CROOKHAVEN.—*With a Plan.*

Mr. George Peacock, of the firm of Seymour Peacock and Co., shipbrokers of the city of London, has taken some interest on the subject of Crookhaven as a port of call for orders, and the following letter from Messrs. Notter and Co. contains so much information on the point that, with the permission of those gentlemen, we have much pleasure in transcribing it, as bearing on the plan we publish in the first number of this year's *Nautical*, together with the sailing directions for the harbour.

Sea View, Crookhaven, 4th July, 1854.

Dear Sirs,—In reply to your esteemed favour, requesting particulars of Crookhaven as a fit place for ships calling for orders, we have much pleasure in complying with your request and in furnishing you with the following, viz.:

The Harbour of Crookhaven and Long Island Channel are both under our control, having pilot cutters, equal to those of Queenstown, for the purpose of piloting vessels to all intermediate ports from the Shannon to Waterford and also to Liverpool. These cutters are always cruising off the Fastnet Rock Lightlouse, which, from its conspicuous position, since the light has been removed to it from Cape Clear, is the first landfall generally made by all vessels bound to the St. George or Bristol Channels, and we suggested to your Mr. Peacock, when we had the pleasure of seeing him here, that it would be a great advantage to the mercantile community to have the additional clause of Crookhaven inserted in charter-parties, viz., "Crookhaven, Cork, or Falmouth," as our cutters could put orders on board off the Fastnet, should the ship not require to enter or anchor off the harbour for supplies.

The capabilities of our harbour for anchorage and safety no one can deny, it being considered one of the best in the United Kingdom, as expressed by those eminent naval officers and nautical surveyors, Captains Washington, Wolf, and Church. The bottom of Crookhaven Harbour, Long Island Channel, and Ballydinlyn Bay consists of mud, sand and shells, and tough blue clay, clear of all rocks, and excellent holding ground; indeed, a ship without anchors or cables may run into Crookhaven with impunity and take the mud at its upper end, which is like a dock. During the late American war, several line of battle ships rode in perfect safety both in Crookhaven and Long Island Sound.

Our pilots are in the habit of anchoring vessels calling for supplies off the entrance of the Harbour, in eleven fathoms water. They are perfectly secure from S.W. gales round to E.S.E. by the north, and should a *southerly* gale come on they can either run for Long Island Sound or take the Harbour, according as it may be blowing from the eastward or westward of that point. We have frequently a large fleet of windbound ships lying in Crookhaven Harbour, and at one

period lately had as many as 130 vessels, from all parts of the world, bound to Queenstown or Falmouth for orders. The Queenstown ship agents are naturally jealous of this port, so that they do not forward orders unless the consignees particularly request them to do so.

Lord Charles P. Clinton, brother of the Duke of Newcastle, lately purchased one side of Crookhaven and Mr. Thomas Deane Notter is the proprietor of the other side, and both parties are alike anxious to see the Port of Crookhaven advanced, by its capabilities and advantages being made known. His lordship intends laying down a patent slip on a spot well adapted for the purpose inside Harbour Island; and by placing a large warping buoy on the northern extreme of the Alderman Rock, as proposed by Mr. Peacock, it will much facilitate the ingress and egress at all times. A steam tug is also in contemplation. There are no port charges or light dues demanded from vessels calling for supplies or orders, and the pilotage in and out is very moderate. Provisions of all kinds are reasonable and abundant, and can generally be supplied at ten per cent less than at Queenstown. Fresh water is excellent and abundant and no charge made for it. Canvas, cordage, and ship's stores are to be had at moderate prices. Store rent also for vessels discharging for repairs is very reasonable; and ship carpenters and labourers are to be had at lower rates of wages than at Cork or Limerick.

Through the influence of Lord Clinton, it is expected that the electric telegraph will be continued on to Skibberreen and Crookhaven shortly; there is now a regular post of a few hours from the existing terminus of the electric telegraph, so that Crookhaven may be said to be already within ten hours of London. And vessels bound to Liverpool or Glasgow, calling at this port for orders during the prevalence of easterly winds, might take advantage of going west of Ireland, and even, possibly, arrive at their destination as soon as they could have reached Queenstown, as we have frequently observed ships endeavouring to beat up against easterly gales for days together off Cape Clear, and eventually take shelter in Crookhaven.

We are, &c.,

NOTTER AND CO.

Messrs. Seymour Peacock and Co., London.

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When running from the offing for Crookhaven, the opening to which cannot be made out till very near the Alderman Head, steer in from the Fastnet N. 27° W. (north), keeping the latter rock due S. 27° E. (south), as near as may be, until Mizen Peak comes on with the Alderman Head. In doing this you cannot be deceived, because at the same time, or nearly so, Mount Gabriel will appear on with Leamcon signal-tower and castle to the north-eastward, and the Brow Head (on which there is also a signal-tower) will appear to close in with the Alderman Head to the westward. The harbour will now begin to unfold itself. The Revenue officers' houses, on the northern

shore, will be first seen, and, ultimately, Coghlan's white look-out tower on the southern side.

Crookhaven is a very convenient place for vessels drawing fourteen feet water during bad weather or easterly gales, against which it affords the most ample shelter.

When you have fairly opened the harbour run right in, keeping directly in mid-channel. The signal tower on Brou Head, three times its own apparent breadth open to the northward of O'Driscoll's house (a remarkable white house on the eastern part of the peninsula and standing entirely by itself), S. 62° W. (west), will lead you to the northward of the Alderman Rock, and is also the mark for the fairway of the entrance.

The Alderman Rock lies off the head which bears that name, and is, consequently, on the southern side of the entrance. Two distinct heads of this rock are always above the water, and of some considerable extent.

The bottom in Crookhaven is dark blue mud, remarkably soft as well as deep, and there is no danger whatever therein, excepting one solitary rock which lies off Granny Island, which shews at low water spring tides. The long eastern mark for this rock is Leamcon Tower just open to the southward of the bluff point of Rock Island. Vessels, therefore, of any burthen, in the event of the loss of anchors, or otherwise in distress, may boldly run quite up to the haven until they take the ground, provided they keep in the middle of the channel. Pilots are always ready, and will come off in any weather when signalled.

You cannot, however, enter Crookhaven unless the wind is to the southward and eastward of S.S.W. by compass, or to the eastward and northward of N.b.W.; but when the wind happens to be foul for Crookhaven, it will prove fair for Long Island Sound. You may anchor, with westerly and northerly winds, one mile north-eastward of the Alderman Rock, in very good ground; but great circumspection must be used in providing against southerly winds. There is a light-house on Rock Island Point, on the north side of the entrance of Crookhaven: the lantern is 67 feet above high water mark, and exhibits a fixed bright light.

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#### THE ROAD ACROSS THE ATLANTIC.

The following proposal of Lieut. Maury appears to be very judicious and shall have all the assistance we can give it in becoming adopted.

But what remedy can we provide against the liability to such dreadful disasters as that which befel the *Arctic*? The three lights do not constitute a sure preventive. I have reflected much upon the subject, and I like the ideas of my friend R. B. Forbes, of Boston, better than any I have heard. He proposes a double track across the Atlantic for steamers. By having one

route for them to go and another for them to come, we should not avoid entirely, but we would greatly lessen, the liability of collision. If steamers would agree to follow two such routes I think I could lay them off so as to have them quite separate, except at the two ends, without materially lengthening the passage either way. For example, the route from Europe shall be by the great circle as it is now, it being understood that vessels as they come by it shall keep north of a certain line to be drawn from the offings on that side to the offing on this, and which line shall pass fifty or sixty miles south of Cape Race, and thence, shaving Sable Island on the north, shall end in the offings of Sandy Hook.

This would leave quite margin enough to enable the vessels to allow for their maximum errors of reckoning, without feeling pinched for sea room. This route would lead the westward bound steamer, particularly if she came out to the north of Ireland, to a part of the ocean that is less travelled by vessels bound in the opposite direction than any other part of the Atlantic between New York and Europe. It would be seldom indeed that the steamers coming this route would meet a trader. They would fall in, however, especially along the western half of this route, with vessels bound to and from the ports of Newfoundland and others of British America. But along that part of this homeward, or American route let us call it, which lies to the eastward of Newfoundland, the liabilities to collision will be small indeed.

Now for the route to go, or the European route. Let us draw another line from the offings of Sandy Hook to the offings of Liverpool, or say of Cape Clear. This line, in the middle of the Atlantic, will be about 100 miles south of the southern limit of the American route, and is, we shall suppose, to be the northern verge of the European route; that is, all the steamers bound to Europe will keep south of this line. Steamers taking this route will have the current of the Gulf Stream in their favour, which will quite make up for its greater distance. Whereas, when on the American route, they will avoid the set of the Gulf Stream almost entirely. Another recommendation in favour of the European route is, that the fogs to be encountered along it are not quite so thick and prevalent as they are along the American route. Now, you observe that by laying off these two routes we will not have removed those who cross the Atlantic in steamers from all liability to be run down, but we shall have greatly lessened that liability. Transient steamers may still cross these tracks, and run foul of the mail carriers; but the liability of collision even then is lessened, for the crossing vessel will know where the track of the regular steamer lies, which way she will be steering, and, therefore, by knowing on which side the danger is, be much more apt to avoid it. Most of the vessels to be fallen in with on the European route will be going with the steamer,—i.e., to the east. Few will be coming west, for when coming this way they avoid the Gulf Stream as much as they can.

Now, as to the safest speed in a thick fog. That depends, to some extent, upon the state of the wind and sea. When the sea is smooth and the wind light, the slower the safer; but when there is a sea on and a breeze blowing, then the faster the steamer goes the better, for the danger is not in proportion to the number of knots in an hour that a steamer sails through a fog, but to the number of hours she is in it. If, therefore, a vessel at her topmost speed runs through a fog in six hours, she would be no more liable to be brought into collision with one of the hundred or two vessels that may always be passing through it, than she would if she stood still in it for six hours. And if she were twelve hours in the same fog, either hove to or running at full speed, her liabilities of coming into collision with some one or other of the vessels passing through it would be just doubled. Not only so:—when the steamer stops, all the sailing vessels are making the best of their way. Suppose that

they be passing through the fog region at the rate of 100 miles in six hours, the steamer by going at half speed and continuing in the fog for twelve instead of six hours would be exposed to collision with some one of 200 instead of 100 vessels; and when vessels come into collision at sea the damage they do each other does not always depend upon high speed so much as upon moderate speed and the state of the sea.

The route between the United States and England is the "Broadway" of the Atlantic, and I rather think it is your habit when you are crossing your Broadway, to quicken, not to slacken your pace, that you may thereby lessen your chances of being run over.

There is another advantage in going at full speed through fogs out at sea (I mean at the greatest speed consistent with the well-being of engine and boiler) along these new routes, and it is this, viz.: the danger of collision is to be with sailing vessels rather than with other steamers, and the noise which the paddles of a steamer make when she is at full speed, is the best warning that sailing vessels can have of her approach. They can hear the splashing of the paddles farther than the sound of any steam-whistle or bell. This noise cannot be heard by another steamer so well, because the noise of her buckets and machinery drown it.

Now if these routes were laid down on the general chart of the Atlantic used in navigation, they would have the effect of putting sailing vessels on their guard; for every one would be sure to enter these "steam lanes," as they would appear on the chart, with much caution. Suppose these routes were agreed upon, and were put down on the charts as lanes, in one of which all the steamers that pass would be coming this way, and in the other they would be going in the opposite direction.

Now these lanes being no broader than it may be necessary to include the errors of latitude, to which steam navigation is liable, vessels would be content to leave such narrow streaks very much to the steamers exclusively. The sailing vessels would hurry across these lanes north and south, but they would seldom elect to run along them, preferring rather to edge off and get on one side or the other.

In view of your connection with the seafaring community of New York, I would be glad if you would make any use of these suggestions that you may think likely to prove beneficial. I can only say, that if it be thought worth while to pass action upon them, I should be happy to be called on for any service that I may be able to render in the premises.

Very truly yours,

M. F. MAURY, Lieut., U.S.N.

To Walter R. Jones, Esq., President Atlantic Mutual  
Insurance Company, New York.

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### THE STORM IN THE CRIMEA.

#### *Extract of a Letter.*

We are expecting a regular hurricane at home on the arrival of the news of the late disasters. Shipowners, insurance offices, widows, and orphans will not pass silently the recklessness which placed so much property in a position of certain destruction. What would be said, Sir, to the Skipper of a coaster who would anchor his craft in an open bay, with thirty-six fathoms of water close to the shore,—and that shore a perpendicular height,—not for a tide, but for days, and, in some cases, weeks? and this, too, with a column of



mercury at 29.50, and a light land wind blowing that would at least have taken them out of the bay if the orders had been given.

[The foregoing extract from the letter of the Commander of a ship off Cape Khersonese in the late gale, says as much as we could on the impropriety of ships remaining in Balaclava Bay to ride out a gale of wind on a lee shore! What other results could be expected?—ED.]

Balaclava, Nov. 18th, 1854.

A hurricane of a violence which must be rare even in these seas burst upon the coast at Balaclava, Katscha, and Eupatoria on the 14th November. Its violence was such that, in the sheltered inlet of Balaclava, the houses were unroofed; whole rows of poplar trees were thrown down; and the elements appeared to sport with the most solid work of men's hands.

I have sought, on more than one occasion, to describe the grand and precipitous character of the scenery round Balaclava. I have endeavoured to depict the beauties of the bay; the vivid colours of its wooded cliffs; the depth of the sea at the base of the frowning rocks which dip their sides in it; and the deep blue tinge of the waters which gently balance on their bosom the brightly burnished man-of-war, the fast steamer, and the graceful ships whose sails are lazily reflected in the ripples. Grand as is the sight of Balaclava Bay in pure weather, there are other and more terrible phases in which it assumes an awful aspect; and nothing can be conceived more terrific or more awful than it was in the gale of the 14th.

The barometer, which had been falling on the previous evening, dropped so rapidly towards daybreak, that the hurricane was, as it were, foretold in all its suddenness and weight. Unfortunately for many a brave and hearty man who rose on that eventful morning there were upwards of thirty ships outside the harbour of Balaclava at the moment that the gale burst out in all its fury. Sad experience showed that the Admiralty agents here had been sadly lacking in knowledge or discretion to permit so many valuable vessels to remain exposed to the chances of the weather in so unsafe an anchorage. Admiral Lyons, whose ship (the *Agamemnon*) had been lying at anchor outside of Balaclava, sailed out at dusk on the evening of the 13th, foreseeing the fearful nature of the coming gale. The *Retribution*, *Vulcan*, *Niger*, and *Vesuvius*—having perhaps the discretion, but not the order, to move—remained at anchor outside, in company of the *Melbourne*, *Avon*, *City of London*, *Prince*, and *Hope*, steamers; the *Wild Wave*, *Mercia*, *Rip Van Winkle*, *Resolute*, *Progress*, *Panola*, *Wanderer*, *Caduceus*, *Lady Sale*, and other transports.

At daybreak, the weather being extremely dark, the wind began to rise in heavy squalls from the S.W., and in about three hours blew a perfect hurricane. The sea, which seemed to gather in a dark mass under the heavy clouds which covered the sky at dawn, was gradually lashed into the whiteness of a boiling cauldron. As each sea was heaved high into the air by the violence of the gale, its crests were swept away in thick foam over the space, and obscured the atmosphere. All idea of level, all regularity of wave appeared to be lost in the seething and boiling mass which broke with a noise of thunder on the rocks which confined and defied it. The surf, which rose to an awful height, burst every instant with a terrific roar upon the rocks, and rolled its heavy crests of spray right over into the land hundreds of feet above the surface of the ocean. In the midst of this awful cauldron lay about thirty ships.

The *Progress*, an American, was the first that parted from her anchors. She drifted almost instantly on to the rocks, where she disappeared after two or three bumps. A few miserable objects, much mangled and bruised, were thrown up alive by the waves: they were six in number, and part of the crew. The *Resolute*, which had lain at anchor at no great distance from the

*Progress*, was the next to perish; and she did so almost on the very spot where the *Progress* had struck. This ship, which had a valuable Government cargo, was commanded by Captain Lewis, an excellent seaman. For a long time his ship had been lying safely inside of Balaclava Harbour; but, in consequence, probably, of some hostile Russian movements in front, it was thought fit by the Admiralty Agent, Captain Christie, to order her and several other transports out of harbour in order that the *Diamond*, *Sanspareil*, and other vessels of war might use their guns with greater facility. Knowing the treacherous nature of the ground in the bay, the enormous depth of the anchorage, and the violence of ordinary S.W. gales in the Black Sea, Captain Lewis had no sooner taken up his berth outside in forty fathoms, than he repaired to the shore, and there exposed to the principal agent for transports the danger of his ship lying in her present exposed position. His protest was not listened to, and he was reprimanded for making it. Notwithstanding this repulse, Captain Lewis renewed his protest both verbally and in writing.

At the first symptoms of the coming gale, indicated by the barometer on the evening of the 13th, all the light spars in the ship were struck; and, early on the morning of the 14th, the port anchor was let go, and cable veered to the utmost possible length. There were hopes that the two anchors and chains would suffice to keep the ship in her place. The weather thickened, however, so fast, the wind came on with such terrific squalls, and the sea rose with such rapidity, that it was thought advisable to lighten the ship. The mainmast was cut away. The waves, however, threw her bodily out of the water, and buried her again as she fell. The remedy was ineffectual, and, almost immediately after the mast fell, the starboard anchor was lost by the breaking of the chain. There was still hope left. The port anchor held; but even this might not remain long if the ship were not further lightened. So the mizen and foremast were cut away; but the mainmast and the mizen had fallen on deck, and were rolling to and fro over the wreck, maiming the sailors and breaking the bones of all they came in contact with. Numbers were disabled in this manner before the final moment, when every one was to trust to himself for a last effort to save life. That moment, unhappily, was not far distant. The port chain parted in one of the heaviest seas, and all hope of saving the ship was gone. The crew—at least as many of them as were not disabled—sembled together on the poop, where they waited till the ship should strike. But, such was the violence of the wind, two poor fellows were blown away when they came aft. The first bump which the *Resolute* gave on the rocks pitched off four men, who never reappeared, the united force of the water and the wind smashing them on the rocks. The second bump broke the unfortunate ship to pieces, and precipitated the miserable crew upon the roaring water. Poor Captain Lewis was crushed between the ship and the shore as he hung down from a line fast to the poop. The only men who were saved were those who fell into the sea and were washed up, some of them in good condition, others bruised and injured. The third officer of the ship—a young fellow named Owen—was amongst the first who succeeded in creeping out of the breakers.

The *Resolute* was followed on shore by the *Wanderer*, an American vessel, which went to pieces immediately: not a soul on board was saved. Then came the *Kenilworth*. She also had lost her masts, and was holding on with her anchor, when she was fouled by the West India Mail Steamer *Avon*, and immediately drove on shore. The crew all perished, with the exception of seven hands, on the very spot where the *Resolute* and *Wanderer* went down. The breakers were beginning to have other dangers added to those naturally incident to them, and large pieces of mast and wreck were to be seen floating about, with biscuit and rum casks, bales of hay, and chests of goods, all knocking together, and rendering the chances of life in the midst worthless.

The *Prince*, a splendid new screw steamer, on her first voyage, shared the fate of her consorts, and was drifting on shore as the *Kenilworth* broke to pieces. She had been lying in twenty-five fathoms, with her anchors down, when the fury of the gale burst upon her. Captain Goodall and Captain Baynton, the Admiralty Agent, took the most energetic measures at once, and the masts were all cut away. Unfortunately, this was done in such a way that the rigging of the mizen mast was entangled in the screw. Steam was turned on, and in an instant the machinery was inextricably involved; and the ship's steam power was gone. The port chain, in the meanwhile, had broken; and the starboard anchor not holding, the ship began drifting on shore. It was evident from that moment that the fate of the unfortunate vessel was sealed. Captain Goodall and Captain Baynton called all hands together, and having stripped off their heavier clothing, told the crew that they had done all they could to save the ship, and now every one must try and save himself. It was a quarter past nine o'clock in the morning when the ship struck; and so tremendous was the sea at that moment, that, a quarter of an hour later, not a vestige of the ship was to be seen. She thumped five or six times, then broke across the middle, and was torn to fragments; six men and a Midshipman, named Cotgrave, escaping out of 150 souls who were on board. The *Rip Van Winkle* and the *Panola* soon followed the fate of the rest, and were lost with all hands.

In the meantime, several other ships were lying dismasted, and in very critical positions. The *Retribution*, which was furthest in the bay, had lost all power over her steam by the loss of her rudder. The *Vesuvius* had cut away her mainmast, and was holding on with her anchors. The *Niger* was steaming at her anchors, and so held her ground with all masts standing; and the *Vulcan*, which was full of Russian prisoners, was holding on in the same way. The *Melbourne* lay dismasted, with the exception of a stump of her main still standing, and, like the *Prince*, had her screw disabled by her rigging. The *City of London* had slipped from her anchor and made a good offing, after incredible escapes. The *Avon*, which followed the same course as the *City of London*, was not so fortunate. She slipped her cable early in the morning, and steamed out to sea. She made good way for a time, but before she had got any considerable distance her head fell off before the wind, and, although every means was resorted to to check her, by putting tarpaulin in the mizen rigging, the ship wore round in spite of everything. The engines were now stopped, and the ship began drifting at tremendous speed. She came, in this way, athwart the unfortunate *Kenilworth*, and the two vessels did each other material damage. The starboard bower had been let go, and the *Avon* slowly came up before the wind, after receiving the *Kenilworth's* buffet on her starboard bow. This was a favourable moment, the wind was steady, and the *Avon* slipped her cable and steamed again to sea. Some distance was gained in this way, when the ship's head again fell off, and the same means as those used before to keep her straight proved ineffectual. The engines at that moment were driving at full speed, with four pounds added to the steam valve. The ship falling off, therefore, placed her and the crew in imminent peril, as it was feared that neither points of the bay could be weathered with success. The ship would not answer her helm, and was otherwise unmanageable. It was determined to ease her then by cutting away the mainmast; and this was done, involving the loss of the mail boat and dingy. An attempt to hoist the fore-staysail completely failed, and the canvas split to shivers. The *Avon* continued drifting on those fearful seas, which washed over her fore and aft, and blinded all on board with its crests of foam. In this awful dilemma, knowing that the ship must be lost on the rocks, yet doubtful whether it would be possible to wear, the Captain resolved to make for Balaclava Harbour, the mouth of which, almost invisible from the spray

which dashed into it, might be dimly seen receiving the whole fury of the seas. Reversing its engines at full speed, the *Avon's* stern was brought to the wind. Moving, then, ahead as hard as the steam-power would allow, she darted in the direction of the opening, which loomed in the fog in front. The drift of the ship had, meanwhile, taken the *Avon* close to the *Vesuvius* and *Melbourne*, which were at anchor at no great distance from each other. It was impossible to pass both without doing some damage. The *Melbourne* was cleared by a few feet, and the *Vesuvius* lost her jib-boom. The *Avon* then dashed at the entrance, and a providential puff of wind shifting her about three points, enabled her to clear the rocks, and steer safely through the narrow opening into the harbour.

The aspect of the port was hardly less remarkable than that of the shore outside. The ships being either made fast to each other, or with warps to the rocks, began drifting up the harbour from the first moment of the tempest breaking out; and although anchor after anchor was let go, and warp after warp paid out and fastened, the latter might be seen in all directions cracking like packthread, and the former visibly drove over the bad holding ground at the bottom. The result was, that most of the ships which were lying nearest the wharfs, or which, from their size, were overlapped by larger vessels, suffered extremely from the external pressure exerted against them, and were mauled to a considerable extent. The *Sanspareil*, which was anchored stern on to the wharf, drove broadside on the shore; and, in doing so, pushed and crushed together a number of smaller craft. The *Bride* was driven on to the *Wild Irish Girl*, which she stove in at the stern, while the mainmast parted with a crack. The *Trent*, which had commenced overnight to haul into a new berth for coaling, was caught by the full fury of the wind, rushing, as down a funnel into the port. The *South-Western* engulfed itself in the paddle-wheel, and carried the paddle-box boat away on to the bridge; the warps flew about in all directions; and, the ship drifting, the cat-head and figure-head struck against the *Gertrude*, and made her look very ragged about the bows. The *Gertrude*, at the same time, crashed against the *Tonning*, whose stern made a deep impression in the side of the *Minna*. The *Medway* also suffered from coming in contact with the *Edendale* and the *Star of the South*; and the *Harbinger* drifted down to her without doing much damage. The *Brenda* broke adrift from her moorings, and was observed almost flying across the harbour, with her port paddle-box blown off, and sponson broken. H.M.S. *Ardent*, which, in the morning, lay near the mouth of the harbour, lost her rudder in the early part of the gale, and drove in, followed by the *John Masterman*, which had been started from her moorings by an Austrian brig. This brig having lost her anchors outside, had driven on to the rocks to the left of the harbour, canted round and sunk, her masts just appearing above water. The *Avon* coming into harbour, drifted against the *Victoria*; and, half an hour afterwards, the latter broke from her anchors, and, heeling on shore, broke her rudder and damaged her screw. The *John Masterman*, before driving out, fell foul of the *Sovereign*, and seriously injured her. Such is a slight history of the action of the gale on the shipping in the harbour, during the 14th.

At one o'clock in the afternoon, the wind moderated slightly, but the disasters of the day were not over. The *Wild Wave*, which had been holding her ground outside for a long time, began to drift at two, and her crew left her in a life-boat; the Captain, Mate, and a boy, alone refusing to go. The anchors slowly dragged until nearly three o'clock, when the ship struck. It was a melancholy and fearful sight to witness. The vessel was perfectly preserved until that moment, notwithstanding the seas which dashed her high into the air, and then buried her. She was so strong, yet so light, that her masts remained firm in her, and one boom only was swinging in the wind.

The three unfortunate hands might be seen on the poop holding life-buoys in their hands, and watching the opportunity for escape as the ship struck, whilst, all around them, the sea was lashed into a grey foam, and covered with the fragments of the previous wrecks. The *Wild Wave* did not, however, break like her predecessors. Her anchor chains not having parted, she was dragged back to sea by their pressure after she had struck, and it was not till she had bumped about a dozen times, that she seemed to come so close on, that the crew could jump on the face of the rocks. One man was now observed to jump clear; he scrambled away like a wild cat. The second followed almost instantly, but with less agility; and the surf caught him, literally crushing him on the rocks. The third poor fellow fell between the ship and the shore, and was killed almost instantly. The waves then made a clear sweep over the deck of the wretched vessel. Masses of barrels were seen rushing from under the sides, and in a few moments there was not a trace left of the *Wild Wave*.

In the distance it was gratifying to see the *City of London* holding well out to sea, the *Vulcan* rolling safely in the trough of the sea, whilst the *Vesuvius*, having slipped from her chain, was entering in safety the harbour of Balaclava. The *Retribution* continued to ride at her anchor, as well as the *Melbourne*, *Caduceus*, *Mercia*, *Sir Robert Sale*, *Lady Valiant*, and *Pride of the Ocean*. The unfortunate survivors of the wrecks were hauled up by ropes from their dangerous position at the foot of the precipices, by crews from the *Trent*, *Tonning*, *Avon*, and other ships; and well attended to.

The number of lives lost has been immense, and at present cannot be calculated. It is difficult to say, likewise, what has been the destruction of property. I hear that thirteen ships have gone ashore at Eupatoria, and that a Turkish man-of-war and eleven vessels have been wrecked at the Katscha. This is a fearful catalogue of disasters. In the camps the gales were severely felt. There were few of the tents that were not blown down; and much sickness has been caused by the exposure of the troops to the fury of the elements. How the Russians have tared without cover of any kind, I cannot pretend to say. Hostilities, of course, have been very slackly carried on from both sides, but the positions which we must now hold through the winter are strongly secured, and there is no doubt that, with the reinforcements, we shall be able to take the offensive early. There are rumours of the Emperor's arrival at Sebastopol, but I need not say they are not believed.

The total loss of ships by the late gale is given at thirty-four. The Cossacks brutally fired at the wrecked crews at the Katscha, and knocked many of them into the water. No attempts were made to save any of our men. Captain Franklin and four men who were taken prisoners, made their escape, by taking to the water and swimming to a man-of-war's boat in the offing, near Sebastopol. The cruelty of the Cossacks shows the real nature of the Russian. The politic kindness of the Czar in liberating Lord Dunkellin does not cover the brutality of the national character.—*Illustrated London News*.

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#### THE ATTACK ON PETROPAULOVSKI.

[Extract from a letter received from an Officer of one of Her Majesty's ships engaged in the late attack on the Russian settlement of Petropaulovski, in Kamschatka.]

September 9th, 1854.

We arrived off Petropaulovski, Kamschatka, on the 28th August, after a very tedious passage from Honolulu. We were becalmed very frequently, and

the rain poured down without ceasing for eight or ten days. Our squadron comprised her Majesty's ships *President*, *Pique*, and *Virago*; the French flag-ship *La Fort*, *L'Eurydice*, and *Obligado*; the whole forming a very imposing force. All the ships were painted entirely black, to render their strength more doubtful to the Russians.

On making the high land of Kamschatka, our excitement was very great, having little or no idea of the position and strength of the batteries we were about to attack. About two p.m. on the 28th the Admiral Price and the Secretary went on board the *Virago*, and proceeded to Awatska Bay to reconnoitre. We were kept in suspense till about midnight, when the Admiral returned, and we then got but a faint notion of the strength of our enemy. On the following morning all the squadron made their way to Awatska Bay, the approach to which is very grand; high mountains (volcanoes) appearing on either side, covered with snow, and looking magnificent amongst the clouds. On one side of the bay, on a hill about 700 or 800 feet high, we perceived a lighthouse; in front of which, and commanding the entrance, is a large gun, which, as we neared the land, was fired, to give the alarm to the batteries and town, situated out of sight of the entrance and about eight miles up the bay. We passed this point in great style, the *President* (with the Admiral's flag flying) leading the way. We anchored out of gunshot of the batteries, which were all manned and ready to receive us.

The Admiral then ordered the *Virago* to proceed towards a battery of five guns, and have some long range fire (about 2,000 yards) at it. The battery opened fire at once, and I think the *Virago's* guns did not do much execution on this day. After opening the ball, she took up her position amongst the squadron. I am afraid I can convey but a very vague idea of the strength and admirable position of Petropaulovski. The Russians have certainly done their best to render it impregnable, and they have, in our operations against them, proved good soldiers and brave men. Awatska Bay, in which this hornet's nest is situated, is of great magnitude, large enough to enable fifty sail to manoeuvre in it with ease and safety. The place is situated at the base of a mountain about 12,000 or 14,000 feet high—a volcano covered entirely with snow; we had the pleasure of witnessing it in action, which was worth seeing. The town lies in a hollow, and another huge mountain is behind it. The shape of the harbour is something like a horseshoe, and at the entrance to the port, on one side, is a battery of three heavy guns; and a little further in, towards the town, is another long battery of eleven guns, well built, with embrasures; and, from its peculiar position on a spit of land, running nearly across the harbour, rendered it very formidable, as behind it lay the Russian frigate *Aurora* and corvette *Dwina*, with their broadsides facing the entrance to the harbour. We called this lot "The Snake in the Grass."

There appeared to be at anchor when we arrived, in addition to the two ships above named, two merchant vessels, one bearing the Hamburg and the other American colours. Opposite these two batteries, and on the other side, is a circular battery of five guns (heavy ones too), which commands the entrance entirely. Around the hill on which this battery is placed, and in a hollow, is a battery of seven guns, commanding the bay, and a little further in, on the same side of the hill, is a low battery of five brass guns, which also commands the bay. In addition to these there are three other batteries in and about the town; making a total of eight batteries and the citadel, the whole mounting probably fifty guns.

On the 29th, the day after our arrival, an unfortunate and awful calamity occurred, which for a time stupified every one in the squadron; our beloved old Admiral Price fell mortally wounded, sad to relate, from a pistol bullet fired by his own hand. As early as six a.m. he was on deck, and even ascended

the rigging of the *President* as high as the main-top, to obtain a better view of the enemy's position; during the forenoon he visited the French Admiral, and returned to his own ship quite cheerful. We were all getting under way to commence operations, when the Admiral went below and passed in to the quarter gallery. At that minute the report of a pistol was heard by all on board the *President*, and it was soon known that the poor old Admiral had shot himself. This was about half-past ten a.m. The medical officers were immediately with him, and as soon as the poor old gentleman recovered from the shock of his wound he became quite calm and composed—much more so than all who were with him; he appeared to know all who approached him, and spoke in the most kindly terms of his officers and men.

The *Pique* was moving in to open fire when this distressing event took place; she was signalled to anchor, and her captain (Sir F. Nicolson) went on board the *President*. Soon afterwards the French Admiral (who is a very aged and infirm officer) arrived with his surgeon; he was greatly overcome, and, I am told, was so agitated as to be obliged to leave the cabin to compose himself. Admiral Price desired Sir F. Nicolson to take charge of her Majesty's ships, and to follow out the previously arranged measures for taking the place, expressing himself confident of our success. The chaplain of the *President* was with the admiral in his last moments.

On this sad day of course nothing was done; but on the next operations commenced in real earnest. The battery called the "Snake in the Grass" fell to all of us, as also the little battery and the circular one, all of these facing the harbour. The ships engaged on this day were *President*, *La Forte*, *Pique*, and *Virago*. The little battery was soon silenced, and a party of our marines and seamen landed and spiked the guns. The ships' guns effectually silenced those of the circular battery for that day, and we all turned our attention to the "Snake," which proved a very troublesome and ugly customer; a rapid shower of shell and shot soon cleared it, and we then piped to dinner. After dinner we had another go at our friend, who opened fire on *La Forte* with great precision, and several shot-holes in her hull attest the accuracy of their aim. *La Forte* had one man killed this day. *President* soon came within range, and between her and *La Forte* the battery was soon completely done up. To show the perseverance of the Russians, there was a sentinel whom all our shots could not drive away; he appeared to walk his post quite unconcerned, and there he stuck throughout; luckily for him, I believe he received no injury. The *Virago*, on steaming out, received a shot in her "counter," which damaged the ship, but wounded no one. We all hauled out of range towards evening, satisfied with our first attempt.

On 2<sup>d</sup> September the body of our lamented Admiral (Price) was put on board the *Virago* and conveyed to an unfrequented part of the bay, and there consigned to the earth. The officers of the *President* only attended the funeral. The place of burial is marked at present with the letters D. P. cut on a tree by the admiral's servant.

After some debate between Sir F. Nicolson and the French Admiral, it was resolved to attempt the place again on 4<sup>th</sup> September, by landing a party of seamen and marines from the French and English ships. They were to be guided by two Americans acquainted with the place, who had been fallen in with by the party who went to bury the Admiral, and brought on board the *President* to afford information about the place. On Sunday, 3<sup>rd</sup> September, all arrangements were made for the landing; the men all properly equipped, and instructed as to what was before them the next day. All were confident of the success of their hazardous expedition. At half-past one on Monday morning the hands were called, the intention being to make the attack at day-break. After a breakfast preparations were made to go on board the *Virago*.

The landing-party sent to her amounted nearly to 700, of whom half were French. They were all well armed, and ready for anything. A vast number of officers accompanied the party. By six o'clock all were on board the *Virago*. Taking in tow *La Forte* and the *President*, she steamed in towards the batteries. The plan of attack was, that the *President* should engage a battery of seven guns, called the "Saddle Battery," and *La Forte* to do the same with a battery of five guns, called the "Gorge;" the *Virago* to effect the debarkation of the landing party. The *President* was first dropped by the steamer, about 600 yards from the Saddle Battery. At first her firing was not very good, but, after a little practice, she got the correct range, and her guns soon cleared the battery, doing great injury to the guns therein. Again one Russian alone stuck by the battery, and he kept us on the alert, as we thought he might point one of the guns and fire when an opportunity offered. It was amusing to see him dodge behind the earthworks when a gun was fired, and then stand up and observe our movements with a telescope. In the early part of this engagement serious damage was done to the *President*; a shot entered a port on the main deck, killed two of a gun's crew, and wounded all the rest. The ship was in close quarters with the battery, and had a benefit; several shots entered her side on the lower deck, and one passed through a chest belonging to a junior officer of the ship, leaving, strange to say, his clothes uninjured, which remains in the same state, and affords a source of amusement to him and his messmates. *La Forte* silenced her battery without sustaining any loss of life; and, as soon as this was done, the landing party was disembarked.

Sad to relate, their subsequent proceedings led to the most fatal consequences. It had been arranged that the party was to form in military array on the beach before proceeding into the bush. Instead of this, immediately on landing each division took their own course, and instead of entering the town together by a road, found themselves ascending a hill at the back of the town, amongst tangled and thick brushwood, in which it was impossible to distinguish an enemy from a friend. In the severe and random firing which was kept up, there is little doubt but that many French and English met their deaths without Russian interference. Our loss was most serious, and I believe the French lost quite as many men as we did, and more officers. Captain Parker, of the Marines, under whose management the party landed, but whose arrangements were not attended to, was shot dead soon after landing. Two Lieutenants of the *President* received severe wounds. After an ineffectual struggle against their unseen enemy, a retreat was sounded. All the party had to descend a high hill. From the ships our men appeared to be falling down the sides of the hill as if shot; some headlong, some rolling, and all in the greatest confusion. When the landing party returned on board, which they did by 10h. 45m. a.m., the ships hauled out of the range of the batteries, to attend to the wounded and repair damages. The melancholy result of this attempt is as follows, as regards the English ships:—

**H.M.S. *Pique*:**—Lieutenant A. Bland, Mate G. Robinson, Midshipman L. Chichester, Lieutenant M'Cullum, R.M., slightly wounded; Lieutenant Clements, R.M., severely wounded. Eight seamen and 4 marines, killed; 5 seamen and 2 marines, dangerously wounded; 5 seamen and 5 marines, severely wounded; 4 seamen and 1 marine, slightly wounded. Total killed and wounded, 89.

**H.M.S. *President*:**—Captain Parker, R.M., killed; Lieutenants Howard and G. Palmer, R.N., severely wounded; Lieutenant W.G. Morgan, slightly wounded. Five seamen and 5 marines, killed; 2 seamen dangerously wounded; 15 seamen and 11 marines, severely wounded; 4 seamen and 4 marines, slightly wounded. Total killed and wounded, 50.



H.M.S. *Virago*:—Mr. Whitelock's boats—1 seaman, 2 marines, killed; 3 marines, dangerously wounded; 1 seaman and 3 marines, severely wounded; 7 seamen and 1 marine, slightly wounded. Total killed and wounded, 18. Total English killed and wounded, 107.

Since this day we have made no further attempt on the town. It is doubtless a very strong place, and will at any time afford hot work for our ships. Our disappointment has been great, as we have come upwards of 7,000 miles from Valparaiso to obtain what may almost be termed a repulse. We left Petropaulovski on the morning of the 6th, and about two hours after getting outside had the good fortune to discover two strange sail in sight—one a schooner and the other a large ship; the last we took for the *Pallas* or *Diana*, Russian frigates. The *Virago* was dispatched after the smaller craft. She turned out to be a Russian merchant vessel, bound to Petropaulovski with provisions, &c. The *President*, being the fastest sailer of the squadron, went in chase of the larger vessel. The weather was thick, and the Russian tried to escape; but, after a few hours, and owing to the skilful manœuvring of Captain Burrige, the *President* was close alongside. The stranger proved to be the *Sitka*, of 700 tons, carrying ten guns, one of the ships of the Russian American Company, last from a place called Agan, in the sea Ochotsk, bound to Petropaulovski with the winter store of provisions, ammunition, &c., for the garrison. She had on board a Colonel and other Russian officers, with twenty-three Russians, passengers to Petropaulovski; also her crew, twenty-eight in number, who are with us now. They appear good-tempered fellows; their mates are very intelligent men. None of the crew are Russians, but Germans, Swedes, and Dutch. We have also a little fellow of fourteen, a midshipman, as prisoner. They are all well treated, and allowed to do just as they please. We are now going ten knots in a gale of wind, with the *Virago* in tow. A prize crew is on board the *Sitka*. I fear the prize money will be but small; we junior officers might get about 30s. each.

Until another Admiral's flag is hoisted on the station, we shall be under the orders of Captain Frederick, of the *Amphitrite*, who becomes a Commodore of the first class *pro tem*. We find it hard times in the messing line; nothing to drink and little to eat; no fresh meat since the middle of July. The French squadron are going to San Francisco, while our ships go to Vancouver's Island to complete our water, which is running so short that six pints have to suffice each of us for breakfast, dinner, tea, and washing.

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#### RATES OF FREIGHT.

Owing to the protracted state of hostilities in the East causing a further demand both from the French and English governments for transports, coupled with the unfortunate losses in the Black Sea, freights are on the rise, particularly to the Mediterranean ports, although we cannot report any improvement for return cargoes.

There is little doing outward to the Colonies, but we may quote an improvement on freights from our East India possessions generally of about 2s. 6d. per ton over former rates for homeward charters effected in this country. Quotations to and from the West Indies are also rather better, the guano deposits in the Danish island of Aves attracting some attention.

Government Emigration Charters are now £18 per head, and the East India Company's tenders have been last taken at 17s. for Bombay, and 16s. 5d. for Calcutta.

The rates for ships on the berth are as follows, viz.:—To Australia 76s., and New Zealand 80s. per register ton (n.m.) for first-class British built ships; Rio de Janeiro, 45s.; River Plate, 56s.; Cape of Good Hope, 32s. 6d.; Calcutta, 35s.; Bombay, 32s. 6d.; Sincapore, 42s. 6d.; Valparaiso, 50s.; Lima, 50s.; St. Buena Ventura and Panama, 75s.; and St. Francisco 95s.

There is a better demand for outward Coal freights to the West coast of South America, and we may quote an advance of 2s. 6d. per ton; whilst Guano freights from the Chincha Islands to the United Kingdom have declined 10s. per ton.

We can place a few ships on the round at £6 per ton, which will still leave a handsome profit on the voyage. We are also in want of two or three ships to Valparaiso and other ports in Chili, for the round, at improved rates.

The value of shipping, with the exception of steamers, has become considerably depressed since our last, but from the demand required to replace the immense annual loss by shipwreck, which we regret to say, notwithstanding the great strides which science and art have made in our present class of ships, is fearfully on the increase, we think that whenever commercial confidence is restored, shipping property will still rank among the very best investments of the day.

The coalition of Austria with the Western powers leads us to hope that peace will shortly be restored.

#### REMARKABLE PHENOMENON OF PHANTOM LAND IN THE ST. GEORGE CHANNEL.

H.M.S. *Salamander*, 23rd November, 1854.

The remarks I made on the currents, land winds, &c., during our voyage over beaten tracks, are so similar to those in the books furnished by the Admiralty, that it would be a waste of time to copy them.

I may mention that on coming to an anchorage in the night at Gibraltar, I went inside the Red Buoy, which is placed to show the furthest extension of the works in progress for lengthening the New Mole. I mistook it for the mooring buoy some three cables further out, and I was informed that several ships had made the same mistake.

I looked in vain amongst the charts and books of directions for notice of a danger which is to all intents at present a reef of rocks, over which there is less and less water daily, because large masses of stone are constantly being sunk.

November 5th, 1854.—Detached to Holyhead for pilots. The new harbour is not mentioned in the books of directions, although I know it has been resorted to extensively as a harbour of refuge. No notice of it was found in the charts. I found it an excellent harbour, and very easy of access.

A very singular appearance of land deceived all the sharpest eyes in this ship on the night of the 12th November, 1854. At 7h. p.m., I had made the Tuscan Light (St. George Channel) near enough to distinguish the two white revolving faces, the red one being indistinct; and at 8.15 p.m. had shaped a course to lead us within sight of the Smalls, when ten minutes after the officer of the watch reported land close to on the port bow (we were steering S.W.½ S.) I went on deck and plainly saw land. Put the ship's head off shore and got a cast of the lead in 60 fathoms.

I went on the paddle-box and observed the land attentively with my excellent night glasses. I saw white cliffs, an appearance of houses, the light of a town or village, and the semblance of a house on fire. Finding from soundings that we could not be in the immediate neighbourhood of the land, I took yet other and closer observations, assisted by the First Lieutenant, Second Lieutenant, Master (Mr. Swain of the *Leopard*), and several of our best look out men. All agreed in these appearances, with immaterial modifications. I confess that I was so impressed by the reality of this vision, that I would not trust the soundings until two more casts of the lead had been obtained in 60 and 50 fathoms under the immediate supervision of the Master and myself.

After the third cast I ordered the ship to be kept on her course; and while my attention was thus occupied the phantom vanished, and we saw the South Bishops and Smalls Lights. The latter on the bearing which had been occupied by the resemblance of a house on fire.

During the same night there was another appearance of land less distinct.

I may be permitted to mention that the 12th, 13th, and 14th of November are well known to astronomers as one of the two periods when our orbit cuts that of a curious group of asteroids, and magnificent spectacles of falling stars have been observed in various parts of the world.

Perhaps the distinct but partial view we appeared to have of the land, may be attributed to influences such as these falling and dense clouds.

Wind, South by West. Weather, blue sky, and cloudy, with thick haze occasionally.

BEN. P. PRIEST, Commander.

#### PRESERVED VEGETABLES FOR THE CRIMEA.

SIR, — Having noticed in the *Times*, 6th December, a letter signed a Fellow of the College of Physicians, stating that the want of vegetables is the grand cause of scurvy, whatever other food be used, he alludes to dried vegetables requiring *one hour's cooking*. Doubtless this refers to some foreign prepared potatoes, &c. Now it being a great desideratum for the United Service that the food should be cooked with the greatest facility, it is evident this physician cannot be acquainted with the valuable properties of Edwards' Patent Preserved Potato, which is cooked and ready for use in a *few minutes* by the mere absorption of a little boiling water, whereby the mashed potato is produced at a trifling cost. This preserved potato has been used many years in the public services, and proved a most important vegetable and antiscorbutic diet, more especially with salt meat, and is peculiarly adapted for the Crimea as well as a sea store.

NAUTICUS.

THE  
NAUTICAL MAGAZINE

AND

Nabal Chronicle.

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FEBRUARY, 1855.

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NOTES DURING A CRUIZE WITH THE BALTIC FLEET,—in the *Summer of 1854.*

June 9th.—The *Dauntless* sailed for Faro Sound to pick up some prizes and take a few of the choicest to England. Examining the west of Hango Island to find shelter for small vessels, the Sound itself being very exposed with the wind from south and west. Russians making fresh additions every day to their fortifications. We are anticipating a battery on Hango Island. On the evening the fleet sailed a body of Russian soldiers and two officers landed and searched it from one end to the other. No doubt they would like to be left alone to build batteries wherever they please;—but shall we allow it? Four gun boats have been seen inshore; but it is probable they are only for removing troops or carrying provisions to the workmen, as they are described as only being the size of frigates' launches. This evening *Lightning* and *Driver* arrived, and Sullivan and myself met; we parted last at Woolwich. He had had a delightful cruize among the Aland Islands; had penetrated as far as the Bomarsund fortress; taken possession of all the other Islands; been on the most friendly terms with the natives; cut out the Bomarsund baker, in defiance of the guns; and had been treated to all manner of good things, in the shape of cream, eggs, butter, and mutton. This was enough to learn in the few minutes we passed together. The appearance of the forts is well represented in the *Illustrated London News*, with the addition of

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another gigantic round tower and another battery building, which Captain Sullivan wishes to knock down before they get the guns in.

10th.—No appearance of Admiral Corry's squadron, so had hopes of a quiet Sunday. On reconnoitring the islands, had a good look into one of the new batteries in the evening. The night being hazy, we put on a gun boat panic and made preparations accordingly.

11th.—6h. a.m.—Signal to "way, fleet in sight." 'Wayed and steamed to them. On visiting the Admiral, remained;—*Alban* being sent ahead. What a change from the level of the water to the poop of a three-decker walking along at the rate of six or seven miles an hour and scarcely appearing to move. The rest of the squadron coming up, all under different sail, according to their speed. It was an anxious undertaking to conduct all these ships, drawing nearly five fathoms water, into a place I had been in but once before, beset, too, with innumerable shoals, and the land so low and monotonous as to make it difficult to distinguish objects at a distance. The *Rosamond* had been sent the night before with directions for us to join the fleet; but she was found in the morning somewhere about the middle of the Gulf with her head in the opposite direction to Hango. How she came there remains a mystery.

To prevent confusion, it was proposed that the squadron should form in line of battle, the *Neptune* leading and, when we had brought up, signaling to every ship, as she came to, in what position she was to anchor,—the order being formed in two lines. The van division was brought up in a perfectly straight line, but one of the rear division got a little out of place. There was no steam, all under sail.

12th.—Commenced by towing *Resistance*, transport to *James Watt*, and then set off on a reconnoitring expedition round the lighthouse, which the Russians have not pulled down. This being 172 feet high, the ships at Sweaborg were plainly visible from its summit. On the next island to that on which the lighthouse stands there is a large pond of water only 100 yards from the shore so that all the fleet could water at once. Between this and the main land, which is only a quarter of a mile broad, the whole of the inshore Gulf of Finland navigation passes; so that it is of the greatest importance we should keep possession and not allow any batteries to be built, as is the case at Hango. So important is this considered that the Russians have erected a semaphore on the point above.

13th.—This morning, having the Admiral's leave, we made an early start to make a reconnoitre of Scriwick Sound, which lies to the north of this anchorage, and which might be very useful in the autumn for an anchorage, Baro being exposed to the S.W. After running up several miles, we came to an anchor, considering it unadvisable to go further in this unknown ground, and it was well we did so, for a shoal of  $1\frac{1}{2}$  fathoms was found rather more than a cable's length ahead. We then started off in the boats and discovered some of the most picturesque scenery ever witnessed. On one side are a number of islands clothed to the water's edge with trees, and opening out in narrow channels leading into wide bays or wicks. Here and there are villages

of two or three houses, always situated on a well chosen spot, and, being of wood and of fanciful architecture, contrast well with their bright green spots of cultivation and add brilliancy to the picture. The houses are remarkably clean and all their furniture and fishing apparatus are neatly turned out of hand. Their crab and lobster pots are peculiarly ingenious, and would certainly be good lessons to our east coast fishermen.

On landing, the people did not appear afraid of us. They were very cautious lest they should be seen from the semiphores; they say they are forbidden to fish near the fleet, and that an advertisement is placed on the church doors threatening that any man found with English money will receive forty lashes, and any woman twenty. We purchased some beautiful butter, and have no doubt other things might be obtained were the people not overlooked. They tell us there are no gun boats here, but five soldiers or orderlies at the head of the loch.

14th.—Pulled higher up the wick, leaving *Alban* at anchor at the same place, and in passing one of the narrow openings of the islands a beautiful country house with handsome stables and grounds about it was discovered. We then followed up the channel, which was narrow but deep and overshadowed by fine tall pines, and near the water's edge a variety of shrubs so regularly laid out as to give the whole the appearance of ornamental grounds. On emerging from the narrows a fine bay opened out with the country seat on the opposite side, and a respectable looking schooner near it; and, further to the eastward, a village of wooden houses. To this we directed our course, and soon observed the natives collecting and scrutinizing us. Among them we detected, with the assistance of Ross's binocular, a suspicious-looking gentleman with mustachoes and a green frock coat, and we began to think of buckling on Mr. Deans', but seeing women and children felt secure.

On landing, the above green coated gentleman turned out to be a merchant bargaining for herrings; the owner of the schooner was also among them. Their principal source of alarm was that of being observed from the semaphore, which was not far off, in communication with us. As to the schooner, we soon quieted their fears about her; she was not our object. But we learnt from them that the country seat before us belonged to a gentleman who was sick at Helsingfors, and that no one was living in the house.

On returning to the ship we found the recall had been made, so we rejoined the Commander-in-Chief's division and the French fleet, now making in all twenty-seven sail of the line, besides frigates, steamers, &c.,—the same number which Nelson had at Trafalgar.

15th.—It was arranged by the Commander-in-Chief that the French Admirals were to be received in state on board his flag-ship. Signal was made accordingly for state proceedings, which even the thick fog which enveloped the fleet, preventing each ship from seeing her next neighbour, did not hinder. Some curious mistakes were made in compass courses, which delayed the assembling of the chiefs. On a par-

tial clearing, the picture presented by a fleet of huge ships with yards manned and flags from all parts of them fluttering in the breeze, must be seen to be duly appreciated. The cheers were returned by all the ships. Nothing was visible but a royal or top-gallant yard manned rising out of the fog here and there, which had a very curious effect. The contrast between English and French costume and manner was, as a matter of course, highly in favour of our allies, whose elegant dresses and courtier-like behaviour, that of the Admiral, M. Parseval Deschenes, being the first, par excellence, won the admiration of us all. But in the midst of all this beating of drums, presenting arms, cheering of men, and firing of guns, the message sent by the King of Israel to Ben Hadad was a wholesome reflection, "Let not him that girdeth on his harness boast himself as he that putteth it off."

16th.—After replacing a buoy on the Treskar ground that had nearly sunk, and being pretty well deafened by the ships of the fleet exercising at targets, we proceeded to examine a fiord to the west of the one we were last in to see if there was water sufficient for the fleet. To assist us, Kay, with thirteen men and a fine cutter, was sent from the *Blenheim*. The place we were going to was reported by the officers of the *Hecla* to be swarming with gun boats of an unusual power, having thirteen men a side. Four of them had gone out to attack the *Porcupine*, and they had chased the *Hecla's* boats. The first night, therefore, we kept a sharp look-out; but somehow or other we have none of us any eyes for a gun boat, and all the information we could gather was that a boat with eight men (Russians) and some muskets were going about the coast, pulling down our piles and obliterating our white washes. When they commence their work they stow their own boat away and get into a small praam, so that we may not detect them.

17th.—Becoming heedless of gun boats, as of danger at a distance, we moved further up the loch, and certainly enjoyed ourselves amazingly in the delightful warm calm weather we had, and the scenery most picturesque. The islands are so numerous and well wooded that it is nearly impossible to say which is the main land and which islands. They are also deeply intersected with creeks; at the head of each of which there are generally a few wooden cottages.

We soon became great friends with our neighbouring islanders, and at last could procure milk, butter, and eggs, to any amount, and even some sheep. The traffic, however, was generally carried on when the Cossacks were not on the look-out, our only difficulty being about money. The ukase against English coin makes them cautious of taking it, and they do not like either Danish or Swedish, so we determined on getting a stock of rubles. The pocket-handkerchiefs printed with the flags of all nations are most acceptable presents, and one lady who paid us a visit at 1h. a.m. on Sunday morning was much delighted with one of them, and drank the Queen's health in a glass of cherry brandy.

In the afternoon, while working amongst the islands, we fell in with the young squire of Piccola, cruising about in a little yacht, and, on

being beckoned, he at once came along side. He said his father was sick at Helsingfors, but he and his mother were living at the house of Piccola. We then asked him to dine with us; which he promised to do, but, cruizing about us for some little time, he thought better of it, hauled up one of the narrows, and we saw no more of him. This we were rather glad of, as our skipper had a plan in his head for destroying a semaphore standing in a tempting position at the head of the bay, and if seen coming on board the gentleman might have been supposed an accomplice. Lieut. Cowall, of the Royal Engineers, had accompanied us on our cruize, and, after questioning several Fins about the state of the said semaphore, we agreed its destruction was feasible.

Sunday, 18th.—This was the most delightful Sunday we have had for a long time, nothing to disturb us; but a salute about church-time proved that something as usual was going on in the fleet.

19th.—At midnight the hands were turned up, and a party of volunteers selected to destroy the telegraph. A native boat happened to come alongside at the same time, and a pilot from her was secured for the duty of guide, although (as he said) against his inclination. Cowell was to take charge of the apparatus. Ward of the *Alban*, a party of ten seamen, a corporal and five marines. Kay of the *Blenheim*, ten men; and Bull was to take charge of the boats. Commending ourselves to Providence, we started on our adventure at 1h. a.m., pulling away at right angles to the place where we intended landing, as a blind for the people at the Telegraph, who had been looking out on us night and day. We then kept close along the shore until our guide pointed out a favourable place for landing.

As our way was now chiefly amidst trees, and in some places thick brushwood, occasionally quitting the road to avoid houses, we had to stop now and then to count our party, and notwithstanding all our care, we lost one of our marines. After waiting some time for him we gave him up, but he fortunately found his way back to the boat.

In about an hour and a half, the Telegraph was discovered amongst the trees on a hill opposite to us, but there was a bare valley of 200 yards to cross before reaching it, and the guide refused to go with us any further. Thus far he had entered into the spirit of the thing, and had dressed himself in a blue frock, and having exchanged caps with one of the men, he would scarcely have been recognised even by his own wife. Our Skipper being very anxious that no blame should fall upon any of these simple-minded natives, gave him a sovereign and let him go, trusting to find our way back without him. We then made a rush on the plain, but were brought to a stand by a ditch and fence. But these obstacles were soon passed, and we gained the first rise of the hill, where we were again concealed by trees. From here the top of the flagstaff was seen, and observing a blue flag hoisted and lowered several times in rapid succession, we naturally concluded that we were discovered, and that there was no time to lose. Therefore on we rushed without stopping to the top, and discovered three men, who appeared undecided whether to run or stand. Our interpreters



soon gave them to understand that we meant them no harm, on which they wisely kept quiet, and our work of destruction commenced.

The first step was to place look-outs on the brow of the hill, and then to get the goods and chattels of the keepers removed out of harm's way. Cowell was scientifically arranging bags of powder in the centre of the house, and piling every heavy available article he could find on them. The carpenter soon brought down with a heavy crash the Telegraph with its metallic plates and arms; and sledge-hammers were rendering these worthless for further messages; others were collecting the signal-books, letters, and all public articles, and packing them up for carriage. In fifteen minutes the fuze was laid along and lighted, and having effected our object, we commenced our retreat, and soon found shelter among the trees and rocks adjacent. It was a splendid sight as the whole building was blown into the air, the materials of it flying in all directions. The work of destruction appeared to be thoroughly done, by the debris that was cast all around. The view of the country from this hill was very beautiful, its elevation being greater than is generally found in this part of the coast, although only 300 feet. But we had not much time to contemplate the beauties of nature, for a small party of cossacks were within a couple of miles, and might give the alarm, or conceal themselves in some pass which it would be difficult to force. So taking one of the telegraph men for a guide, we set out straight for the boats, which were about three miles off, and reached our ship in time for an early breakfast, thankful that we had been permitted to do the work so effectually and without loss.

On our way down we astonished the inmates of a farm-house or two that we entered, finding them still in bed. They were by no means alarmed by our intrusion, and offered us milk. The houses are substantially built of timber, and very roomy and clean. The poor fellows who had charge of the Telegraph were to be paid their wages the very day after our visit, and feared much they would never get them, so our Skipper presented them with some coin.

The communication between Hango and Helsingfors was thus cut off for a few days; whether we shall be able to make out any thing from their signal-book which we have found remains to be seen.

Taking with us a small sloop laden with fish and wood for Helsingfors, which the cutter had captured among the islands, as the Admiral might want some for the fleet, we rejoined him the same day. She was navigated by one man and his child, not more than eleven years old. Poor fellow, he was very much frightened; but I gave him a pocket handkerchief, and this stopped his tears!

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The following are translations of the letters found at the Telegraph station; the first was written by Mr. Grotell, the head man at the station, to his friend Mr. Nordström, who lived near Helsingfors, but was only written the night before the Telegraph was blown up, and

therefore never delivered. The second is from his friend Nordström, and is rather in the facetious style.

Inga, Parish, June, 1854.

Dear brother I. E. N.!!!—I have to thank you very kindly for your friendly letter, which I read with much pleasure, and it is delightful to have one friend who thinks of me and sends me the news. It pleases me to hear you are in good health; thank God I enjoy the same, but in the neighbouring country there is much illness (*bransjackan*), and numbers are daily taken.

The state of things is not altogether as it ought, and the lower classes are sometimes depressed, and wonder how the beautiful summer just commenced is to terminate. I for my part am not the least afraid, although I can daily see the enemies' ships sailing in all directions. During the whole of last week we had lying at anchor off our place some twenty ships at the least, and which are visible to the naked eye. These had hardly left their anchorage before others occupied their place; and here are now some thirty or forty, (the fishermen report several hundred,) some of the smaller vessels approach daily close to the shore, taking soundings of all shoals, &c. During the night several hundred men come off to assist the fishermen in drawing their nets. On shore we can hear their music distinctly, and for my part I am much obliged to them, as I have a dance regularly on the *bjerg* (mountain or rock).

I cannot but regret being so confined here, now that the beauties of nature are daily developing themselves, and the trees around got so green; still I must rest in hopes to enjoy these some future day. If I lived nearer the city I should certainly visit you oftener: and I must say for the last few weeks we have had little to do with the signals; in fact, I could throw myself on my back all day if I pleased.

However, speaking freely, I must say it is somewhat slow here, and I am only able to move some few hundred yards from the station. During the night I can certainly leave, but then only for three hours, as I have to receive signals, should any come. With thanks for your kindness in forwarding my letters, I remain

Your friend and brother,

E. W. GROTELL.

P.S. (*Not finished.*)

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Dear Brother!—During my leisure, I take up my pen to write you a few lines to let you know how I am; and I thank God for my health, as also for living in a place where I see plenty of people, and have a few amusements.

I am not afraid of the enemy. They appear daily before this town one or two at the time; but they do not dare approach close. Only last Monday, the 12th June, thirteen ships appeared and anchored, and we all concluded a cannonade would commence during the night; but on Tuesday the 13th in the morning they disappeared again; we con-

sequently have been in no danger till date, especially as we are well fortified ; but it would much interest me to hear how you are getting on at the Berg station.

You no doubt find it very tiresome, and much desire to be near a certain station, when I have every reason to suppose you would find time to leave for a short time.

Give my kind regards to Nyholm, I ought to write to him, but it is getting dark, and I find some difficulty to continue.

With best love, I am yours,

J. E. NORDSTRÖM.

LOSS OF THE BRIG "MARY" AT NATAL, WITH EARLY RECOLLECTIONS  
OF THAT SETTLEMENT.

(Continued from vol. xxiii. page 29.)

[This narrative has been suspended on account of the absence of the author, but we hope it will now be continued to its conclusion.—ED.]

The contrast of the deep solitude of the wilderness and the noise of the assembled host, with the novelty of the scene, tired and fatigued as I was, for a long time banished all sleep from my eyes. Besides which, I was in a state of fear and anxiety. No sign of civilization appeared amidst the darkness of this barbarism to inspire the hope of compassion towards us, unfortunate strangers ; and we might rather speculate as to how soon the caprice of this savage chief would make our lives the sport of his no less savage warriors. We were certain they were not cannibals ; and although it was some consolation that if killed we should not be eaten, such speculations were far from being calculated to encourage that repose so needful after the fatigue of our journey. The darkness of the night rendered the numerous fires of the great multitude encamped around the royal krawl,\* more imposing, and the sable figures of the naked warriors lighted up in the glare of their fires suggested a picture to the imagination of the inhabitants of the region of darkness holding their orgies around us.

Numerous were the visitors perpetually peeping into our huts to get a sight of the new addition to the king's wild beasts. What a change has now come over the land of the Zoola. The white man thus designated now rules his country, and it is no great prophetic stretch to say that the whole Zoola race will soon disappear before him as the snow melts before the sun. People of Zoola I leave this record of you in the day of your greatness as a nation ; none of you may ever see the greatness of mine,† but its influence is already surrounding you, and

\* Krawl, a name given by the Boors to the Copper villages.

† In the *Nautical Magazine*, No. 7 vol. xxii., in an editorial note to the notice of these "Recollections," I observe by an extract from the public prints, that the Zoola Caffres have had the honour of attending at Buckingham Palace by royal command. I am not aware that I have any recollection of

I write this in testimony of my gratitude for the many favours I received at your hands. It is too much for me to expect that a revolution in your habits, so great and so opposite to all you have been accustomed, can be effected in your generation, without doing violence to your happiness. The white man's notions and your's differ widely on this point, and I am concerned for you in the struggle. But I look forward with hope that your successors will enjoy the advantages and benefits which you cannot appreciate.

I am a decided advocate for your liberty, in common with the whole African race, and rejoice that my country has been the first to acknowledge that right, and has set the example of your freedom to the rest of the world. Other advantages will follow: the Genius of universal emancipation has set her foot in every land, before which slavery must be for ever trodden down; the work is begun, and the pseudo Christianity that reduces you to the condition of the brute creation, is fast losing ground. Greater and more talented minds will rise to vindicate your rights as members of the human family. I have had occasion and done so under great disadvantages and in the very strongholds of slavery, and I trust discharged my duty with fidelity commensurate with its importance.\*

In the morning, our arrival having been reported to the king, we were visited by a chief (Sotoby) and Jacob, who caused us to shift our quarters to the head of the krawl, more in proximity to the palace. Our distinguished visitors brought with them a large supply of food for our use, consisting of cold boiled beef, Indian corn, and sour milk,

the favoured Moagos; perhaps he was but a child when my sojourn in the Zoola country terminated.

\* When in command of a small brig at Wilmington, N. C., I had for three of my crew black men, natives of St. Lucia, where I had shipped them. The law of North Carolina required that these men should be given up to the harbour master to be put in jail until the ship was ready to sail. I entered a protest against this cruelty to these unoffending men, in which I referred to our commercial treaty with the U. S. of America, and positively refused to give them up, intimating that I should repel force by force any illegal attempt on the liberty of my crew. And having posted the victims of this persecution behind two 6-pound carronades, loaded to the muzzle with grape, and myself at their head, I told them,—“Now, my friends, you must defend your liberty as British subjects, and unless a warrant duly issued by a magistrate or justice of the peace, by which any free citizen of the State may in like manner be arrested and sent to jail, fire on your assailants, I will stand or fall with you in the result. I wish no other white man to endanger himself. This is my quarter-deck, and I devote myself and it to your liberty.” I have to mention to the honour of the authorities at Wilmington, who, feeling the injustice equally as myself of this persecution, made my obstinacy the excuse for not carrying the law into execution in my case. Lieut.-Col. Torrens, then Governor of St. Lucia, to which colony my little vessel belonged, with that high-minded zeal and sense of duty for which his government was characterised, laid this case before her Majesty's government. Whether the government of the U.S. have abolished this persecution of British seamen of colour I am not aware; for details of this transaction see *Anti-Slavery Reporter* for 1846.

on which we made a hearty breakfast. We were desired to hold ourselves in readiness to be presented as soon as his majesty should come from the palace, to which there was no admittance but by special order or invitation from the king himself. In the interval I took the opportunity of surveying our present locality, the Zoola metropolis; for which our new position, near the head of the immense inclosure, was most favourable, being situate on a gentle elevation, from whence a view of the whole capital was obtained.

Tagoosa, except in size, differed little in structure from other Caffre krawls, being of circular form. Including the external and internal fence-work for the protection of the dwellings and cattle, the diameter might have been about half a mile, and it contained about 1,500 huts exclusive of those immediately occupied by the king's household. These latter were of a superior description, and entirely hidden from observation by a close and compact fencing very neatly arranged. They were about forty-five or fifty in number, and were built on sufficiently elevated ground to command a view of the whole village. Around this portion of the krawl, (indicating it to be head quarters,) numbers of warriors had already collected and squatted on the ground, either guarding the palace or eagerly waiting to salute the ganggaswiee (great as the world) on his appearance from within the sacred precincts of the izekoshlee, (palace,) into which, despite the awful consequences to children reported by Mr. Kay in *Caffrarian Researches*, we will take a peep.

On entering the gate of the compact fencing on the interior side, is a spacious square, containing half a dozen huts of unusual size and neatness in their construction. The ground is exceedingly smooth and even; everything wears an air of neatness that elsewhere we had not witnessed. The fencing, on close examination, is stronger than one would suppose when looking on it at a distance, being composed of two and sometimes three thicknesses of compact wicker-work, carefully worked with young twigs or saplings, and about eight feet high, so that it cannot be looked over from the ground. In this square, which is but the outer court of the palace, the king sometimes assembles his chiefs and councillors to hold "indabos," (his war councils,) one or two of the huts he occasionally occupies as sleeping apartments. We observed before us another gateway in the side of the square, fronting the one by which we entered, that leads to another oblong inclosure, more spacious than the former, and containing a dozen or more huts, still more elegant of construction and of still larger dimensions; the floor of this inclosure is of glassy smoothness, with a polish that reflects the image like a mirror. A continuation of inclosures of this last description, with more or less huts in them, and of different shapes, some semicircular and some triangular, which together complete the internal economy, and is called the black palace, inhabited only by the "untwane inkosse" (king's women); no other class of persons being admitted to these apartments, they were as little known as their inmates, who were not allowed to hold any intercourse

with the world without. Their number might amount to about 150 to 200, and here the Zoola monarch would sometimes shut himself up in this seraglio for several days together, and at such times I had the extraordinary privilege of being admitted to his presence, and made the medium of communication between him and his chiefs without; he always on these occasions reported himself sick, and I held the honourable post of first physician, which took precedence of every other post of honour. It appears that I was the first gentleman physician! that ever had the honour to be consulted within the seraglio. My predecessors in that office, (which in reality was that of aide-de-camp,) were generally his head women for the time being, who carried his orders to "boper," his head servant, who communicated them to the different chiefs.

The whole extent of the inclosure compassing the palace, was about 400 yards in length, and from fifty to sixty in breadth, and contained, as before-mentioned, about fifty huts. The population of the krawl itself was about 3,000 inhabitants; but from the number we observed at this time encamped around it, for which there was no accommodation, was fully equal to 3,000 more, all of whom appeared to be warriors, as a very small portion of women or children was to be seen, while vast numbers continued to arrive. The cause of this immense gathering we discovered to be for the promulgation and celebrating of the agrarian law, that when the war song, the dance, and festivity were over at the capital, the warriors could return to their respective homes to reap and enjoy the ripe harvest. Until this ceremony was performed, and permission obtained, it was a capital offence to touch a blade of corn in the field.

About ten in the forenoon several messengers were observed running at full speed, and calling out at the top of their voices the names of chiefs and divisions of warriors summoned by the King. This gave us notice of his being abroad, of which we were soon certified by two other running messengers approaching our quarters at full speed, and calling out "Nango moloongo bo, nango moloongo bo," (now then the white men, now then the white men); this being our summons to appear. And, as we had been already in a state of preparation, we had only to pick up the present, consisting of a few beads and bangles, with a little medicine, composed of salves, blisters, plasters, and salts, we sallied forth, with the messengers (who appeared very impatient of the least delay) and our friend Jacob, as interpreter and master of ceremonies, for guides.

On passing through a private gate in the outer fence of the krawl, we observed a large concourse of people squatted on the ground in a very humble posture, their elbows resting on their knees. On a nearer approach in front of these, we obtained a sight of his Majesty, who, elevated on a large roll of matting for his throne, was in earnest conversation with a few chiefs, somewhat nearer to him in front of the krawl but in the same humble posture as the rest. At every pause in the King's conversation we heard a response, first from the chiefs then from the whole assembly, of "Yea boba, yea boba," (yes father,

yes father.) Let him who has entered a court to hear judgment passed on a momentous question in which he was deeply interested, or who has ever awaited an interview with a man on whose favour or on whose word depended his chance of advancement or means and prospect of subsistence, let him imagine what I felt on this occasion, who had been taught to bow the knee only to my Maker. It was no small addition to the perturbation of my spirits to behold the awful solemnity with which this mighty savage was approached. The crowd formed a semicircle in front of the throne; round the extremity to the right of which we were conducted. Moving forward in a half bent posture, we took up our station near the centre and in the interior of the circle; where, on looking round me, I now saw no means of escape, being completely hemmed in by the sable host.

Groundless as were my fears, I venture to say many a stouter man would have trembled in a similar position. It would be difficult to conceive oneself placed in a more trying position. The harangue with the chiefs went on without any interruption by our presence, and, though we passed immediately before Shaka, he appeared not to notice us in the least, and at every pause in his conversation the everlasting response, "Yea bo baba," reiterated by the throng, was a sound that long afterwards continued to ring in my ears. It appeared that a grand display of military manœuvres as well as dancing was contemplated, and the subject of this conversation of Shaka was to instruct the chiefs and generals of the different divisions of his plan and arrangements for its conduct. He sat before this council perfectly naked and was also engaged in anointing his body with grease, preparatory to investing himself with the royal war dress.

On mustering sufficient courage to look about me, my attention and that of my shipmates was arrested by a strange and ludicrous object, which at first sight appeared to be a complete nondescript. It was a kind of wild animal in an erect posture, and proved in reality to be a human being enveloped from head to foot in the skin of a tiger, so fitted on him that the skin of the hind legs served as pantaloons and that of the fore did duty as sleeves for the upper garment. Thus he was, in reality, the only individual in the assembly, except ourselves, that could be said to have any clothing. The skin of the tiger's head being drawn over his face served as a covering for the head, on which was mounted a pair of huge horns belonging to some animal of the deer tribe. These were decorated with several bunches of different coloured feathers, presenting altogether a most extraordinary and ludicrous appearance. We were at a loss to conceive what this monster was intended for, and what duty he had to perform as an appendage to his Majesty's establishment. We could hardly consider him as an ornament, and were not a little surprised on being informed that he was "Ize bonkar," (a priest,) dedicated to the worship of the "Ink-siga koola" (great King of the Zoolas). It was certainly a novel idea of Shaka's, when he assumed the power and attributes of a deity, to clothe his priests in the garb of wild beasts of prey. A very signifi-

cant emblem, indeed, of the ignorant and wild extravagance of his assumption; but Shaka was worshiped as a deity, and was believed by the Zoolas to have supernatural powers. No one of his subjects doubted his having these powers, but he did himself.

On his conversation with the chiefs being terminated, the latter withdrew to the rear and joined the crowd, when, after a pause of a few minutes duration, he motioned us to advance. On our moving forward to within a few yards of him, he again motioned us to squat, and, after another pause of about ten minutes, which is the Zoola etiquette, he addressed us, through Jacob, our interpreter, thus:

"You are the Moloongoes that came in the 'umcombie' (vessel) with Captain King." To which we answered in the affirmative. "You are King George's people." "Yes." "Captain King promised to send me some medicines, has he sent me any with you?" On which, we brought forward our present, opened it out and explained the different articles, their use and description. On which, he held up his fore finger, and, while shaking it, he uttered, "Izee, izee, izee," as a mark of approbation. He ordered the immediate removal of the present to the "Izekoshle," and directed the greatest care to be taken, particularly of the medicines, on which he appeared to set the greatest value. He remarked that Captain King had told him he was going to make another "umcombie" (vessel) in the room of the wrecked one, and that he would return "piz-eah illuanshla" (over the sea) and bring him a large supply of medicine. "Umzueita goo nautee," said his Majesty, looking steadfastly at me, meaning a little Moloongo. Here he ordered me to stand up and come nearer for his inspection. I approached very cautiously and timidly, and when he called out "nearer, nearer yet," I almost lost my self-command from fear; which Shaka observing shook his fore finger as a mark of encouragement. It appeared that the colour of my hair, which, at that time, was a brilliant red, had struck him with admiration and astonishment, being no doubt the first of that colour he had ever seen. Red is a favourite colour with the Zoolas, and the ladies of this portion of Eastern Africa (contrary to our countrywomen, who when they happen to have red hair endeavour to blacken it), when they arrive at the age of puberty shave the hair all but a circular tuft on the crown of the head, which they embellish with a pomatum of a deep red, made by a mixture of oil or grease with a species of red clay or ochre.

Shaka continued repeating to himself "Nuel-ize-bomfoo, nuel-ize-bomfoo," (red hair, red hair.) To show my agility, he caused me to run and jump; which I did with all my might and main, seeing that it pleased him, until I became quite exhausted. While going through this exercise, he continued shaking his fore finger in token of approbation, and I heard the buz of the assembled multitude responding the everlasting "Yea bo baba, yea bo baba." And when informed by Jacob that this proceeded from the King saying that I was a clever little fellow, and other encomiums on my exertions, I felt fully com-



pensated for the fatigue occasioned by my zeal and activity. He remarked that I was very young to come from "Piz-eah-illuanshla," and could not conceive what use I would be in the "umcombie" or in a battle.

While his Majesty was thus occupied with us, a large body of warriors, in full war costume, were seen advancing from the lower part of the krawl. Their number may have been from five to six hundred, all carrying white shields spotted black. Shaka had his armies divided into regiments, distinguished by the uniformity of colour in the shields. There was a regiment of black shields, one of white with black spots, one white with brown spots, and another brown or bay colour, and lastly a regiment of pure white, which last was a favourite corps and constituted his regiment of body guards. The division drew up in front of the King, in form of a crescent, three deep, with Dingan, the King's brother, at their head; and, having saluted the King with a simultaneous blow on their shields with the handle of the "umkonto" (a short handled assagai) or spear, and a general exclamation of "Great master, great King, you great as the world," the whole squatted on the ground in the position I have represented; their shields were laid transversely on their breasts. Behind these was another small detachment who, unarmed, were driving before them about a hundred head of cattle, and which halted in rear of the assembled warriors.

For a moment a dead silence ensued. I note this because it was such a deathlike silence that, though several thousand were present, a pin might have been heard to fall on the ground. There is a peculiar solitude and stillness pervading all around you in Africa, at least this portion of it, that I have not felt in any other part of the globe. Whether this may arise from pure imagination or a peculiar state of the atmosphere I know not, but it was very strikingly remarked by us all. This pause in the conversation was interrupted by his Majesty requesting Jacob to ask us if King George had as many warriors as we saw? We said King George had a great many more than that. He again asked how many, at the same time clapping his hands together and say how many "Shume, shume, shume," meaning how many times ten he had beyond what we saw. When we answered that King George had twenty times "shume" (tens) more than those we saw present, he shook his fore finger as usual in token of satisfaction, and said, "Um George is the greatest King of the whites as I am of the blacks, is it not so, 'slamba manzie?'" meaning Jacob; who replied "Yea bo baba, you are the great King of the blacks, and King George is of the whites."

He then motioned us away, "Go," he said, "go eat," at the same time telling "Soloby," who was at the head of the victualling department, to take care we had plenty to eat. Amidst the barbarism, ferocity, and warlike disposition that characterized the Zoolas, from the King to the meanest subject, their hospitality is unbounded; and that the visitor or stranger is well provided with food is always with

them a matter of first consideration and solicitude. The greatest stranger, if even but passing by a village while any of the inhabitants happen to be at their meals, sits down uninvited, holds out his hand, and it is immediately filled, even should it extend to depriving themselves. The first law of nature and the first right of man, that no man should starve while his neighbour has abundance, is recognized by the Zoolas in the fullest extent; and I verily believe that were there but a handful of corn in a village it would be equally divided.

(To be continued.)

### CYCLONE IN THE PACIFIC OCEAN—the brig “Giffard.”

Shanghai, October 21st, 1854.

SIR,—I forward you an abstract from the log of the brig *Giffard* under my command, during a severe typhoon experienced on her passage from San Francisco to Shanghai, which will help to investigate the track of cyclones in that part of the Pacific Ocean.

Tuesday, October 3rd, 1854.—Lat. at noon, 25° 32' N., long. 137° 48' E. Fresh breeze from N.E.; hazy weather; a dense bank of clouds in the east. Barometer fluctuating between 29·70 and 29·80. At midnight freshening breeze with squalls and rainy weather. Ship's head N.W.b.W.

Oct. 4th.—Increasing gales with squalls and thick rainy weather; double reefed topsails, furled jib and main trysail. At noon, lat. 27° 40' N., long. 134° 10' E. Bar. 29·60. At 1h. p.m., barometer fell to 29·35; gale increasing with incessant rain. I begin to suspect we are edging gradually in a typhoon, the wind being east and our course W.N.W., consequently being on the northern edge of it, I decided on heaving to, to allow the centre of the cyclone to pass on ahead; sent down royal yards, furled the courses and fore topsail, and brought the vessel to under close reef main topsail on starboard tack; wind east; ship's head N.N.E. At 4h. p.m. bar. 29·30; at midnight, bar. 29·25, wind E.S.E.

Oct. 5th.—A.M., blowing a severe gale with incessant rain; laying to under close reef main topsail.

At 4h. a.m. bar.	29·20	wind	S.E.
8	“	29·15	“ S.S.E.
Noon	29·05	“	S.S.E.
2h. p.m.	29·00	“	S.b.E.

blowing a furious typhoon, with incessant rain; the sea a complete sheet of foam, flying over the ship.

At 4h. p.m. bar.	28·80	wind	South
8	“	28·70	“ S.S.W.

Were struck by a sea on the starboard bow; this, combined with the strength of the wind, which was now at its height, carried away the bowsprit, foremast close to the deck, and main topmast; leaving nothing but the mainmast standing; and shifted the ballast; giving the vessel a heavy list to port. At midnight, bar. 28·70, wind S.W., no abatement in the fury of the gale.

Oct. 6th.—At 1h. a.m., barometer began to rise. At 2h. bar. 28·90, wind W.S.W., wind moderating a little, still raining incessantly.

At 4h. a.m. bar.	29·00	wind	W.b.S.
8 "	29·10	"	W.b.S.
Noon	29·30	"	West,

moderating fast, but still blowing a heavy gale. My impression is, that on the 4th the cyclone was travelling N.W.; but that on the 5th it recurved to north, as we had the heaviest of it when the centre bore N.W.

I remain, &c.

P. BRIARD.

To the Editor of the *Nautical Magazine*.

[The *Giffard* was very judiciously managed in this hurricane, and seems to have been caught pretty close (on the 4th and 5th especially) to where it curves round to the northward and assumes its N.E. course. The case is valuable, as we have yet to learn more of the habits of these phenomena in the locality where this was encountered, and we shall be glad of any further similar contributions, especially further to the east in the North Pacific.—ED.]

EXTRACTS FROM A JOURNAL OF CAPTAIN CRACROFT, H.M.S.  
"GORGON," IN THE BALTIC, 1854.

The outer anchorage at Hango Udde is protected by several rocky islets, and will afford shelter for a large number of vessels; it is open to the southward, but the holding ground is good. The position of this roadstead with reference to the Åland Islands is one of such importance that it was not surprising to find great attention had been paid to its defences. As these were all destroyed by the Russians after the fall of Bomarsund, a description of them as they stood when shelled by the *Hecla*, *Dragon*, and *Magicienne*, on the 22nd May, is needless. It is evident that during our operations in the Gulf of Finland a strict watch should be kept here to prevent anything passing, or the gun boats stationed at Abo and the Gulf of Bothnia from forming a junction with the divisions in the Gulf of Finland. Two vessels of the *Cruizer* class and two light draught steam gunboats would, probably, be ample force to effect this object.

I arrived at Waxholm on the 6th of June from Baro Sound, with despatches from the Commander-in-Chief for our Minister at Stock-

holm. We experienced a heavy breeze from the northward on the passage across, and a set to the southward of nearly twenty miles in as many hours. This was not the only instance of a set to leeward being noticed; indeed, we invariably experienced one in these tideless waters, varying in its velocity with the force of the wind. Waxholm is the Tilbury Fort of Sweden, commanding the principal navigable channel to the capital, from which it is distant only fourteen miles. We had anchored in the little creek of Sandham at 10.30 p.m. the day before, as the pilot who took charge of the ship there refused to go any further till daylight, and it was blowing so hard in the squalls we had to let go a second anchor to prevent her tailing on the ground.

We started at 2.30 a.m. The wind which had subsided almost to a calm during the two hours darkness, had begun to freshen up again in sharp squalls; and, being on the broadside, with very little way on the ship, it was no easy matter to keep her head straight through the narrow passage, scarcely broader than her paddle-boxes.

The sun rose gloriously, without a single cloud to intercept its rays, but it was a bitter cold morning notwithstanding. Old Boreas blew a keen blast through the pine clad islets, and imparted a chilling look to the dull grey granite. The scenery in some respects is strikingly beautiful, but one soon gets tired of the sameness and impressed with the loneliness and want of life in these uninhabitable rocks and islands.

In threading our way through this intricate navigation no appearance of either beach or strand was visible; neither cliff nor crag, but only a succession of rounded hummocks of granite, huge boulders with small variety or distinguishing feature in the outline, and innumerable knolls and islets, some bare, some covered with stunted firs, appearing like the summits of a submerged creation just rising again above the waters. We passed in sight of the picturesque fort of Fredericksberg, and anchored in the reach below Waxholm, where a little man of war schooner, doing duty as guardship, is stationed, no foreign man of war being permitted to pass this point without permission from Stockholm. A Russian steamer made the attempt about two years ago, but received a shot in her engines which effectually stopped her proceedings and occasioned some weeks' detention for repairs.

The fortress of Waxholm is situated on an island in the centre of the narrow channel, and promises to be a very strong place; but it is still far from complete, as I observed numbers of workmen, masons, &c., employed on the works. The upper tier of guns, "en barbette," are enclosed by iron shutters, which are moveable like the bulwarks of our steamers' pivot guns, and are roofed with sheet iron painted to imitate tiles. These batteries have thus all the disadvantages of casemates without their advantages. The town of Waxholm stands on the north shore: it contains fifty or sixty houses and huts, a church, and two mills, all constructed of wood and painted a dull red colour. Here the garrison of the fortress resort for recreation, and boats are continually pulling to and fro.

I went up to Stockholm in the *Gefle*, a new Swedish man of war of the *Rattler* class, about 800 tons English. She carries two seven

inch pivot guns, and eight guns on the broadside of six inch calibre. Her engines, by Carlsund of Motala, are of 300 h.p., nominal, direct action, with horizontal cylinders, and the most compact I ever saw, the engine room being only fifteen feet long; the boilers are loaded to 15lb. on the square inch. There is no arrangement for lifting the propeller, but a very simple and ingenious one for connecting and disconnecting the shaft. She was barque rigged, with topmasts and top-gallant masts in one, and the officers gave a most favourable account of her qualities as a sea boat.

The channel above Waxholm widens considerably, the features of the landscape become more picturesque, the monotonous fir tree is relieved by other foliage, and the last reach, with the dome of St. Nicholas rising in the back ground, expands into a noble basin, wherein is situated the Venice of the north.

The *Gefle* made fast to the jetty of the arsenal, for there is here water enough for a line-of-battle ship, although at present so crowded with gunboats and small steamers fitting out, there was not room for our ship to swing. The naval department is evidently very busy just now.

I found an old messmate here, now a Commander in the Swedish Navy,\* employed on the staff of the Admiralty, "Sjoforswars departementato commando expedition," and I feel much indebted to him for his good offices during my stay here.

\* \* \* \* \*

The efficiency of the naval and military establishments engrosses the attention of the government at this juncture, as well it may, and I was fortunate enough to be present at an inspection of the *élite* of the army by the King: infantry and cavalry of the guard, and artillery, forty guns, horse and foot. The neutrality is far from being popular either in the capital or country, and there is a general feeling that, ere long, Sweden will be called upon to play a worthier part. From many of the officers I received assurances not only of their sympathy, but even of their eagerness to assist in the operations against the common enemy; and my hotel was besieged by applicants, common soldiers, chiefly marines, to be allowed to serve in the British Fleet!

\* \* \* \* \*

Two dry docks have been lately constructed here. The largest, 160 feet long, has capacity for the *Gorgon*. They belong to a Company, at the head of which is Mr. Patton, a wealthy British merchant and one of the oldest English residents in Stockholm. Trade is very brisk just now, and no secret is made of the determination to break the blockade which has been established on the coast of Finland by our Commander-in-Chief, when the nights begin to lengthen.

\* \* \* \* \*

\* Captain Hallstrom served with me on board the *Stag* frigate, Captain N. Lockyer, C.B., nearly twenty-two years ago, during the blockade of the coast of Holland.

I left Waxholm at 3h. a.m. on June 10th and took the northeru passage by Soderam. We changed our pilot at Ferosand, a station about halfway between the two places. The course lay as before through innumerable islands and islets till we cleared the lighthouse at Soderam. The weather was very variable; wind at first fresh from the north, then N.E. to east with heavy rain, and then it fell calm with a thick fog. Off Hango, I sighted and took in tow the *Resistance*, storeship, with a valuable cargo for the fleet; which I found at anchor, in twenty-five fathoms water, in the middle of the Gulf of Finland, off the Ruskar Lighthouse. Without anchoring, I was ordered off to Faro (Gottland) for two colliers and bullocks, and on the way met Admiral Corry's sailing fleet steering for Baro Sound.

June 13th.—The weather is delightful, light southerly winds prevailing; the temperature of the sea water is still, however, as low as 50°, fifteen degrees lower than the atmosphere. Having no directions for Faro Sund, and a summer haze hanging over the land, we were puzzled for some time to find the entrance, which a short description would render easy enough.

The low island at the entrance of Faro Sund has a few scrubby trees on it, a small pilots' house with a red roof, and a landmark consisting of two flat arches surmounted by a flagstaff, all whitewashed. The land on the north shore of the harbour is almost bare; the south side is covered with fir trees to the water's edge. A red beacon on the small islet inside the harbour will appear to the southward of the outer island, when in the fair way for entering, bearing N.b.W.  $\frac{1}{4}$  W., and a distant windmill kept over the centre of this islet is a good leading mark in. Pilots generally come off, and it would be advisable to take one if bound into the inner harbour, as the channel is very narrow. In running for the Sund from the northward, the Faro lighthouse kept on a N.E.b.N. bearing will clear all the shoals to the southward of it until the entrance is open. This light is a very good one. I ought to mention that the church shown on the chart is no longer of use as a leading mark for entering, as it is completely hid by the trees.

There is a small village on the Gottland side of the Sound. It contains a store, with a respectable dwelling house attached, a saw mill, a lime kiln, this being a limestone formation, and about a dozen cottages. The church at Bunga, about a mile distant, is still in a mutilated and dilapidated condition, a most interesting specimen of the gothic architecture of the 12th century; evidently only a part of the original edifice remains. The material of which it is constructed is a hard free stone. The great south door is in an excellent state of preservation; the carving on the capitals of the columns as fresh as though done yesterday. The interior is vaulted, and the roof supported by a single row of coarse marble columns, not unlike Purbeck. Two flat tombstones of ecclesiastics lay in front of the communion table. One of the figures carved on them has the patina in his hand; the inscriptions round the slabs are in Saxon letter, which I attempted in vain to decipher. A low tapered spire, of plank, crowns the remnant

of what must once have been a noble tower. I longed to pay Wisby, the principal town in Gottland, with its ruined churches and collections of antiquities, a visit, but time was wanting.

\* \* \* \* \*

Baro Sund, June 18th.—I had bargained for a quiet Sunday, but was disappointed. "War owns no Sabbath," and before noon I received orders to join the blockading squadron off Helsingfors, Captain Watson (*Imperieuse*) being the senior officer in charge of the blockade. At 8h. p.m. we were on our station, which extends to the east as far as the Kalbaden Shoal. Disconnected, and banked up the fires.

21st.—Weather magnificent, temperature steadily increasing, ther. 72°, sea water 62°. The Russians have removed the beacon on the Kalbaden, which I have been all to day trying to find with the boats, and at last succeeded. At 10h. p.m. dropped a red Trinity buoy, in five fathoms, on the south edge of it, which will be of no small use to our cruisers in thick weather. We found a set of half a knot to the westward while at anchor with the kedge. I picked up, yesterday, a boat with four men from Revel, laden with rye and butter, which they were taking to Borgo to exchange for salt. The *Imperieuse* captured one also. These boats, doubtless, convey information of our movements and have been detained till the Commander-in-Chief's pleasure is known.\*

22nd.—I returned to Baro Sound to day, having been relieved by the *Bulldog*. In the afternoon, the steam fleet started for Cronstadt, leaving the sailing fleet here. We took the *Austerlitz*, screw, in tow, as her machinery is damaged, and the *Magicienne* the French Rear-Admiral.

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VOYAGE OF THE "HARRIET HUMBLE" OF LIVERPOOL TO AUSTRALIA,  
THENCE TO SOUTH AMERICA, AND RETURN TO ENGLAND, 1853,  
1854.—*John F. Fawcett, Commander.*

*From London to Port Adelaide.*

September 1st, 1853.—At noon we left London in tow of a steam-tug, and arriving off Gravesend at 4h. p.m., anchored there for the night. Started the following morning and set sail to a N.W. wind, which speedily took us out of the Thames, and at 6h. p.m. we discharged our pilot in the Downs. We continued a down channel course, wind being fresh at N.N.W., and sighted Beachy Head Light at midnight.

\* These men, together with several others I captured afterwards, were ordered to be released by the Commander-in-Chief. They all had passports in Russian, German, and Swedish. On these I took the liberty of writing "Visé et approuvé," with signature and date, before returning them. A *visé* the Russian police will not, probably, approve of.

From hence to the 8th September the wind continued between the north and east quarters, enabling us to clear the channel speedily; and on the 9th we were in  $41^{\circ} 40' N.$ , and  $14^{\circ} 30' W.$

The winds now became light and variable, but principally from the westward, until, after a short calm on the 12th, a fresh breeze sprung up from the N.N.E., which carried us past and in sight of Madeira on the following day. Fresh and moderate breezes now continued until the trade winds failed us on the 21st, in lat.  $14^{\circ} 14' N.$ , long.  $26^{\circ} 18' W.$  Between Madeira and the Cape Verds I found the ship had been set by the current about fifty miles to the eastward. The weather was unusually fine throughout the trade winds, although occasionally hazy; and the greatest extreme of heat was  $84^{\circ}$  Far. in the shade. We now had squally wet weather and variable winds for two days, until they settled in the S.W. quarter, with which we reached  $2^{\circ} 24' N.$ ,  $11^{\circ} 44' W.$ , on the 5th October. It was much against my inclination proceeding so far to the eastward in these parallels; but as the winds continued between west and S.S.W., I could not do otherwise; and, as regards the calm weather said to prevail in these regions continually with incessant rains, this is quite chimerical; on a former voyage I crossed the equator in  $9^{\circ} W.$

On the 8th October we reached southern latitudes in  $15^{\circ} 30' W.$ , and in standing to the southward did not experience any westerly current worth mentioning throughout the S.E. trades. The wind failed us in  $17^{\circ} 50' S.$ ,  $25^{\circ} W.$ , on the 15th October. Light airs and calms then continued until the 20th, and were continued by strong N.E. winds, which lasted two days, and veered round to N.W., S.W., and south, and then became light. On the 25th the wind from the south shifted to east, and thence to N.E. again, accompanied by very fine weather.

On the 29th October our position was lat.  $37^{\circ} 1' S.$ , long.  $2^{\circ} 36' W.$  at noon; again the wind commenced veering round to the westward, but remained between west and south until the 3rd November, when it fell calm for a few hours, being now in  $43^{\circ} S.$ , and  $14^{\circ} E.$  We had a continuation of winds from this parallel generally westerly, veering about between north and S.S.W., sometimes propelling the ship along at the rate of 250 miles per day, and at other times light and unsteady, and this sort of weather usually prevailed until on approaching the coast of New Holland on the 2nd December.

The sky was mostly clouded, but never sufficiently overcast to preclude observations, which were commonly obtained as accurately as it is possible to do at sea. The highest south latitude reached was  $44^{\circ} 30'$ , in  $60^{\circ} E.$  longitude. The barometer was never lower than 29.16 inches, or higher than 30.20, being invariably lowest with N.W. winds, and rising gradually as it veered to the southward; neither was the cold so intense as I anticipated, the thermometer never having registered less than  $45^{\circ}$ .

On the 10th November, being in lat.  $43^{\circ} 44' S.$ , long.  $40^{\circ} 47' E.$ , the sea became very dark, being green and deeply discoloured as if we were on soundings; and the following day a piece of tangle was picked



up, which from the freshness of its stem appeared to have been recently broken off. This discolouration of water continued until we had reached the parallel of  $53^{\circ} 30' E.$ , and it then rather suddenly resumed its natural colour. The temperature of the water when discovered was  $44^{\circ}$  in  $45^{\circ} E.$ , and in  $53^{\circ} E.$ ,  $46.5^{\circ}$ , air being between  $47^{\circ}$  and  $49^{\circ}$ , and the wind from west to N.N.E. : in  $54^{\circ} E.$  long. the temperature of the water suddenly rose to  $55^{\circ}$ ; and this circumstance, coupled with the appearance of soundings and floating tangle, induces me to believe in the existence of a very extensive bank hereabouts. Had we been becalmed, I should certainly have tried for bottom; on a former voyage I noticed a similar discolouration of water hereabouts, but then as now had plenty of wind, propelling us along, thus preventing me trying a cast for soundings, and a person is loath to heave to with a fair wind merely to satisfy his curiosity as to bottom or no bottom; though bottom I have no doubt could be obtained, and that at no very great depth.

We sailed on nearly an east course at least 550 miles from the time discoloured water was first discovered, and its temperature fell, until it regained its natural deep blue again and a higher temperature.

On the 2nd December, in lat.  $37^{\circ} 42' S.$ , long.  $129^{\circ} 25' E.$ , discoloured water was again noticed, but the thermometer gave me no indication as before to induce me to believe that soundings could be obtained here. The winds now principally prevailed from the northward, but veered again to the west on approaching Kangaroo Island, which was made at 2h. a.m. of the 5th; and we coasted along its northern shore through Investigator Straits; as we approached the eastern extremity of the island, the wind, which had been very light during the day, gradually died away, and was succeeded by a breeze from S.E., which enabled us to fetch across Backstairs passage, and (notwithstanding the strong set of current through to the N.N.W.) made the high land on the eastern shore of the gulf before dark. After approaching the coast to within eight miles, we stood away to the northward, and sighted the lightvessel off Port Adelaide at midnight, about sixteen miles off. The wind again fell calm, and we did not get to anchor until 9 o'clock the following morning, the voyage from London to Adelaide having occupied three months and four days.

A harbour pilot boarded us, and from him we learned that there was not enough water over the bar for the *Harriet Humble*, as the spring tides were over, and that nine days must elapse before she could be got into port. The vessel only draws 16 feet; but it is seldom that more than 17 feet is ever found on the outer bar; and at low water not more than 11 or 12 feet.

15th December.—Hired a steam-tug, the only one in the port, and towed up to the port, there being but two inches more water on the bars than what the ship drew. From the lightvessel to the port is not more than eight miles. Here we hauled alongside one of the wharves to discharge cargo.

This is a most unsafe port for a large vessel, as ships drawing more

than 10 or 11 feet constantly ground twice in the twenty-four hours, which to vessels with heavy cargoes must prove injurious. Ten feet is the usual depth of water at the wharves at low water; and vessels are moored so closely together, that accidents frequently occur from falling against each other when grounding as the tide leaves them. I saw during my stay one vessel settle down, as the tide fell, with her bowsprit upon the stern of another which had previously taken the ground, and as the receding water left the harbour, she was lifted up by her bowsprit at least three feet, until the stern rail, four timbers, and four of the archplanks of the deeper ship gave way in one loud crash, then they cleared.

The most prominent buildings are the public-houses, which stand invitingly opposite the wharves along the shore, and every merchant vessel usually finds sailors very unmanageable with these baits before their eyes; indeed it is wonderful if any vessel gets away without losing all her crew, for there is every facility for their desertion, and open country, ready employment, if they succeed in hiding themselves until their vessel sails, and a few hours sharp walking soon puts them out of any danger of a recapture. I lost eleven men by desertion out of eighteen, and all in one night; and although I offered rewards for their apprehension, with description of their persons, it was of no avail. The result was that I was compelled to hire men for the run across from hence to Valparaiso, and pay them the enormous amount of £40 each; and even for this high rate sailors were difficult to be got: but surely such a state of things will not be permitted to last very long.

The city of Adelaide is eight miles and a half from the port, and a very good road connects them together; indeed it is nearly as level as a bowling-green, and is constantly thronged with all sorts of vehicles; but the dust or sand during the day is intolerable, as there is generally a breeze which sets it in motion, so a trip from town to port, or vice versa, is anything but a recreation. The city is very regularly laid out; the streets usually cross each other at right angles, and the buildings are mostly substantially erected: but of course anything very showy cannot be expected yet, in a place formed but as yesterday.

The country between the city and the hills inland, is very luxuriant, and the villages, farms, &c., are well worth beholding. The land is remarkable rich and fertile, and hereabouts is essentially adapted for agriculture. The only drawback is a want of good water, for the water found by sinking is usually brackish; but near the hills it is excellent: at the port nothing but brackish water can be procured, and it is sold at a high price.

Vegetables are usually very high; but fresh provisions, such as beef, bread, &c., are comparatively moderate.

All goods, when duty paid, are conveyed to town by drafts from the port, and of course this enhances their value very much, owing to the high rate of cartage. A railroad is in the course of formation, which will be of great benefit, and no doubt pay the shareholders well

for their investment, for it can be constructed for a comparatively trifling cost, owing to the level nature of the country.

I remained here until the 28th January, 1854. The ship was then towed out of the port, and anchored near the lightship until I was ready for sailing with her across the Pacific to Valparaiso.

*From Port Adelaide to Valparaiso.*

30th January.—'Wayed and set sail. A moderate southerly wind prevailing, continuing until the 1st February. We had then worked down as far as Kangaroo Island, and, as it still continued opposed to our passage through Backstairs Passage, I kept the ship away and ran through Investigator Strait. In working about the southern part of the Gulf of St. Vincent, I found the set of the tide very strong from Backstairs Passage towards Troubridge Shoals. We were near enough at one time to see the wreck which lies high and dry upon them, and saw the surf break violently at least two miles outside of her. This is the only danger which requires much care and judgment in avoiding. Vessels in entering Investigator Strait, having approached Cape Borda to within six miles, should steer E.b.N., and continue that course until they have approached the high land on the eastern side of the Gulf to within ten miles; this is necessary to counteract the strong set towards Troubridge Shoal, as before noticed. A direct course may then be shaped for the lightship which lies S.W. one mile from the entrance of Port Adelaide.

After getting clear of the Straits, on the 2nd February, we were baffled by light variable airs and calms for three days. A gentle breeze then sprang up from N.b.E., which speedily veered to the northward and westward as we advanced to the S.E. We passed to the northward of the Auckland Islands, but did not see them, on the 13th; and on the 15th expected to have seen the small Island of Penantipodes, but were disappointed, although we passed its meridian of longitude only seven miles south of it. Here a good deal of tangle was floating about.

I now determined to proceed on a composite course of a great circle, and fixed the maximum latitude as  $51\frac{1}{2}^{\circ}$ . This parallel was gained in  $124^{\circ}$  W., and the course afterwards gradually shaped to the northward. We had fresh and fair winds throughout, veering between north and S.S.E. by the westward, and never, except once, were compelled to double reef. In this passage the lowest temperature was  $47^{\circ}$ , and the barometer usually stood low with northerly and westerly winds, rising as it veered to the southward. We averaged upwards of 200 miles daily in this run across, and frequently ran 250 and 260 miles in the twenty-four hours. The sky, also, was seldom so overcast as to prevent our obtaining observations for position.

We anchored in Valparaiso Bay on the 10th March, having just been thirty-five days from Kangaroo Island to this anchorage. We rounded the Baya Rocks of Point Angeles very close, but, the wind dying away, were compelled to employ boats for towing the vessel to an anchorage. We got a very snug berth in ten fathoms water, quarter

of a mile from the shore, on the west side of the bay, abreast of some smelting works; but it would not be a prudent one during the season when northers are expected here. Then it is better to anchor in the middle of the bay, for although in treble the depth of water yet riding is much easier, and there is more scope for drifting; besides, the sea is very heavy at those times near the west side.

Valparaiso and its harbour has had so many descriptions and is so much frequented, and so well pourtrayed by abler pens than mine, that I shall pass it over in silence. I remained here a week, and having accepted a charter to load copper ore at Port Caldera, was busily employed during my short stay in preparing for taking it in.

*From Valparaiso to Caldera.*

Sailed on the evening of the 18th March, and were rapidly carried to the northward, having wayed with a strong southerly wind. The following morning, at sunrise, the tops of the Andes were just discernible, being about seventy miles distant. As we hauled in for the land again, on the 20th, when near the Morro of Copiapo, the wind gradually left us, and we remained becalmed throughout the night; but at daylight the following morning a light westerly air aided us, and at noon we were within two miles of the Morro Point. This is most remarkable land and unmistakeable, being a bold precipitous bluff, unlike any other point on the coast. The entrance of Caldera Harbour bears from it N.E., by compass, distant seven miles. We rounded the islets on the south side of the entrance very close, and, keeping the south shore within two cables' length, easily fetched in to excellent anchorage, in seven fathoms, the mole bearing W.  $\frac{1}{2}$  N., half a mile off. We then received the customary visits of the Captain of the port and the boarding officer of the Customs.

This is decidedly the best harbour in all Chili, and is very easy both for access and egress, having no outlying dangers in the way whatever. A snug little mole is constructed, having water enough alongside of it for vessels drawing eighteen feet; but its south side is only capable of accommodating two ships, and its north side one. Vessels loading ores always moor to the south side and their cargoes are brought down by railway from Copiapo, the trucks containing it coming alongside the ships, there being two lines of rail laid down on the mole (which is just wide enough) for that purpose. The north side is more exposed, being open to the N.W. swell which sometimes sets into the harbour. Coal laden vessels usually discharge there, but they have to haul off when the mail steamer calls, on her way to and from Panama, as she invariably hauls alongside the mole and remains a few hours to land mails and passengers, to coal, &c.

Earthquakes are of frequent occurrence, but seldom severe. The general aspect of the country is sterile and barren in the highest degree; not a sign of vegetation, nothing but sand and rock, the land rising in the interior and appearing dark naked ruggedness. The climate is very healthy, and rain is, indeed, a rare occurrence. The

only fresh water to be got is made from sea water, a condensing machine belonging to the Railway Company being constantly at work distilling to supply the necessities of the inhabitants. Brackish water can, indeed, be obtained by digging wells, but it is unfit for use. The only prominent buildings are the Custom House with its offices, one or two mercantile establishments, hardly worth naming, and the Hotel de Ferro-Carril, or Railway Hotel, as Anglicised. The proprietor of this hotel is a Maltese, and I was surprised at the comfort and accommodation which he gives to strangers. As four years have scarcely elapsed since Caldera has been used as a shipping port in preference to Copiapo old port, any great extent of buildings cannot be expected, and it will never be a large place owing to the barren nature of the country around it and the great lack of fresh water and rain.

Provisions of all sorts are of course very high, vegetables more especially, and anything like refreshments of this kind cannot be obtained except from Copiapo city, a distance of nearly sixty miles by railroad. The harbour of Caldera is its principal recommendation. Ships are perfectly safe here from all winds; the northers which frequently occasion so much destruction and damage at Valparaiso are scarcely ever felt here, except by the N.W. swell setting into the bay and the cloudy weather which usually prevails when these winds blow in the offing. Fish, such as herring and mackerel, are very abundant, and any quantity can be obtained by the seine;—the best place for setting which is near the mole. A sort of small sprat is also very common about the mole, and is usually caught with hook and line. A small hut has been erected on one of the islets at the entrance of the harbour by the Steam Navigation Company, and a brilliant light, from lamps and reflectors, shown on those nights prior to the expected arrival of the mail steamer from the north, as she usually enters the harbour early in the day. A large wooden tower has also been built for a lighthouse on the high land nearer the anchorage, but has not, as yet, been lighted. The sand is completely swarming with myriads of fleas, which are very tormenting. Owing to the soft nature of the ground near the shore walking is very fatiguing, especially during the day, when the heat is rather oppressive. The land, far above high water mark, even on hills 150 feet above the level of the sea, is thickly covered with decomposed shells and sand; and this appearance of the country having, at some period, been under water is visible many miles in the interior.

We remained in this port until the 8th May, having loaded a cargo of silver and copper ores, chiefly from the mole, and then sailed on our return for Valparaiso, prior to our final departure from the South American coast for England.

#### *From Caldera to Valparaiso.*

8th May, 1854.—Sailed from Caldera, and after getting to the westward of the Morro we encountered strong southerly winds, with a very heavy swell from S.S.W. Southerly winds continued until we

reached the parallel of  $30^{\circ}$  S. In beating up thus far, I never exceeded seventy miles distance from the land, and usually endeavoured to be within twenty miles of the coast at sunset, as I found the wind generally veer a point or two to the eastward then and remained so during the night, hauling again more southerly after sunrise. After getting as far as Point Lengua de Vaca, near Coquimbo, faint northerly airs were experienced, which continued for a day or two. Afterwards, the southerly winds again set in; with which we reached Valparaiso Bay on the 18th, and anchored in the harbour, in thirty-five fathoms, having been ten days on the passage. The usual route is to stand off from the land until out of the southerly winds, or say as far as  $33\frac{1}{2}^{\circ}$  S., and then steer an east course for Valparaiso; which is the best plan in all months except April, May, June, and July. During the latter months northerly winds are frequent along this part of the coast. The outer passage generally takes sixteen days, and the inner one has often been made in six days.

We remained at anchor in Valparaiso Harbour twelve days; and, after taking in some light freight, sailed for Liverpool direct.

*From Valparaiso to Liverpool.*

On the afternoon of the 30th May, I left Valparaiso for Liverpool being assisted out by shore boats usually employed in towing vessels the breeze being very light from the southward, gradually freshening as our distance from the land was increased. We passed Juan Fernandez, in sight, on the 5th June, and Massafuera on the following day. Variable westerly and northerly winds were then experienced, and continued until the 12th June, when a strong southerly gale came on, lasting thirty hours; sympiesometer having previously fallen to 28·83, and aneroid to 28·86 inches.

On the 14th a N.E. gale commenced and blew very hard, with tremendous squalls; the symp. had fallen previously to 28·66, and aner. to 28·47 in. Hove the ship to with her head to the eastward. Our position at this time was in lat.  $49^{\circ}$  S., long.  $84^{\circ}$  W., sea running very high and confused. This gale ceased about midnight of the 15th, and was succeeded by another, of short duration, from the southward. We were then in lat.  $51^{\circ}$  S., long.  $83^{\circ}$  W. These gales have, unfortunately strained the ship and made her prove very leaky.

On the 18th the weather became more moderate; and on the 23rd we passed the parallel of Cape Horn, but without seeing the land, having been as far as  $56^{\circ} 50'$  S. Staten Island was seen on the following day, covered with snow. From the 25th to the 28th the wind was mostly from the E.N.E., compelling us to proceed to the northward inside the Falklands. On the 27th Weddell Island, West Falkland, was seen. The wind afterwards veered to the northward. On the 29th we had a gale from that quarter; which had been previously foretold by the aner. falling to 28·97, the symp. 29·20. This breeze suddenly ceased, after blowing heavily for fifteen hours, and left us almost becalmed.

After getting to the north of the Falkland Islands we had easterly winds for two or three days, which ended with a gale from that quarter on the 5th July, and afterwards veered quickly to the westward; we were now in lat.  $43^{\circ}$  S., long.  $51^{\circ}$  W., and the aner. fell to 28·81, and symp. to 28·90. A tremendous sea then got up and I was really afraid to lay the ship to in this gale, knowing that the sailors would not be able to remain at the pumps, as the ship was making twelve inches of water hourly. I therefore, after a serious consideration, determined to scud the ship before the wind and sea; and right nobly she performed her task, running, under a close reefed main topsail and foresail, twelve knots the whole night, and taking surprisingly little water on board. At noon of the 7th this gale abated (ship having run 220 miles from the previous day), and the wind veered more southerly; but the sea still ran very high, and one burst over the stern, breaking the after part of the cuddy, unshipping both the wheel and the helmsman, and doing a great deal of damage in the cabins. An immense quantity of water got down into the lazarette, and many of our stores were seriously injured by it.

After crossing the parallel of  $40^{\circ}$ , we gradually drew into finer weather, and passed the mouth of the River Plate without a sign of a pampero. The winds prevailed very much from N.N.E., making our passage to the northward very slow and tedious; but the weather was fine, the symp. usually at 30·20, and the aner. frequently as high as 30·42 in. These northerly winds continued until we reached the parallel of  $27^{\circ}$  S., and were succeeded by light westerly and southerly breezes; with which we sighted and passed Martin Vas Rocks on the 28th July. Afterwards we experienced winds very light and mostly from S.S.W. until in lat.  $15^{\circ}$  S. They then veered to the eastward, and we crossed the equator on the 7th August, in long.  $27^{\circ}$  W. Southerly winds and a slight northerly current carried us to  $10^{\circ}$  N. Calms, rain, and variable airs were then experienced for seven days, until we gained the N.E. trade winds, light, on the 18th, in lat.  $13^{\circ}$  30' N. After losing the southerly wind, I found the current very mutable, sometimes setting south and changing gradually to the N.W. as we approached the limits of the trade wind; throughout the extent of these winds it set mostly to the westward about ten or twelve miles per day. The easterly winds ceased in  $34^{\circ}$  N., and were succeeded by light westerly airs, which gradually freshened, veering to S.W., and carried us to the N.W. of the Azores. On the 12th we sighted the Old Head of Kinsale, and the following day rounded Tuskar, close to. A pilot took charge of us for Liverpool on the 14th, and we finally anchored in the Mersey on the afternoon of this day, after a passage of 104 days from Valparaiso.

PETERSBURG AND ITS APPROACHES.—From "*Russia*," by the  
*Marquis de Custine*.

The streets of Petersburg present a strange appearance to the eyes of a Frenchman. I will endeavour to describe them; but I must first notice the approach to the city by the Neva. It is much celebrated, and the Russians are justly proud of it, though I did not find it equal to its reputation. When, at a considerable distance, the steeples begin to appear, the effect produced is more singular than imposing. The hazy outline of land, which may be seen far off between the sky and the sea, becomes, as you advance, a little more unequal at some points than at others; these scarcely perceptible irregularities are found on nearer approach to be the gigantic architectural monuments of the new capital of Russia. We first begin to recognize the Greek steeples and the gilded cupolas of convents; then some modern public buildings—the front of the Exchange, and the white colonnades of the colleges, museums, barracks, and palaces which border the quays of granite, become discernible. On entering the city, you pass some sphinxes, also of granite. Their dimensions are colossal and their appearance imposing; nevertheless these copies of the antique have no merit as works of art. A city of palaces is always magnificent, but the imitation of classic monuments shocks the taste when the climate under which these models are so inappropriately placed is considered. Soon, however, the stranger is struck with the form and multitude of turrets and metallic spires which rise in every direction: this at least is national architecture. Petersburg is flanked with numbers of large convents, surmounted by steeples; pious edifices, which serve as a rampart to the profane city. The Russian churches have preserved their primitive appearance; but it is not the Russians who invented that clumsy and capricious Byzantine style, by which they are distinguished. The Greek religion of this people, their character, education, and history, alike justify their borrowing from the Lower Empire; they may be permitted to seek for models at Constantinople, but not at Athens. Viewed from the Neva, the parapets of the quays of Petersburg are striking and magnificent; but the first step after landing discovers them to be badly and unevenly paved with flints, which are as disagreeable to the eye as inconvenient to the feet, and ruinous to the wheels. The prevailing taste here is the brilliant and the striking: spires, gilded and tapering like electric conductors; porticoes, the bases of which almost disappear under the water; squares, ornamented with columns which seem lost in the immense space that surrounds them; antique statues, the character and attire of which so ill accord with the aspect of the country, the tint of the sky, the costume and manners of the inhabitants, as to suggest the idea of their being captive heroes in a hostile land; expatriated edifices, temples that might be supposed to have fallen from the summit of the Grecian mountains into the marshes of Lapland;—such were the objects that



most struck me at the first sight of Petersburg. The magnificent temples of the pagan gods, which so admirably crown, with their horizontal lines and severely chaste contours, the promontories of the Ionian shores, and whose marbles are gilded by the sunshine amid the rocks of the Peloponnesus, here become mere heaps of plaster and mortar; the incomparable ornaments of Grecian sculpture, the wonderful minutiae of classic art, have all given place to an indescribably burlesque style of modern decoration, which substitution passes among the Finlanders as proofs of a pure taste in the arts. Partially to imitate that which is perfect, is to spoil it. We should either strictly copy the model, or invent altogether. But the re-production of the monuments of Athens, however faithfully executed, would be lost in a miry plain, continually in danger of being overflowed by water whose level is nearly that of the land. Here, nature suggests to man the very opposite of what he has imagined. Instead of imitations of pagan temples, it demands bold projecting forms and perpendicular lines, in order to pierce the mists of a polar sky and to break the monotonous surface of the moist grey steppes which form, farther than the eye or the imagination can stretch, the territory of Petersburg. I begin to understand why the Russians urge us with so much earnestness to visit them during winter: six feet of snow conceals all this dreariness; but in summer, we see the country. Explore the territory of Petersburg and the neighbouring provinces, and you will find, I am told, for hundreds of leagues, nothing but ponds and morasses, stunted firs and dark-leaved birch. To this sombre vegetation the white shroud of winter is assuredly preferable. Every where the same plains and bushes seem to compose the same landscape; at least until the traveller approaches Finland and Sweden. There, he finds a succession of little granite rocks covered with pines, which change the appearance of the soil, though without giving much variety to the landscape. It will be easily believed that the gloom of such a country is scarcely lessened by the lines of columns which men have raised on its even and naked surface. The proper bases of Greek peristyles are mountains: there is here no harmony between the inventions of man and the gifts of nature; in short, a taste for edifices without taste has presided over the buildings of Petersburg.

But, however shocked our perceptions of the beautiful may be by the foolish imitations which spoil the appearance of the Russian capital, it is impossible to contemplate without a species of admiration an immense city which has sprung from the sea at the bidding of one man, and which has to defend itself against a periodical inundation of ice, and a perpetual inundation of water.

The Kronstadt steam-boat dropped her anchor before the English quay opposite the custom-house, and not far from the famous square where the statue of Peter the Great stands mounted on its rock.

I would gladly spare my reader the detail of the new persecutions, which, under the name of *simple* formalities, I had to undergo at the hand of the police, and its faithful ally the custom-house; but it is a

duty to give a just idea of the difficulties which attend the stranger on the maritime frontier of Russia: the entrance by land is, I am told, more easy.

For three or four days in the year the sun of Petersburg is insupportable. I arrived on one of these days. Our persecutors commenced by impounding us (not the Russians, but myself and the other foreigners) on the deck of our vessel. We were there, for a long time, exposed without any shelter to the powerful heat of the morning sun. It was eight o'clock, and had been daylight ever since one hour after midnight. They spoke of thirty degrees of Réaumur;\* which temperature, be it remembered, is much more inconvenient in the North, where the air is surcharged with vapour, than in hot climates.

At length I was summoned to appear before a new tribunal, assembled, like that of Kronstadt, in the cabin of our vessel. The same questions were addressed to me with the same politeness, and my answers were recorded with the same formalities.

"What is your object in Russia?"

"To see the country."

"That is not here a motive for travelling."

(What humility in this objection!)

"I have no other."

"Whom do you expect to see in Petersburg?"

"Every one with whom I may have an opportunity of making acquaintance."

"How long do you think of remaining in Russia?"

"I do not know."

"But about how long?"

"A few months."

"Have you a public diplomatic mission?"

"No."

"A secret one?"

"No."

"Any scientific object?"

"No."

"Are you employed by your government to examine the social and political state of this country?"

"No."

"By any commercial association?"

"No."

"You travel then from mere curiosity?"

"Yes."

"What was it that induced you, under this motive, to select Russia?"

"I do not know," &c., &c., &c.

"Have you letters of introduction to any people of this country?"

I had been forewarned of the inconvenience of replying too frankly to this question; I therefore spoke only of my banker.

\* Nearly 100° Fahrenheit.

At the termination of the sessions of this court of assize, I encountered several of my *accomplices*. These strangers had been sadly perplexed, owing to some irregularities that had been discovered in their passports. The blood-hounds of the Russian police are quick-scented, and have a very different manner of treating different individuals. An Italian merchant, who was among our passengers, was searched unmercifully, not omitting even the clothes on his person, and his pocket-book. Had such a search been made upon me, I should have been pronounced a very suspicious character. My pockets were full of letters of introduction, and though the greater number had been given me by the Russian ambassador himself, and by others equally well known, they were sealed; a circumstance which made me afraid of leaving them in my writing-case. The police permitted me to pass without searching my person; but when my baggage came to be unpacked before the custom-house officers, these new enemies instituted a most minute examination of my effects, more especially my books. The latter were seized *en masse*, and without any attention to my protestations, but an extraordinary politeness of manner was all the while maintained. A pair of pistols and an old portable clock were also taken from me, without my being able to ascertain the reason of the confiscation. All that I could get was the promise that they would be returned.

I have now been more than twenty-four hours on shore without having been able to recover anything, and to crown my embarrassment, my carriage has, by mistake, been forwarded from Kronstadt to the address of a Russian prince. It will require trouble, and explanations without end, to prove this error to the custom-house agents; for the prince of my carriage is from home.

Between nine and ten o'clock I found myself, personally, released from the fangs of the custom-house, and entered Petersburg under the kind care of a German traveller, whom I met *by chance* on the quay. If a spy, he was at least a useful one, speaking both French and Russian, and undertaking to procure me a drowska; while, in the meantime, he himself aided my valet to transport in a cart to Coulon's hotel such part of my baggage as had been given up.

Coulon is a Frenchman, who is said to keep the best hotel in Petersburg, which is not saying much. In Russia, foreigners soon lose all trace of their national character, without, at the same time, ever assimilating to that of the natives.

The obliging stranger found even a guide for me who could speak German, and who mounted behind in the drowska, in order to answer my questions. This man acquainted me with the names of the buildings we passed in proceeding to the hotel, which occupied some time, for the distances are great in Petersburg.

The too celebrated statue of Peter the Great, placed on its rock by the Empress Catherine, first attracted my attention. The equestrian figure is neither antique nor modern; it is Roman of the time of Louis XV. To aid in supporting the horse, an enormous serpent has

been placed at his feet ; which is an ill-conceived idea, serving only to betray the impotence of the artist.

I stopped for one moment before the scaffolding of an edifice which, though not yet completed, is already famous in Europe, the church, namely, of St. Isaac. I also saw the facade of the new winter palace ; another mighty result of human will applying human physical powers in a struggle with the laws of nature. The end has been attained, for in one year this palace has risen from its ashes : and it is the largest, I believe, which exists ; equalling the Louvre and the Tuileries put together.

In order to complete the structure at the time appointed by the Emperor, unheard-of efforts were necessary. The interior works were continued during the great frosts ; 6000 workmen were continually employed ; of these a considerable number died daily, but the victims were instantly replaced by other champions brought forward to perish, in their turn, in this inglorious breach. And the sole end of all these sacrifices was to gratify the caprice of one man !

Among people naturally, that is to say, anciently civilized, the life of men is only exposed when common interests, the urgency of which is universally admitted, demand it. But how many generations of monarchs has not the example of Peter the Great corrupted !

During frosts when the thermometer was at 25 to 30 degrees below 0 of Réaumur, 6000 obscure martyrs—martyrs without merit, for their obedience was involuntary—were shut up in halls heated to 30° of Réaumur, in order that the walls might dry more quickly. Thus, in entering and leaving this abode of death, destined to become, by virtue of their sacrifice, the abode of vanity, magnificence, and pleasure, these miserable beings would have to endure a difference of 50 to 60 degrees of temperature.

The works in the mines of the Uralian mountains are less inimical to life ; and yet the workmen employed at Petersburg were not malefactors. I was told that those who had to paint the interior of the most highly heated halls were obliged to place on their heads a kind of bonnet of ice, in order to preserve the use of their senses under the burning temperature. Had there been a design to disgust the world with arts, elegance, luxury, and all the pomp of courts, could a more efficacious mode have been taken ? And nevertheless the sovereign was called *father* by the men immolated before his eyes in prosecuting an object of pure imperial vanity. They were neither spies nor Russian cynics who gave me these details, the authenticity of which I guarantee.

The millions expended on Versailles supported as many families of French workmen as there were Slavonian serfs destroyed by these twelve months in the winter palace ; but, by means of that sacrifice, the mandate of the Emperor has realized a prodigy ; and the palace, completed to the general satisfaction, is going to be inaugurated by marriage fêtes. A prince may be popular in Russia without attaching much value to human life. Nothing colossal is produced without ef-

fort ; but when a man is in himself both the nation and the government, he ought to impose on himself a law, not to press the great springs of the machine he has the power of moving, except for some object worthy of the effort. To work miracles at the cost of the life of an army of slaves may be great ; but it is too great, for both God and man will finally rise to wreak vengeance on these inhuman prodigies. Men have adored the light, the Russians worship the eclipse : when will their eyes be opened ?

I do not say that their political system produces nothing good ; I simply say that what it does produce is dearly bought.

It is not now for the first time that foreigners have been struck with astonishment at contemplating the attachment of this people to their slavery. The following passage, which is an extract from the correspondence of the Baron Herberstein, ambassador from the Emperor Maximilian, father of Charles V., to the Czar Vassili Ivanovich, I have found in Karamsin.

Did the Russians know all that an attentive reader may gather even from that flattering historian, in whom they glory, and whom foreigners consult with extreme distrust, on account of his partiality as a courtier, they would entreat the Emperor to forbid the perusal of his, and of all other historical works, and thus be left in a darkness equally favourable to the repose of the despot and the felicity of his subjects, who believe themselves happy so long as others do not stigmatize them as victims.

Herberstein, in characterizing the Russian despotism, writes as follows :—" He (the Czar) speaks, and it is done ; the life and fortunes of laity and clergy, nobles and burghers, all depend on his supreme will. He is unacquainted with contradiction, and all he does is deemed as equitable as though it were done by Deity ; for the Russians are persuaded that their prince is the executor of the Divine decrees. Thus, '*God and the prince have willed,*' '*God and the prince know,*' are common modes of speech among them. Nothing can equal their zeal for his service. One of his principal officers, a venerable grey-haired person, formerly ambassador in Spain, came to meet us on our entry into Moscow. He galloped his horse, and displayed all the activity of a young man, until the sweat fell from his brow ; and when I expressed my surprise to him, '*Ah, Monsieur le Baron,*' he replied, '*we serve our sovereign in a manner altogether different from that in which you serve yours.*'

"I cannot say whether it is the character of the Russian nation which has formed such autocrats, or whether it is the autocrats themselves who have given this character to the nation."

This letter, written more than three centuries ago, describes the Russians precisely as I now see them. Like the ambassador of Maximilian, I still ask, is it the character of the Russian which has made the autocracy, or is it the autocracy which has made the Russian character ; and I can no more solve the question than could the German diplomatist.

It appears to me, however, that the influence is reciprocal: the Russian government could never have been established elsewhere than in Russia; and the Russians would never have become what they are under a government differing from that which exists among them.

I will add another citation from the same author, Karamsin. He repeats the observations of the travellers who visited Muscovy in the sixteenth century. "Is it surprising," say these strangers, "that the Grand Prince is rich? He neither gives money to his troops nor his ambassadors; he even takes from these last all the costly things they bring back from foreign lands.\* It was thus that the Prince Yaroslowsky, on his return from Spain, was obliged to place in the treasury all the chains of gold, the collars, the costly stuffs, and the silver vessels, which the Emperor and the Archduke Ferdinand had given him. Nevertheless, these men do not complain. They say, 'The Great Prince takes away, the Great Prince will restore.'" It was thus the Russians spoke of the Czar in the sixteenth century.

At the present day you will hear, both in Paris and in Petersburg, numbers of Russians dwelling with rapture on the prodigious effects of the word of the Emperor; and, while magnifying these results, not one troubles himself with dwelling upon the means. "The word of the Emperor can create," they say. Yes, it can animate stones by destroying human beings. Notwithstanding this little restrictive clause, every Russian is proud of being able to say to us, "You take three years to deliberate on the means of rebuilding a theatre, whilst our Emperor raises again, in one year, the largest palace in the universe." And this puerile triumph does not appear to them too dearly bought by the death of a few thousand wretched artizans, sacrificed to that sovereign impatience, that imperial fantasy, which constitutes the national glory. Whilst I, though a Frenchman, see nothing but inhuman ostentation in this achievement, not a single protestation is raised from one end of this immense empire to the other against the orgies of absolute power.

People and government are here in unison. That a man brought up in the idolatry of self, a man revered as omnipotent by sixty millions of men, (or at least of beings that resemble men,) should not undertake to put an end to such a state of things, this does not surprise me; the wonder is, that among the voices that relate these things to the glory of this individual, not one separates itself from the universal chorus, to protest in favour of humanity against such autocratic miracles. It may be said of the Russians, great and small, that they are drunk with slavery.

\* Dickens, in his Travels through the United States, informs us that the same practice is at this day observed in America.

## SAXBY'S STOPPER.

London, 21st December, 1854.

Sir,—The numerous letters which I receive, and the remarks which I hear from naval officers and others, would have justified an earlier application for the favour of a little further space in your Magazine. As regards my interest, the rapid progress of my patents would seem to require nothing beyond the ordinary patience of a successful patentee. I am desirous, however, as well to correct a slight mistake in my humble pamphlet, recently addressed to the shipowners of Liverpool, as to see the progress of my patents recorded in your widely read Annals. Six months have passed since I last presumed to trouble you.

In the pamphlet referred to, at page 18, speaking of the placing meridian posts round the coast for the correction of the mariner's compass, I stated thus:—

“ I am informed that Sir John Ross strongly recommends this in his recent paper at Liverpool: he is doubtless not aware that Mr. Burdwood, in that most valuable repository of nautical science, the *Nautical Magazine*, originated and published this suggestion so long since as 1846.”

I beg to explain, that the idea of “meridian posts” occurred to Mr. Burdwood from the circumstances attending the trial of the *Birkenhead's* compasses, as mentioned by me at page 14 of the same pamphlet; but I feel it due to Sir John Ross to correct my statement in his own words, which follow:—

Castle, Stranraer, 25th October, 1854.

Sir,—I beg to return you my best thanks for the pamphlet you were so kind as to send me, in which I find several circumstances under which the mariner's compass is affected, hitherto unknown.

In regard to the original suggestion of posts to ascertain the deviation in transit, I beg to acquaint you that it was practised by me in 1818, and published with rules in 1819; again by me in 1834; and lastly in my recent pamphlet. \* \* \* \* \* With regard to the *Birkenhead*, I think the embarkation of the troops and their arms at the Cape on the day she sailed sufficient to account for the error in her compasses. Your other suggestions and improvements deserve the thanks of the nation.

I am, &amp;c.

JOHN ROSS, Rear-Admiral.

In a subsequent note to me, dated 6th November, Sir John Ross further says:—“ I can have no objection to your using my name in the *Nautical Magazine*, and I have great pleasure in giving my unqualified testimony to the efficiency of your method of lowering boats with safety.” I hope to be allowed to recur to these important subjects in a future number.

The circumstances which have occurred in the Black Sea and elsewhere since my address was published, have not lessened the interest and anxiety with which people look to further aid from nautical science and mechanics. The opinion of Sir John Ross might of itself well warrant some endeavour on my part to bring certain humble assertions of mine more prominently forward. When at page 20 I used the following words, (relating to the *Tayleur*),—“ Now as the immediate destruction of that magnificent ship was the parting of the chain cables, who can say what might have been prevented had any apparatus been available, when letting go the anchors, to prevent the shock of bringing up!” The public mind had not then been distressed by intelligence from the Black Sea, as deplorable as any thing to be found in naval

history. The magnificent *Prince*, the no less valuable and stately three-decker, *Henri IV.*, had not then in the one case drowned her crew and passengers, depriving at the same time our brave fellows in the Crimea of necessities, the want of which is still felt on the heights of Balaklava, costing the country nearly a million of money; nor, in the other case, had disaster weakened the fleet of our gallant ally by periling, perhaps wrecking, one of the finest ships in the French navy. Nor had some 20 or 30 transports been sunk, wrecked, or stranded; destroying an enormous quantity of *matériel* for our army, and plunging, alas, how many families! into needless distress and anguish. Needless? Is it so? I appeal to your readers and the public for answer.

I see no reason why, because my interest, in its direction, chances to be concurrent with the course of the general safety of the shipping interest; why I should regard the probable or possible sneers of those who might attribute this statement to self-interest alone. A near relative, who has known the details of my plans from the commencement, writes to me thus (after reading of the disasters of the Black Sea in the recent hurricane):—"Can you not help these poor fellows? It is your bounden duty to try." It is, sir; and, armed with a conviction arising from indisputable experiment both afloat and on shore upon a large scale, during the past year, together with such all-powerful opinion as from those who have examined my Deck Stopper with the chain in it, (and whom I would be sorry to compromise in their official position by naming publicly without express permission,) I beg to describe in your Magazine the means of safety, which long and anxious thought has matured into substantial and accurate working efficiency; and to place, once for all, my plans before the naval world; boldly trusting them to their own unaided merits for adoption. Shipowners, as a body, would prefer being left to their own prejudices and protracted "precautions." I only appeal to practical sailors. If their approval had been lukewarm, there would have been little hope of sterling value in my humble inventions.

It appears, from the ---, that the *Prince's* chains were lost without there having been any available power at hand to check them; and on their coming to a dead stop at the clench, they broke, and all was lost! Such was the cause of destruction of the *Taylor*. It is well known that when once a cable begins to rush out, it is unmanageable; even on board men-of-war, H.M.S. *Hannibal* lost a chain at Sheerness last spring in the same manner, and it often occurs in bringing up. The *Henri IV.* broke four cables before going ashore! And how many transports did the same will for ever be unknown!

With these deplorable facts before us, surely it is right that I explain to the public my simple and inexpensive method of averting such awful calamities! It will ever be a melancholy consolation to me, that before the *Prince* was completed on the stocks, I, with my spirited London manufacturer, proposed to her owners to fit her, at our own expense, with my Deck Stopper, &c. Nor can I impute blame to them for their hesitation and silent abandonment of the idea; as the actual test of trial at sea, and on a large scale, had not, at that period, confirmed the expectations of myself and all who had seen it, including, I believe, even the Managing Director of the Company. Nevertheless, I speak the sentiments of a large number of sailors, when I assert, that had this splendid vessel been fitted with either my Deck Stopper or my eccentric Bitt, or both, she could have brought up without a shock sufficient to break a chain, and probably would have had time to ride by two or three anchors in security. When once the shock had been prevented, this magnificent screw steamer, from her build forward, must have ridden less heavily than ships of the old class.

By the accompanying woodcuts, it will be seen that my stopper consists of

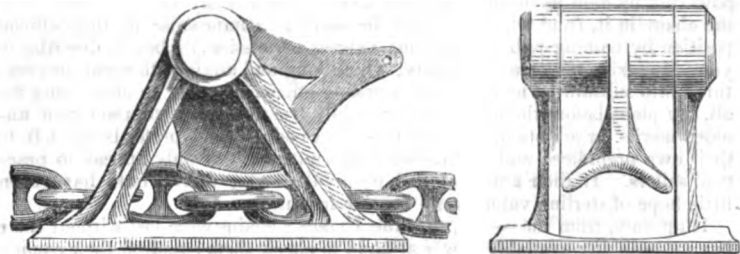


an eccentric cleat, which by friction alone prevents a chain from going out, while it firmly holds every link as it passes inboard. Its strength is such that no chain can break it. As it is always thrown back when an anchor is at the bows, and of course remains so while an anchor is being let go, in the latter case, should the chain begin to rush out too fast, the cleat is lowered (by a lanyard of any length and reaching any where) on to the chain, and by its self-action the chain is arrested, not suddenly, for if the strain be very great, or so as to nearly equal the proof test of the cable, the cleat will of itself lift and close, lift and close, easing a few links at each motion, until the ship fairly rides, and time is thereby afforded to toss a bight of the cable into my eccentric rising bitts, (which I hope to be allowed to explain in your next number,) or by taking a round turn upon an ordinary bitt. Thus then is provided a very simple casting, (to be of course well secured,) without any lever or cog, and one that is entirely self-acting. This principle has been tested by careful experiment on a large scale, and, moreover, *I can construct a Stopper which shall lift at any required strain.*

I have the honour, &c.,

S. M. SAXBY.

To the Editor of the *Nautical Magazine*.



SAXBY'S PATENT DECK STOPPER.

#### BRITISH EXPEDITION AT JAPAN.

On the 7th September, 1854, H.M.S. *Winchester*, with the steamers *Encounter*, *Barracouta*, and *Styx*, anchored in the outer harbour of Nagasaki, Japan. They crossed over under sail only from Woosung, at the mouth of the river Yeangtsekiang, in six days.

After considerable delay, the Governor sent off to say that he would be happy to make the necessary arrangements for the Admiral's landing to visit him at the Palace at Nagasaki; which took place on October 4th.

The arrangements for the intended visit had been specially made. The Admiral was respectfully requested to fix his hour, to name his intended retinue, to specify whether he would land with or without a guard; and a kind of programme was laid before him of the routine and ceremonial to be gone through. It was intimated to him that a communication from the Emperor was to be read to him, although the final answer to his letter had not yet arrived.

At 9.30 October 4th, five boats left the flag-ship, the *Winchester*, contain-

ing the Admiral and about fifteen of his officers. Although a little later than the time named, some delay or mistake had occurred in transmitting to the officer in charge of the entrance the necessary order. A boat was therefore sent in hot haste to stop the procession. The officer in her explained to the interpreter that his chief must perform the disagreeable operation of disembowelling himself if the boats were to advance. They were instantly stopped, and the three leading ones turned round, forming again in close order ahead of the Admiral. A few minutes removed the difficulty. A large boat came volunteering to lead the way. The sixteen junks receded, eight on each side, leaving open the centre of the passage. Twenty-five or thirty boats, with black, white, and red flags gaily flying, escorted the Admiral on each side, beating tom-toms, and keeping a sort of order. The distance from point to point where the line of junks was might be about 800 yards. These points were seen to be defended by twenty-one guns each; and were a formidable termination to a line of batteries and guns concealed among trees and brushwood. Inside these points the shores gently recede, and again approach, at the distance of a mile. A succession of beautiful views delighted the eye; picturesque positions displayed large military stations and encampments, ornamented with banners of bright colours; and the approach to the city of Nagasaki was of varied richness and beauty.

The Dutch factory, or prison, at Desima is next passed, on the right hand. A long rough wall, raised about six feet above the water, forms the front. On this stands a green paling, above which rise the stiff angular dwellings and store houses of the Dutch, facing the sea. Behind these a narrow creek runs, across which is thrown a melancholy-looking bridge, which is strictly guarded, and over which the Dutch residents are rarely allowed to pass. From the corner of this creek the cloth hangings began to spread along towards the landing-place. They were marked with horizontal stripes alternately of blue and white hung on poles. The landing-place was kept well clear by the Government boats. It was composed of long, rough, granite steps, without cement.

The officers landed first, and formed two lines, between which Sir James Stirling advanced towards two fat Japanese officials, who awaited him at twenty yards from the steps. They politely welcomed him, and said they were sent to convey him to the Governor's presence. The road was closed in on both sides with the tiresome hangings—here twenty feet high—not striped, but marked with discs or circular shields, of 3½ feet diameter, bearing a peculiar fan-like wreath. Along these lines were stationed soldiers, at two or three yards interval, bearing on their left shoulders a matchlock enclosed in a red cloth case, and having a double coil of slow-match cord hanging on the butt-end of the stock. The procession advanced along an ascending road, broken by small flights of low steps occasionally. At a distance of 150 yards from the boats this road turned sharp to the right, and soon opened into an oblong open space, surrounded by guard-rooms, in front of which sat or rather squatted the guards, their long spears close beside each. Two stands contained ten very long spears in each: one set had round black tufts, the other a large bunch of black feathers on each.

Out of this open space was a large gate hung by five massive copper hinges, on a frame made of pine wood, fourteen inches by twelve. The gate was hard wood, 4½ inches thick, unpainted. On each side of this gate stood a guard-room, within a smaller court. The side opposite the gate forms the front of the Governor's palace. It is a low and gloomy-looking old building, showing, in various places, marks of recent repairs. A small hall, with a guard-room at the further end of it, opened into a corridor nine feet wide, which led round the building; the doors of the rooms opening into it.

Two of these rooms were pointed out as allotted to the Admiral and his

suite. He passed on at once into a further room, where stood the Governor, having on his right the Inspector. Behind them were four young officers, holding sheathed swords in their hands by their points, the handles being above their heads. Two little stout officials were down on their knees and elbows, their heads leaning on the matted floor, and about two feet from the two great men.

The Governor is called Mizano Skugonokami: he is a quiet, intelligent, nice-looking man, about thirty-six years of age, and rather below the middle size. He addressed a few low, gentle tones to the abject being at his feet, who scarcely dared to look up at his Lord, and who gave token of having comprehended each sentence by a sort of spasmodic "Ich, ich:" and, when the Governor ceased to speak, he kissed the matted floor several times before he repeated to Oto (the Admiral's interpreter) the Governor's words.

At the conclusion of the interview, the Admiral and his staff took their seats in one of the rooms; the attending officers took their places in the other; in both, the exact number of arm-chairs required were placed ready. When the party were all seated, an armed official presented a cup of fine tea, in a circular japau waiter, with a round hole in its centre, to each of the English officers, kneeling. A tray raised six or eight inches was then laid before each, bearing a box filled with sponge-cake and bright-coloured sweetmeats. The box was ten inches square, and four inches deep, beautifully put together. A few sheets of cotton paper were laid with each, and some peculiar-coloured string to tie it up with. Each officer was asked to write his name on his box, in order that it might be sent to his ship as a slight memento of his visit. Between every two chairs were placed oblong trays, with fine tobacco of a light brown colour, a porcelain vessel with fire, and a smaller one to hold the ashes from the pipes, which were small brass heads as large as a marble fixed on cane stems about a foot long. The pipe, therefore, required to be refilled after a few puffs. The Japanese officers of the house walked about or sat outside the doors in the corridor. The rooms were low, separated by a partition which ran up about three-quarters of the whole height, surrounded by paneled screens five feet high, and twenty inches wide, joined by hinges—every six panels forming one moveable screen, so that they might serve for various rooms and purposes—each panel was well painted and highly varnished. The ibis, stork, and crane, appeared on some; while others had splendid groups of flowers.

After a lapse of half an hour, the Admiral, his secretary, and the senior Captain, returned to the Governor's room, where a good deal of writing and talking was kept up for a couple of hours; at the expiration of which the Admiral returned to his sitting-room, saying, that if he had kept his officers waiting rather long, he had the pleasure to tell them the result of his interview was, so far as it went, satisfactory. The party then were served with more tea, and two thick round slices of a sweet plain dumpling in thin syrup. These slices were served in a basin of red lacquered ware with a cover like a saucer inverted, both of superior make; they were laid on the same black tray before used for the box of sweetmeats, and with them was a massive silver spoon, also a silver fork and a pair of new chop-sticks. No wine nor spirits of any kind appeared; and, although the diplomatic arrangements appeared to be faultless, the order perfect, and the polite dignity of the people unexceptionable, much cannot be said in favour of their *cuisine*.

Nothing was seen of the Dutch—all communication with whom was prohibited. But one of the Japanese in attendance spoke Dutch, and acted, he said, as interpreter for them. The floors were all covered with fine matting, three feet wide, and in lengths of three yards, neatly joined and laid down over some elastic substance which made them soft and pleasant to tread upon. The Japanese left their shoes outside their houses and their boats. Seeing an

English officer spit on the floor, one of the Japanese said in English, very slowly, "If—you—please—you—must—not—spit. Japanese—men—sit—here." They are very cleanly in their dress and their dwellings, as may be judged by the way in which they keep their boats.

At half-past two the party returned to the boats, and in three-quarters of an hour were on board the flag-ship; terminating very pleasantly an interesting visit, in which the only thing to be regretted was, that the view was strictly bounded by two lines of soldiers and screens of cloth—and that nothing could be seen of the people, their shops, their trades, arts, manufactures, or dwellings. A long period of patient management will be necessary to overcome their reluctance to hold any social or commercial interchange with foreigners.

In four days after the Admiral's first visit to the O'Bunyo, or Governor of Nagasaki, a second was arranged for the 9th of October. Five boats and about a dozen officers formed the procession, which left the flag-ship at 12.30. The landing, reception, and entertainment were exactly as before. The Governor and Inspector "hoped the Admiral and his servants were all well." They were quite well; and they "hoped the O'Bunyo and all his were equally well."

The O'Bunyo had received the Emperor's reply from Yeddo. It was unrolled in a long scroll, or series of scrolls. The purport of it was made known; the hearers were to retire, meditate upon it, and act accordingly. A third and final visit would then conclude the diplomacy. This reply acknowledged in courteous terms the compliment of the English visit and communication; expressed the high consideration cherished in the Imperial breast for the great English nation, the Queen, the Admiral, &c.; regretted that necessity had arisen for war and its attendant horrors; explained that the Emperor's views of duty towards his subjects were such as to make him observe a strict neutrality. "He could not take either side in this serious quarrel without exposing himself to the wrath of the other party, and without drawing down awful calamities upon numbers of his poor weak people;" and the observations made on these points were most just, sensible, and dignified. He had "commissioned the two principal officers of Nagasaki to make such a treaty in his name as the laws and the interests of his Empire permitted, and he was willing to concede to the English all the accommodations and advantages enjoyed by the most favoured nations, except the peculiar commercial privileges limited to the Dutch and Chinese nations."

The Emperor's letter was considered to be a very remarkable production. It was a clear, reasonable, straightforward statement of duties and intentions, conceding all that could be expected; inspiring full confidence, and defining the principles by which future actions were to be guided. It required a long visit to go through, and accurately to obtain, the meaning of all this. While it was going on, the rain began to fall in great abundance. This gave occasion for the exercise of polite and kind attentions. The boats' crews—the band and officers in charge of them—were all conducted to shelter in the Palace. It was now quite dark, the rain still pouring down. An umbrella was presented to every one of the party; covered barges were prepared; the Admiral and all his party returned, safe and dry, in Japanese Government boats, to the flag-ship at half-past seven o'clock.

Four or five days were spent in drawing up the treaty, and the Japanese officers frequently came on board several times in the day to adjust certain minor points. They often remained till nine o'clock at night, engaged in conference.

All being ready on the 14th, the Admiral, attended as before, went to Nagasaki. The treaty was read to the Governor. About two o'clock it was signed in duplicate by the Admiral. It was then sent out somewhere; it is

supposed to the Dutch Factory, probably with the view of ascertaining that all was quite correct. The Governor and his brother Commissioners then signed both parts; and the ratification is to take place within a year.

A very fair dinner was served on tables somewhat after European fashion. The sweetmeats were of a finer kind, and presented on porcelain dishes. The dishes were sent on board for each officer, as the boxes had been on former occasions. When the time came for the return to the boats, it was quite dark; but the street or way was lined with men holding lanterns beautifully painted, all bearing the Government device. As the Admiral passed on, the lantern-bearers closed up; forming at last, round the landing-place, a circle of coloured light. The water was also covered with boats, each sporting several of these tasteful and elegant lanterns; producing altogether a novel and brilliant effect. The polite but unobtrusive hospitalities, the generous and delicate attentions, the admirable order, discipline, and good sense of this peculiar people surprised and pleased their guests. Theirs was spontaneous kindness. What a marked improvement is here observable in the state of affairs. A few weeks before, the English ships were warned off, and scarcely permitted to approach the port in peace. After they had anchored they were surrounded by guards, and placed under strict surveillance—no landing, no purchasing supplies; evasions, delays, excuses, suspicion, fear. This unpleasant position was endured with patience, and gradually improved. Great care was taken that neither officers, nor men, nor boats, should transgress the limits prescribed, that no attempt should be made to trade or hold any communication with the people. Strict orders were wisely issued to this effect, and they were cheerfully obeyed. The treaty now made with Japan contains nothing about commerce, yet it opens the way, and prepares for future negotiation on this important point. It has been effected without violence or menace. It has occasioned no expense or inconvenience, but the contrary. The four ships found, in the fine harbour of Nagasaki, a safe and salubrious anchorage at a bad season of the year. They were well supplied with fresh provisions and water, the health of the crews improved, nor was there a single death during the six weeks of their stay. The Japanese officers observed, and fully appreciated, the perfect order, cleanliness, and discipline prevailing, not only on board the ships, but in the boats and on the island; and often expressed their admiration of these qualities, as well as of the superior scientific and mechanical arrangements—not without an admission how much they had to gain and to learn by intercourse with Europeans. They were pleased with the deference paid to their laws, the respect shown for their rights. They are a remarkably sensitive, quick race of men; perceiving, almost intuitively, the least slight or rudeness, exceedingly delicate and subtle in their feelings, recoiling from rough or coarse treatment. Whatever they grant freely and with really good will they observe and act up to most thoroughly; whatever is extorted from them by menace may promise fair, but will not produce lasting or satisfactory results; and it is highly probable that what has been quietly done by Sir James Stirling at Nagasaki may exceed in durability and value the work done at Yeddo by the Americans, although that cost a special mission, and was heralded to the world with a very loud flourish of trumpets indeed.

There is another point of view in which the treaty now made seems important. The Japanese have been made to feel and to understand that while they possess a prominent and insular position—brought by steam among the ocean highways of nations, with fine harbours, in which the fleets of nations may repose and repair—events may and must take place which will render their exclusiveness impossible. In the great crush of world-wide interests they must be made to act like other people, and “wheel into the rank” of civilised usage. They have now been told of the war between Russia and Europe, of

the causes which combined to render that war inevitable, and the alliances which indicate a speedy termination of it. They understand why England, who did not intrude much upon them before, has now to perform a duty to herself, and must see that no foe shall avail himself of her forbearance, to ensconce in the secluded harbours of Japan the hostile man-of-war or treacherous privateer.

The day after the last interview presents were sent on board for all the officers of the squadron. To the Admiral an oblong case, divided into five compartments, each containing a cup, saucer, and cover packed in cotton; these were the most delicate and beautiful specimens of porcelain. Four pieces of silk, of various colours; a box of black lacquer, beautifully inlaid and polished, and filled with sweetmeats, arranged in an elegant manner. A pair of pretty small dogs, in little boxes, cushioned neatly at the bottom: the dogs are active and well formed—white, with a few black spots, and wore red silk pelerines round their necks. And, lastly, a pair of enormous fowls, in a wicker cage. The Commanders got cups, box, and silks; Lieutenants, five cups and saucers each; other officers, ten plates, all of blue ware. These were stated to be a general present from the Emperor to the officers.

A day or two before sailing, Sir James Stirling sent two revolvers to the O'Bunyo and the O'Medsky, or Inspector; which were accepted and acknowledged by a special present to Sir James Stirling, consisting of a pair of porcelain vases, two large basins, and stands, two smaller basins, with covers, one black lacquer inlaid cabinet, on a frame, a flat box of similar materials and workmanship, and a jar of saki. These presents were pronounced to be of surpassing beauty.

On Friday, October 20th, exactly six weeks after their first arrival, the ships left the harbour of Nagasaki. They were escorted out to sea by a guard of honour, beating tom-toms, and showing demonstrations of good-will and respect. The strong N.E. monsoon supplied them with wings, and brought them in six days to Hong Kong.—*Illustrated London News.*

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#### THE BRITISH MERCHANT SERVICE.

The following remarks on the Officers of our Merchant Service appear in a recent number of the *Shipping Gazette*. They are so completely our own, that we gladly repeat them. Indeed, every number of the *Nautical Magazine* bears testimony, in the shape of important information from all parts of the world, of the valuable assistance we receive from them, and which has made this journal theirs. We might instance many of these papers, but we prefer devoting our space to the excellent observations which follow:—

We are sorry to perceive that a feeling of jealousy, and a disposition to disparage the acquirements and services of the Officers of the Mercantile Marine, prevail in some professional quarters, and is enunciated in most unjust and illiberal terms through the columns of a weekly contemporary; and this, too, simultaneously with the noble acknowledgment of the aid rendered by our Merchant Captains and Seamen, made in the House of Lords on Friday night by the Duke of Newcastle, who said:—"I cannot forbear from a passing remark upon the exertions of a large body of seamen who, though not engaged in her Majesty's service, have most zealously performed their duties in this great undertaking. I allude to the officers and men of the large transport service now at the disposal of the army—(hear, hear). I can assure your

lordships that their exertions have been indefatigable, and deserve the warmest acknowledgments of Parliament and the country"—(cheers).

Again, the Earl of Hardwick, an old and experienced naval officer, remarked that, "in voting thanks to the Fleet in the Black Sea, they must not be unmindful that the services of the Fleet in the Baltic had been equally as arduous. If they considered the character of the navigation, the nature of the climate, the absence of lights, and the difficulty of conducting ships of such enormous size as have been sent to the Baltic, they could not fail to give the highest credit to the officers in command, who had brought every ship back to this island in safety"—(cheers).

And to whom, we would ask, are we mainly indebted for the safe return of the fine French and English Fleets but to the Pilots and Ship Masters to whom the navigation was entrusted in the shifting and intricate channels of the Baltic Sea and the Gulfs of Bothnia, Finland, and Livonia? In the face of these services, services rendered at some self-sacrifice of position, of personal comfort, and of pecuniary emolument (the remuneration of the Admiralty not being on the most liberal scale,) it is that an organ of the Royal Navy attempts to damage their character, and deny the ability of the Merchant Service.

The following are the contemptuous remarks to which we allude. After saying that the *Prince* had been purchased for the Royal Navy, and was still commanded by a civilian, and the *Himalaya* being also in command of a Peninsular and Oriental Company's officer, and expressing dissatisfaction at this "preference shown to strangers," it proceeds:—

"A number of smaller vessels have, we observe, been purchased by the Government. Are these to be at the mercy of Liverpool skippers, while masters and second masters of the Royal Navy are unprofitably employed and kept in inferior positions, until they become disgusted and worn out? We hope the loss of the *Prince* will be a warning; and that if accidents and calamities are to happen, the country may have the satisfaction of knowing that they were unavoidable, or, at any rate, that those in charge had, by rigid examinations and previous good service, earned some claim to confidence."

Attempts were also made to damage the reputation of Mr. Goodall, the Commander of the *Prince*; but these signally failed, as Sir James Graham, despite the calumnies of Capt. Chads, R.N., was forced to admit in Parliament, upon the showing of the written evidence of Comdr. Baynton, the Naval Agent of Transports, placed on board with special instructions "to be closely observant of the Master's proceedings, and not only to correct anything that might appear to require his interference, but also to report without fail any neglect or indifference he might observe in the Master." Commander Baynton reported—"Mr. Goodall had proved himself a careful and experienced seaman, and had given him the utmost satisfaction. He not only expressed his approval of the conduct of the Master in navigating the ship, but also of the good order he had maintained throughout the voyage, and the contentment of the officers and men of the 46th Regiment with their treatment on board."

Although we are identified with the Mercantile Marine of Great Britain, we should have been the last to vaunt of the important services they have rendered to the country during the war, unless driven to it in their justification and defence. We had hoped the mutual good offices the two services are rendering to each other, would have softened down that domineering spirit of pride and austerity which has too much characterised the Royal Navy formerly, and caused it too look coldly on the nursery of its own profession, from which has sprung some of the brightest ornaments of the Navy, and to which service, in times of peace, so many Naval Officers are glad to resort, whether to command merchant ships, mail packets, or private steamers. This at least we know, that, taken as a whole, the Merchant Service numbers in its ranks men as eminent,

as well-informed, as skilled, and competent in navigation, as thoroughly versed in every branch of polite education and scientific attainment, as honourable and trustworthy in all respects, and every inch as much gentlemen as any officer who wears an epaulette in her Majesty's service.

Our contemporary's pitiful taunt of ships being "left at the mercy of Liverpool skippers," is most inappropriate and unfortunate, for we will venture to affirm, unhesitatingly, that a more experienced class of officers does not leave any of her Majesty's Arsenals. The splendid frigates which enter and clear from that port, the vast amount of tonnage it owns, the *prestige* the ships sailing thence have attained for safe navigation, for speedy voyages, for general comfort and discipline, and the large amount of public and private emigration proceeding from thence to every quarter of the world, all give the lie to the slander attempted to be cast on a most worthy class of men, whose nautical skill and moral worth have been tested by "rigid examinations," and who have earned a strong "claim to confidence by previous good service." Liverpool was the last port which should have been selected for a reflection on the nautical skill of its Captains, and the shaft glances harmlessly aside, since the "Liverpool skippers" can well afford to smile disdainfully at the reproach of the calumniator, when so many of the fine mail steamers, under the command of Liverpool men, are doing good service at the present time in the Black Sea.

If we had been desirous of placing prominently forward the claims of the Merchant Service, we might long since have alluded to the difficulties the Government would have been placed in but for the noble fleet, under sail and steam, which the ports of London, Liverpool, &c., have furnished, and which have been despatched in complete efficiency, with unexampled promptitude, immediately after their arrival from distant voyages.

The Peninsular and Oriental, the General Screw, the Royal Mail, the Canadian, and other private Steam Companies, have placed vessels from their home and foreign lines at the disposal of the Government, which have rendered the most valuable services in the transport of troops and munitions of war, and without which, and the assistance of one or two hundred fine sailing vessels employed as transports in the Black Sea, they would have been seriously inconvenienced. Our Merchant Service has even been able to aid in the conveyance of our Allies to the seat of war; but it might be information to our contemporary to state that some eight or ten of our screw colliers are now loading or about to load, to convey the engineering staff and materials ordered to the seat of war, under the superintendence of Mr. Peto, and that *every one of them will be under the entire command of experienced Merchant Captains.*

If testimony were wanting to the ability and valuable services rendered in the present emergency by the officers of our Merchant Navy, we have only to refer to the letter of an observant and talented correspondent of a morning contemporary in the Crimea. Writing from the seat of war the latter end of last month, he says:—

"The services rendered by the captains of the transports during the whole of this campaign really deserve some public acknowledgment, and yet no one word has ever been said by the authorities of the zeal, devotion, and ability displayed by nearly all these gentlemen, and of the excellent conduct and good feeling of the crews under their command. Where so many are deserving of praise it is scarcely fair to single out any particular persons for approbation; but it is not to much to say that such men as Capt. Kellock, of the *Himalaya*; Capt. Lane, of the *Jason*; Capt. Wilson, of the *Orinoco*; Capt. Methuen, of the *Colombo*; Capt. Goodall, of the *Prince*; Capt. Baynton, of the *Medway*; Capt. Ponsoby, of the *Trent*; and last, not least, Capt. Cargill, of the *City of London*, merit the thanks of the nation, and merit them all the more because they have laboured for the public service without any particular encou-



agement from their authorities. Their patriotism led them to the length of offering to take a share in the military service of the expedition, to the safety, success, and comfort of which they had so much contributed. Before the attack of the 17th, Captain Methuen offered to tow any of her Majesty's vessels into action under the forts of the town; and on the 2nd of October Captain Lane, of the *Jason*, offered Sir E. Lyons the services of the officers and of 80 men of the crew of his ship to co-operate with the seamen and marines of the fleet, and to act in any other way for the protection of her Majesty's flag. The men made this offer through Capt. Lane, and expressed their willingness to submit to martial law, and the captain concluded by informing Sir E. Lyons that the *Jason* could land two 13-cwt guns at once. It is no wonder that Sir Edmund Lyons acknowledged this offer very warmly, and expressed the gratification he felt at receiving 'an offer which reflected the highest credit' on the captain, officers, and crew of the *Jason*. Similar readiness to serve the country was evinced by other crews and captains as the time of action drew near; all did their work well and earnestly, and it is only right that the country should know what she owes to the Merchant Service engaged in this great war."

But this is not all. A hearty sympathy has existed, an earnest desire to aid their brethren in arms has been manifested. They have contributed freely towards the exigencies of the war. No class has subscribed more liberally to the Patriotic Fund than the shipowners and shipmasters. None have been more desirous of furthering the successful issue of the contest, of assisting, wherever possible, of giving general aid. If the seamen in the Merchant Service are not employed in the actual warfare, doing duty in the trenches before Sebastopol, they are perilling life in the service of their country, conveying the sick and wounded to Constantinople, sustaining the commissariat by bringing up stores and provisions for the allied army, keeping up the communication with the Black Sea ports, and exposed to all the rigours of the Euxine in the severity of winter. Let our weekly contemporary remember the fable of the "Belly and its members," and he will find that each and all of the branches of the body politic are essentially useful to each other, and that the Mercantile Marine of this country is not the least important of these branches. In short, we believe that our Merchant Service was never more truly essential to the national safety and honour than it is found to be at the present moment.

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## NAUTICAL NOTICES.

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### SAILING DIRECTIONS FOR THE HARBOUR OF SIMODA.—By Lieut. Wm. L. Maury, U.S.N.

U.S. Steam Frigate, *Mississippi*, Honolulu, Oct. 26th, 1851.

Vessels bound to the harbour of Simoda, from the southward and westward, should make Cape Idzu, from which Rock Island bears E.S.E.  $\frac{1}{4}$  E., distant about five miles; and if the weather is at all clear, the chain of islands at the entrance of the Gulf of Yedo will at the same time be plainly visible.

Between Rock Island and the mainland, there are a number of rocks awash and above water, among which the Japanese junks freely pass, but a ship should not attempt a passage inside of Rock Island, unless in case of urgent necessity, particularly as the north-easterly current, which sweeps along this coast, seems to be, at this point, capricious, both in direction and velocity.

Giving Rock Island a berth of a mile, the harbour of Simoda will be in full view, bearing N.  $\frac{1}{2}$  W., distant five miles.

Vandalia Bluff, on the east side of the entrance, may be recognised by a grove of pine trees on the summit of the bluff, and the village of Susaki, which lies about one third of the way between it and Cape Diamond. Cape Diamond is a sharp point making out to the eastward of the entrance of the harbour.

Standing in from Rock Island, you will probably pass through a number of tide rips, but not get soundings with the hand lead, until near the entrance of the harbour, when you will be in from 14 to 27 fathoms.

Should the wind be from the northward and fresh, a vessel should anchor at the mouth of the harbour until it lulls or shifts, or until she can conveniently warp in, as it is usually flawey and always baffling.

Approaching from the northward and eastward, a vessel can pass on either side of Oho Sima, from the centre of which Cape Diamond bears W.S.W.  $\frac{1}{4}$  W., distant about twenty miles.

Between Oho Sima and Simoda no dangers are known to exist; but the north-easterly current must be borne constantly in mind, particularly at night and in thick weather. Its general strength is from two to three miles per hour; but as this, as well as its direction, is much influenced by the local winds, headlands, islands, &c., neither can be relied upon.

Should Oho Sima be obscured by thick weather, before reaching Cape Diamond, endeavour to sight Rock Island, for there are no conspicuous objects on the mainland by which a stranger can recognise the harbour at a distance, and the shore appears as one unbroken line.

To the westward of the harbour there are several sand beaches, and three or four sand banks. These can be plainly discerned when within six or eight miles, and are good landmarks.

A vessel from the southward and eastward should pass to the westward of the island of Kozu Sima,\* which may be known by a remarkable snow-white cliff on its western side. There is also a white patch on its summit, to the northward of the cliff. From this island the harbour bears N.b.W.  $\frac{1}{4}$  W., distant about twenty-eight miles.

There are but two hidden dangers in the harbour; the first is the

**SOUTHAMPTON ROCK**—which lies in mid-channel, bearing N.  $\frac{1}{2}$  W. from Vandalia Bluff, about three fourths of the way between it and Centre Island. This rock is about 25 feet in diameter, and has 2 fathoms water on it. It is marked by a white spar-buoy.

The second is the

**SUPPLY ROCK**—bearing S.b.W. a short distance from Buisako Islet, and is a sharp rock, with 11 feet water on it. Its position is designated by a red spar-buoy.

Both these buoys are securely moored, and the authorities of Simoda have promised to replace them should they by any cause be removed.

Centre Island, which receives its name from being the point from which the Treaty limits are measured, is high, conical, and covered with trees. A cave passes entirely through it.

In the outer roads, or mouth of the harbour, a disagreeable swell is sometimes experienced; but inside of the Southampton Rock and Centre Island, vessels are well sheltered, and the water comparatively smooth. Moor with an open hawse to the southward and westward.

There are good landings for boats in Simoda Creek, and at the village of Kakisaki.

\* This is the most south-western island of the chain of islands lying off the Gulf of Yedo.

A Harbour Master and three Pilots have been appointed; wood, water, fish, fowls, and eggs, also sweet potatoes and other vegetables, may be procured from the authorities. It is necessary to supply them with casks to bring the water off.

Latitude Centre Island .....	34° 39' 49" N.
Longitude " .....	138 57 50 E.
Variation .....	52 min. westerly
High Water, full and change....	5 hour
Extreme rise of Tide.....	5 ft. 7 in.
Mean " .....	3 ft.

To make the foregoing directions more easily comprehended, they have been rendered as concise as possible; but to furnish further information to navigators bound to or passing the port, the following additional remarks are appended:—

The harbour of Simoda is near the south-eastern extremity of the peninsula of Idzu, which terminates at the cape of that name. To the northward of the harbour, a high ridge intersects the peninsula, and south of this, all the way to the cape, it is broken by innumerable peaks of less elevation.

The harbour bears S.W.b.W. from Cape Sagami, at the entrance of Yedo Bay, distant about forty-five miles.

Rock Island is about 120 feet high, and a third of a mile in length, with precipitous shores and uneven outlines. It has a thick matting of grass, weeds, moss, &c., on the top.

From the summit of this island overfalls were seen, bearing N.  $\frac{1}{4}$  W., distant a mile or mile and a half. These may have been caused by a rock or reef. An attempt was made to find it; but the strong current and fresh wind prevented a satisfactory examination. The Japanese fishermen, however, deny the existence of any such danger.

N.b.W. from Rock Island, distant 2 miles, are the Ukona Rocks. These are two rocks, though they generally appear as one. The largest is about 70 feet high. Between these and Rock Island, the current was found setting East North Easterly, fully four miles an hour.

Centre Island bears from Rock Island N.  $\frac{1}{4}$  E., distant five and a half miles, and from Ukona Rocks N.b.E.  $\frac{1}{4}$  E., distant three and a half miles.

Buisako Inlet lies N.N.E. from Centre Island. It is about 40 feet high, and covered with trees and shrubs.

Should the buoy on Southampton Rock be removed, the east end of Centre Island on with the west end of Buisako, will clear the rock to the westward.

Off the village of Susaki, and distant one third of a mile from the shore, is a ledge of rocks, upon which the surf is always breaking; give them a berth of two cables in passing.

Approaching from the eastward, the harbour will not open until you get well inside of Cape Diamond.

To the northward of Cape Diamond is the bay of Sirahama, which is quite deep; and as it has also several sand beaches, it may be mistaken for Simoda; but as you approach this bay, Cape Diamond will shut in the Ukona Rocks and Rock Island to the southward; whilst in the Simona Roads they are visible from all points.

Cape Idzu, lat. 34° 36' 3" N., long. 138° 52' 32" E. Rock Island, lat. 34° 34' 20" N., long. 138° 57' 10" E.

S.W.  $\frac{1}{4}$  W. from Koza Sima, distant about twenty miles, and south a little westerly from Cape Idzu, distant about forty miles, there are two patches of dangerous rocks, 15 or 20 feet high, which have been named Redfield Rocks. They are in lat. 33° 56' 13" N., long. 138° 48' 31" E.; and lat. 33° 57' 31" N., long. 138° 49' 13" E.

These positions may not be strictly correct, but it is believed they are not much out of the way.

By order of Commodore M. C. Perry, U.S.N.

SILAS BENT, Flag Lieutenant.

**SAILING DIRECTIONS FOR THE PORT OF HAKODADI.—By Lieut. Wm. L. Maury, U.S.N.**

U.S. Steam Frigate *Mississippi*, at Sea, July 20th, 1854.

This splendid and beautiful bay, which for accessibility and safety is one of the finest in the world, lies on the north side of the straits of Sangar, which separate the Japanese islands of Nippon and Yesso, and about midway between Cape Sirija Saki\* (the N.E. point of Nippon) and the city of Matsmai. It bears from the cape N.W.  $\frac{1}{2}$  W., distant about forty-five miles, and is about four miles wide at the entrance, and five miles deep.

The harbour is the south-eastern arm of the bay, and is completely sheltered, with regular soundings and excellent holding ground. It is formed by a bold peaked promontory, standing well out from the high land of the main, with which it is connected by a low sandy isthmus, and which appearing at a distance as an island, may be easily recognised.

The town is situated on the north-east slope of the promontory, facing the harbour, and contains about 6,000 inhabitants.

Approaching from the eastward, after passing Cape Suwo Kubo, named on our chart Cape Blunt, which is a conspicuous headland twelve miles E.b.S. from the town, the junks at anchor in the harbour will be visible over the low isthmus.

*For Entering the Harbour.*—Rounding the promontory of Hakodadi, and giving it a berth of a mile, to avoid the calms under the high land, steer for the sharp peak of Kōmaga-daki, bearing about North, until the east peak of the Saddle, bearing about N.E.b.N., opens to the westward of the round knob on the side of the mountain, then haul up to the northward and eastward, keeping them open until the centre of the sand hills on the isthmus bears S.E.b.E.  $\frac{1}{4}$  E. (these may be recognised by the dark knolls upon them). This will clear a spit which makes out from the north-western point of the town in a N.N.Westerly direction two thirds of a mile; then bring the sand hills a point on the port bow, and stand in until the north-western point of the town bears S.W.  $\frac{1}{2}$  W., when you will have the best berth, with 5 $\frac{1}{2}$  or 6 fathoms water. If it is desirable to get nearer in, haul up a little to the eastward of South, for the low rocky peak which will be just visible over the sloping ridge to the southward and eastward of the town. A vessel of moderate draught may approach within a quarter of a mile of Tsuki Point, where there is a building-yard for junks. This portion of the harbour, however, is generally crowded with vessels of this description; and unless the want of repairs or some other cause renders a close berth necessary, it is better to remain outside.

If the Peak or Saddle is obscured by clouds or fog, after doubling the promontory, steer N.b.E.  $\frac{1}{4}$  E., until the sand hills are brought upon the bearing above given, when proceed as there directed.

A short distance from the tail of the spit is a detached sand bank, with 3 $\frac{1}{2}$  fathoms on it. The outer edge of this is marked by a white spar-buoy. Be-

\* Saki, in the Japanese language, means Cape, consequently it should more properly be called Cape Sirija; but to prevent mistakes it has been thought advisable to adopt the Japanese names.

tween this and the spit there is a narrow channel with 4½ fathoms water. Vessels may pass on either side of the buoy, but it is most prudent to go to the northward of it.

Should the wind fail before reaching the harbour, there is good anchorage in the outer roads, in from 25 to 10 fathoms.

Excellent wood and water may be procured from the authorities of the town; or, if preferred, water can be easily obtained from Kamida Creek, which enters the harbour to the northward and eastward of the town.

The season, at the time of our visit, was unfavourable for procuring supplies; a few sweet and Irish potatoes, eggs, and fowls, however, were obtained, and these articles, at a more favourable period of the year, will no doubt be furnished in sufficient quantities to supply any vessel that may in future visit the port.

Our seine supplied us with fine salmon and a quantity of other fish, and the shores of the bay abound with excellent shell-fish.

During our stay in this harbour, from the 17th of May to 3rd of June, the weather was generally pleasant until the 1st June, when the fog set in. It was usually calm in the morning, but towards the middle of the day a brisk breeze from S.W. sprang up.

Latitude mouth of Kamida Creek	41° 49' 22" N.
Longitude " " "	140 47 45 E.
Variation . . . . .	4 30 W.
High Water, full and change . . .	5 hours
Extreme rise and fall of tide . . .	8 feet.

Our chronometers were rated at Napa Kiang, Lew Chew, from the position of that place as given by Capt. Beechy, R.N.

by order of Commodore M. C. Perry, U.S.N.

SILAS BENT, Flag Lieut.

#### PROPOSED LIGHTHOUSE ON THE PRATAS.

We have much pleasure in inserting the following communication on the subject of a lighthouse on Pratas Island, and hope it may induce one of the Chambers of Commerce, or the heads of some of our principal mercantile establishments, to take the matter earnestly in hand. Experience has taught us the futility of looking elsewhere for the adoption of any steps in such matters, unless it is compelled to do so by the urgent representations of the Press, or of men of such standing as to command attention; and the efforts of such individuals could scarcely be bestowed on a better cause than that to which our correspondent is now anxious to direct public attention:—

To the Editor of the *China Mail*.

Hongkong, 12th October, 1854.

Sir,—A certain number of disasters at sea are expected to occur every year, but in these waters the number might be greatly reduced by the erection of a lighthouse on the Pratas Shoal, or, more properly speaking, on the Island within the Pratas Shoal. The general impression is, that the erection of lighthouses appertains to the department of Government, and in this special case H.M.'s ships having been sufferers also, it has probably been concluded that, sooner or later, H.M.'s Government would take the matter in hand, and for this reason no move has been made among the public. But, if now we find that the attention of Government is pre-occupied by more pressing matters, in my opinion, the erection of a lighthouse on the Pratas Island may well be

taken in hand by the public, and it only requires a sufficiently influential man or body of men to take the lead to insure a successful result.

On the benefit of a lighthouse on the Pratas Island I need not dwell. It will prevent disasters by showing the mariner that he has drifted close to the reefs; when, in most instances, he will be enabled to come to a comparatively safe anchorage near the shoal. It will allow him to get correct bearings, when, otherwise, misty, foggy weather would retard his progress for weeks, while the light of neither sun nor stars was visible.

The cost and expense are matters of great importance, in order to enable us to ascertain the means required.

A substantial building, with lanterns sixty feet above the level of the Island, dwellings for an overseer and twelve men with their families, including the expense of transporting the granite and other material, the labour, the cost of two whaleboats, and of a small craft to keep up communication with Hong Kong,—I am assured by a practical man may be had at a cost of 50,000 dollars: while the yearly expense, in wages, oil, repairs, &c., may be estimated at 5,000 dollars, exclusive of interest. Towards these sums—which, if required to be doubled, I feel certain could easily be procured by public subscription—every Insurance Office in England, on the Continent, and in America, would willingly contribute, to improve the risks in these waters; and every merchant and every seafaring man in China would be glad to subscribe.

If the building be erected by public subscription, Government may be induced to allow a tax to be levied similar to the dues for Horsburgh's Lighthouse; and, judging from that precedent, there would then be a yearly surplus beyond the requirements. But even should Government refuse all assistance, public subscriptions will not be wanting in support of a lighthouse on Pratas Island.

The object chiefly requires the assistance of the Press, and of a man to take the initiative who has more influence in China than I can boast of. If such a man be found, and the matter is taken in hand, I am ready for one to contribute my share "towards the erection of a lighthouse on Pratas Island."

I am, sir, your obedient servant,

A. B. C.

*China Mail*, 28th October, 1854.

[How many valuable lives and thousands of pounds' worth of property might have been saved had some of the suggestions contained in Captain Cracroft's *Journal* (published in the *Nautical* during the years 1852-53) been carried out.—ED.]

#### HOW TO MAKE KURRACHEE LIGHTHOUSE.

In consequence of the frequent loss of anchors, &c., by ships bound for Kurrachee during the S.W. monsoon, the following particulars have been transmitted by Mr. McEver, of that place, to W. O. Young, Esq., of London; who has forwarded them to us for publication, thinking they might be serviceable to Masters of vessels bound to that port.

Kurrachee lighthouse is on Manora Point, and in lat. 24° 47' 21" N., long. 66° 58' 14" E., Var. 11' 56" E., (1854).

During the fair season, which may be considered to extend from the 20th of September until the 30th of May, vessels may make the port direct. After

passing the Hujamree Banks, in lat.  $24^{\circ} 10'$ , the coast is quite safe to approach anywhere to five fathoms; but off the Hujamree Banks vessels should not come under ten fathoms, and may anchor off the port, with the lighthouse bearing from N.E. to N.N.W., distance one to three quarters of a mile.

There are strong N.E. winds at times between November and March, and, about January, there are sometimes gales from the W.S.W., with a heavy sea.

Manora lighthouse is *fixed* at an elevation of 119 feet above the mean level of the sea, and may be seen fifteen to sixteen miles off. High water at full and change 10.15. Rise and fall 9 feet, but the tides are very irregular.

During the S.W. monsoon, vessels should make Cape Monze (properly Ras Maurie) which is 18 miles W.  $\frac{1}{2}$  N. from Manora Point, and if the weather is very bad, or the tide should not suit for crossing Kurrachee Bar, she should maintain her position to windward, bearing in mind the probability of the existence of a S.E. current.

The coast of, and between, Ras Maurie and Manora Point is not safe to approach under 15 fathoms, and if Manora Point is visible, do not bring it to the southward of east. Vessels should not anchor off the port, but if it is necessary, the best position is with the fort bearing N.E.b.N. to N.E.b.E., distance 1 to  $1\frac{1}{2}$  miles, in 7 or 8 fathoms, and a long scope of cable should be veered at once, to ensure holding on.

To the southward of the port, vessels should not come under 8 fathoms or bring Manora Point to the westward of north. Under no circumstances, except the most urgent necessity, should vessels anchor on the coast to the southward during this season.

The church tower on with the North Middle Rock, leads you up to the bar, and the stump and old beacon in one, over it in  $11\frac{1}{2}$  feet at low water; then pass the inner buoy about 50 to 70 yards to the westward, then steer for deep water point or the ships at anchor.

Off Manora Point, flood sets to the eastward, and ebb to the Westward,  $\frac{1}{2}$  to 1 knot per hour.

Bound out in the S.W. monsoon, it would be advisable to work to the W.S.W. into about 15 fathoms, or 10 fathoms to windward of Manora, before stretching to the south, for although a vessel might lay along shore direct from the entrance of the harbour, she might get into difficulties by the wind falling light, and the tide setting her in towards the mouths of the rivers. In passing the Hujamree Banks, which extend from lat.  $23^{\circ} 55'$  to  $24^{\circ} 10'$ , and long.  $67^{\circ} 14'$ , she should not be in less than 20 fathoms, or more than 2 to 4 miles east of the meridian of Manora.

The S.W. monsoon does not blow strong generally on the coast of Sind; the wind at times is variable, and generally so when it rains, which is mostly in July.

I would caution all persons to be careful about anchoring any where on this coast; if there is any sea on, it would be much more advisable to keep under way.

Vessels making the lighthouse should always endeavour to come within signal distance before dark, but if not able to do so, to keep standing off and on till daylight. They should endeavour to pick up the pilot boat without delay if she displays a pilot jack; for when she does so it is to intimate that there is no time to be lost to save the tide; but in picking up the pilot no vessel should run down to the eastward further than to bring the lighthouse to bear north.

The pilot is usually in a European-rigged boat; but if in a native boat the pilot jack is hoisted.

In the S.W. monsoon, no vessels which require to enter the harbour at once, should draw more than 16 feet 6 inches for the spring tides, and 15 feet for the neap tides.

For the N.E. monsoon, vessels drawing 20 feet, in the spring tides and 17 feet 6 inches in the neap tides.

For coming into the harbour, vessels should have all the fore and aft sails that belong to them bent, and their hawsers on deck, with every thing ready for laying out a kedg anchor.

In consequence of the tides being irregular, persons are apt to be out in working them, therefore a red burgee at the yardarm of the flagstaff will signify that it is flowing, and when at the mast-head, that it is high water; a blue burgee at the yard-arm will signify that the tide is ebbing, and when at the mast-head, that it is low water.

Excellent charts of the coast and harbour of as recent date as 1860, are to be procured of John Walker, geographer to the H. E. I. Company, or by applying to the Marine Branch of the East India House.

R. W. LEEDS, Lieut. R.N. Port Officer, Kurrachee.

#### NOTICE TO MARINERS.

**COAST OF NORWAY.—DURATION OF LIGHTS.—[No. 187.]**—The Norwegian Naval Department has given notice, that the following Lights will henceforward be displayed on the first day of October every year, instead of the 21st day of December, as hitherto, and will continue so to be lighted throughout the winter months, until the first day of April following:—Vigholms, in 59° 8' 40" N., 5° 17' 20" E.; Fjeldö, 59° 5' 25" N., 5° 35' 0" E.; Bucknesund, 59° 18' 15" N., 5° 29' 0" E.; Eyletta, 59° 25' 40" N., 5° 8' 0" E.; Espæræ, 59° 35' 5" N., 5° 10' 5' E.

**GULF OF BOTHNIA.—EAST AND WEST FINN AND GRUNKALLE GROUNDS.—[No. 188.]**—The Swedish Government has given notice that a beacon buoy with a white pole 12 feet high, surmounted by a Red Ball, has recently been placed, in 5½ fathoms, at half a mile to the Eastward of the shallowest spot (12 feet) of the West Finn Ground.

Also a similar beacon buoy, with a red pole, and White Ball, has been placed, in 6½ fathoms, at three cables' length, to the Eastward of the shallowest part (7 feet) of the East Finn Ground.

These shoals lie E.S.E. and W.N.W. of each other, distant 11½ nautic miles. From the East Finn Ground, the Orskärs Revolving Light bears S.b.W. ¼ W., distant 25 miles, but the light is not visible as far as the shoal.

A beacon buoy, having a pole 15 feet high, with a small flag or streamer on the top, has also been placed, in 9 fathoms depth, at three cables' length, to the Eastward of the shoalest spot (6 feet) of the Grund Kalle Ground, in the South Quarcken, at about 11 miles north of Understen Lighthouse. To avoid this dangerous and extensive bank, keep Understen Fixed Light bearing S.b.W., until Orskärs Revolving Light bears W.b.N. ¼ N.

**ADRIATIC.—FIXED LIGHT ON PUNTA D'OSTRO, GULF OF CATTARO.—[No. 189.]**—Notice has been given that on the 21st September, a Fixed Light was established in the lighthouse erected on the Southern part of Punta d'Ostro, in lat. 42° 23' 38" N., long. 18° 32' 19" E.

The height of the light is 263 feet above the level of high water, and in clear weather may be seen from a vessel's deck, 12 feet above the sea, at the distance of 22 miles.

**FIXED LIGHTS ON SCHIERMONNIK-OGG ISLAND, COAST OF FRIESLAND.—[No. 190.]**—With reference to the notice No. 181 respecting the two Fixed



Lights on Shiermonnik-oog, information has been received that the above lights were established there on the 1st September last. The Light-towers, which are circular, and erected on the sand hills, stand N.W.b.N. and S.E.b.S. 1102 yards from each other. The southernmost, or high light, is 147 feet above the sea, and is visible on any bearing from W.S.W., round by the southward to north; but the northernmost, or low light, standing 139 feet above high water, can only be seen from W.S.W. round by south to E.S.E. These lights are visible from a vessel's deck, 12 feet above the sea, at the distance of 16 miles.

Their positions, according to the same information, are—Southern or Low Light, lat 53° 28' 56" N., long. 6° 9' 49" W.; Northern or High Light, lat. 53° 29' 14" N., long. 6° 9' 3" W.

**BALTIC, LITTLE BELT.—HARBOUR LIGHT OF ASSENS.**—[No. 191.]—The Danish Government has give notice that the new Harbour Fixed Light at Assens, on the Island of Fyen, in the Little Belt, was exhibited on the 1st of October last.

The light tower is painted white, and stands on the Northern Mole at 47 feet from its outer end.

The light is a fixed bright light, at an elevation of 20 feet above the level of the sea, and is visible at 8 miles distance.

**BLACK SEA.—LIGHT ON CAPE KHERSONESE, KRIMEA.**—[No. 192.]—The Commander-in-Chief in the Black Sea has notified to the Admiralty, that the Light on Cape Kheronese, in the Krimea, near the entrance of the harbour of Sebastopol, which had been discontinued for some time, was again lighted on the 3rd October.

**GIBRALTAR.—DANGER BUOY.**—[No. 193.]—Notice is hereby given, that the New Mole at Gibraltar is in progress of extension to the Northward, and that a Red Beacon Buoy has been laid down about a cable's length off the Mole Head, in order to mark the limits of the advancing work under water.

It will therefore be highly dangerous for any vessel to pass between that buoy and the Mole Head.

**LIGHT ON SOUTHSEA CASTLE, PORTSMOUTH.**—[No. 194.]—Notice is hereby given, that the Light on Southsea Castle having been raised 20 feet, was on the 7th November displayed at an elevation of 51 feet above the level of high water.

It shows a Green Light to the Westward, and a Red Light to the Eastward, as before; no alteration in these particulars having been made; the bearing of the line of division between them being about N.E.b.N. and S.W.b.S., or in direction nearly of the Spit buoy.

**BUOYS AND LIGHTS, MOBILE BAY, FLORIDA.**—[No. 195.]—The United States Government has given notice that the following facilities for entering Mobile Bay have lately been established there:—

1—A Boat, carrying a Bell, and painted with Black and White stripes. She is moored in 8 fathoms, half a mile outside the bar, with Sand Island Light bearing N.N.W.  $\frac{1}{2}$  W.,  $2\frac{1}{2}$  miles distant. The bell is tolled by the constant motion of the boat.

2—An Iron Buoy, striped Black and White, lies in the middle of the channel, just within the bar, and in a line with the Bell Boat and Sand Island Lighthouse.

An Iron Buoy, painted Black, is placed on the West side of the main channel, at the edge of the East Bank.

An Iron Buoy, painted Red, rides on the Eastern side of the channel, off the edge of the East Bank, and opposite the last mentioned Black Buoy.

Another Black Iron Buoy rides on the Western side of the channel, at the edge of the West Bank, and opposite Fort Morgan.

A second Red Iron Buoy lies in the Eastern side of the main channel at the West end of the Middle Ground.

3.—Two Wooden Beacons, each 20 feet high, on the Eastern end of Sand Island, and two others on Mobile Point; each of these four beacons carries a Light.

*Sand Island Beacons.*—The Outer, or Seaward Beacon on Sand Island, is painted White, with a vertical red stripe on its seaward face, its light bright, and when brought in one with Sand Island Lighthouse they lead to the Bell Boat, and then across the outer bar.

The Inner Beacon on Sand Island is painted Red, and it carries a Red Light. When brought to the southward in one with the outer or seaward beacon on Sand Island, it marks the limit of the channel along the West Bank to the Northward of Sand Island.

*Mobile Point Beacons.*—The outer, or seaward Beacon is painted Red, and carries a Red Light; when brought in one with the inner beacon on Mobile Point, it leads from the bar along the Western edge of the East Bank to the Northward.

The Inner Beacon at Mobile Point is painted White, and carries a Bright Light, when brought to the Southward in one with the Lighthouse on Mobile Point, they will lead to the Upper Striped Buoy, through the channel at the West end of the Western end of the Middle Ground.

In entering the harbour the Red Buoys should be left to starboard, and Black Buoys to port.

Buoys striped Black and White may be passed on either side, but should be kept well aboard.

In foggy weather a vessel entering, after passing close to the Bell Boat, should run in, by compass, N.N.W.  $\frac{1}{2}$  W., to the first Striped Buoy, and then alter her course to N.b.W.  $\frac{1}{2}$  W., until up with Sand Island Lighthouse, from whence the course mid channel to the Upper Striped Buoy is N.  $\frac{1}{2}$  E. From this Striped Buoy she should steer N.W.  $\frac{1}{2}$  N., till past the Upper Red Buoy, when a N.b.W.  $\frac{1}{2}$  W. course will lead her to the upper anchorage of the lower fleet, where she may anchor.

4.—A screw pile Beacon is preparing for the Shoal at Revenue Point, near the outer bar. The channel between Pelican and Dauphin Islands being closed, a black Spar Buoy has been placed on the South point of South-east Pelican Shoal, in 20 feet water, from which the course over the bar is N.E.  $\frac{1}{2}$  E.

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#### DENT'S FLUID COMPASS.

A letter of Lieut. Craven, commanding the U.S. surveying steamer *Corwin*, dated New York, December 13th, 1854, and addressed to Messrs. E. and G. W. Blunt, says.—You have asked my opinion of the new compass which you placed with me on trial in June last, styled "Dent's Patent Liquid Compass." I have subjected it to a most careful test, and have no hesitation in saying it is the best compass I have ever seen. It has less oscillation than any I have met with, and, at the same time, has a very quick and sensitive movement. As a boat compass, it is the only one I know of that is good for anything; being scarcely affected by the motion of the boat, and the surging caused by rowing giving little or nothing of vibratory movement to the card.

### LIEUTENANT RODGER'S IMPROVED ANCHOR.

The following letter from the experienced commander of the *Amazon*, New York packet-ship, affords an additional proof of the correctness of the opinions we have frequently expressed with reference to Lieutenant Rodger's improved anchor:—

Packet-ship *Amazon*, East India Docks, Jan. 17th, 1855.

Dear Sir,—Having used your anchors for several years past, and feeling perfect confidence in them, I take the first opportunity of ordering another, in addition to the two which I now have in use, for a spare bower, the weight to be, say 50 cwt.

I had a fair trial of your anchor on New Year's-day, while lying at the East Buoy of Margate Sands, during a severe gale from the northward. All the ships in company were riding with both anchors down, and topgallant masts hosed, while we rode out the gale, with all our royal-yards across, and only seventy-five fathoms of chain out, and she never started, as I could perceive, a fathom.

Hoping you will be able to fulfil my order ere I sail, on the 8th of February, I remain, respectfully yours,  
Lieut. Wm. Rodger, R.N. H. R. HOVEY.

Canal Dockyard, Blackwall, London, Dec. 14th, 1854.

Dear Sir,—We have the pleasure to hand you the following extract from a letter, dated November 29th, 1854, which we have received from Captain D. W. Stephens, of our ship *Harkaway*, of 898 tons, which vessel is furnished with your Patent Small-palmed Anchors.

Captain Stephens (referring to the time during which the *Harkaway* was lying at Eupatoria) states:—We have had some bad weather, and on the 14th of this month it blew a perfect hurricane, with a tremendous sea from the southward, which, when the wind came from the westward, caused the ships to roll very heavily. I rode by one anchor and 120 fathoms of chain to the hawse, and it held on beautifully. I do not think it came home a fathom during the whole gale, although the sea was running over the bowsprit and forecastle.

This affords another strong proof of the superiority of your Patent Anchors, which we have now for a considerable period, and with much satisfaction, made use of in nearly all our ships.

If you think that the publication of this letter among your numerous other testimonials will be of any service, you are quite at liberty so to use it.

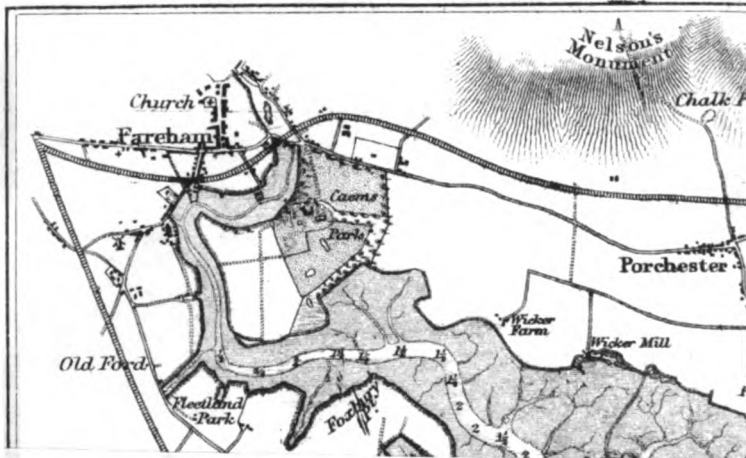
We are, dear sir, yours truly,  
Lieut. Wm. Rodger, R.N. SOMES BROTHERS.

### TO CORRESPONDENTS.

Our thanks are due for the Track of the *Queen of the South*, and its accompanying Letter.

We have received Mr. Cameron's Letter and Pamphlet,—but we do not see what either has to do with Comdr. Becher's Repeating Compass Card.





THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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MARCH, 1855.

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THE HARBOURS OF PORTSMOUTH AND LANGSTONE, *with the proposed Hayling Docks and Railway.*

The advantages of commercial docks are so numerous and important to this country, that it is quite unnecessary to enumerate them. All mercantile men have long considered them wanted by us, and their non-existence has frequently subjected the merchant to much inconvenience, and occasioning loss of trade, and thence also a corresponding loss of profit to the *neighbourhood* in which they might be made. The projectors of the Wet Docks at Liverpool, in 1708, (which were the first ever made in this kingdom,) would have been deemed extravagant enthusiasts, or arrant impostors, had they promised to the subscribers a hundredth part of the advantages which have arisen from that undertaking.

Nevertheless, since that period, the dock duties in Liverpool have increased from little more than £800 to £230,000 per annum. In the reign of Charles the Second, it is stated, there were 15 boats at that port, the burthen of which amounted to 2560 tons. In the reign of Queen Anne their vessels had increased to 170. In 1756 the dock dues only amounted to £2,200. In 1801 they increased to £28,000, and in 1850 they were £230,000; so that it is now, for commercial purposes, the second port in the united kingdom. Yet, although the situation of Liverpool secures to it important advantages, in many particulars it is inferior to the position of Langstone, near Portsmouth. It is a well-known fact, that for want of dry docks in the neighbour-

hood of Portsmouth, many vessels have been prevented from obtaining the necessary repairs they required, and were obliged mostly to go to Southampton or London. Under all these considerations the consent of the Admiralty has been obtained to embank in a portion of the mud lands on the Hayling Island side of the main channel, leading from the entrance of Langstone Harbour towards the bridge, by which the present channel will be considerably deepened and widened, for the passage of vessels from the mouth of the harbour to Langstone quay; and to form a railway on the whole line of embankment to the entrance of the harbour, where wet, dry, and timber docks, with requisite warehouses, wharfs, and cranes for discharging goods, may be erected abreast of Sinah Lake, contiguous to the new buildings on the south beach of Hayling Island. The projectors of the undertaking have already secured the mud lands by a grant from the lord of the manor; and are willing to transfer to a company the whole of the land enclosed, containing about one thousand acres, which will embrace the whole frontage adjoining the main channel of the harbour, on the same terms as they are taken, without premium; and they are desirous of entering into a contract for including the purchase of any other land required, all claims for compensation, to obtain an Act of Parliament at their own expense, and to complete the embankment and railway from Havant Station to Sinah Lake, to the satisfaction of the company's engineer, within two years from the commencement of the work, and also to keep the whole in repair for twelve months after completion, for the sum of eighty thousand pounds, and to subscribe for shares to the amount of ten thousand pounds in the undertaking.

The customs duties received at Portsmouth in the year 1850 were £50,426 1s. 5d., and the duties received on the article of wine only, during the same period, amounted to £11,377 2s. 3d.

Southampton in March, 1852, was fixed upon as the port of arrival and departure for the East India and China Mails. Practical experience shows that a site like Langstone would form in fact an outport of London, and that ships lying in Langstone Harbour would, to all intents and purposes, be as close to the business portion of the City of London, as if they were lying at Blackwall. No docks at a greater distance will, however, accommodate the London traffic, and it is worthy of notice that no steam ships landing and embarking mails at Plymouth can, for various reasons, ever remain there to complete their business, but are compelled to proceed to London, there to discharge and receive their cargoes, having to encounter all the delay, danger, and expence of Channel and Thames navigation.

The inducements to shipowners and merchants to adopt Langstone are of the strongest possible nature, for not only are the well-known perils of the Channel altogether avoided, but the saving on a voyage up and down Channel, a distance of 300 miles each way, would be on a vessel of 150 tons £59 16s. 6d., of 300 tons £101 2s. 0d., of 600 tons £228 18s. 6d., and on one of 1060 tons £358 16s. 0d., exclusive of the saving of insurance, the difference of port charges, pilotage,

light dues, seamen's wages, and various other items of expenditure familiar to every merchant and shipowner.

In consequence of the great increase of merchant traffic on the Southern Coast, and of the appropriation of Portsmouth Harbour to Naval purposes, and necessity having thus pointed to make Langstone Harbour available, advantages of no ordinary character have been found in depth of water and security as contrasted with others. An enemy might destroy the shipping in Shoreham Harbour without difficulty, whereas Cumberland Fort already guards the entrance of Langstone Harbour on the Portsmouth side and a martello tower on the Hayling side in communication with the fort about to be built on the Horse Sands, would render the entrance of a hostile force a hazardous enterprise. These are important advantages; Langstone will be secured by the national defences of the country.

This conclusion is confirmed by the evidence given by his Grace the late Duke of Wellington, before the Shipwreck Commission of 1848, wherein his Grace stated "That it was important to the navigation of this country that every means should be adopted to preserve and improve the natural harbours of the country;" and by the following extract from the first Report of the Tidal Harbours' Commission, as presented to both Houses of Parliament, by command of her Majesty, wherein the commissioners say:—"They cannot close their report without expressing, in the strongest terms, their conviction that immediate measures for detailed inquiry and local examination into the state and condition of every port and navigable river of the United Kingdom are indispensably necessary, with a view to a thorough superintendence; and when they consider the great want of accessible harbours along the whole of the coasts of your Majesty's dominions, more especially when the extended use of steam navigation points to such great changes in maritime affairs, whereby every sheltered creek is likely to become of value; and when they consider that by the improvement of our tidal harbours your Majesty's beneficent intentions for the preservation of the lives and property of a large class of your Majesty's subjects may be best fulfilled, they earnestly trust that no minor consideration may be allowed to impede the accomplishment of objects of such national importance."

A distinguishing feature of Langstone Harbour in a nautical point of view, is its close contiguity to Spithead, the celebrated anchorage between the Isle of Wight and the coast of Hampshire, capable of receiving, with care, more than a thousand sail of shipping. There are however other considerations in favour of Langstone.

It is well known that in time of war, the invention of steam forms a new and serious arm of strength for consideration. The navigation of the narrow seas, commonly called the Straits of Dover, would then be extremely hazardous, unless all merchant vessels were accompanied by a steam-boat, which might not then be sufficient for their protection, however active our officers might be. During the war which terminated in the peace of Utrecht, the privateers of Dunkirk took 1614



ships from England, valued at £1,334,375. The security of the proposed docks from an enemy is, therefore, obvious.

On the whole Southern Coast, from the Land's End to the Nore, Langstone is, for these reasons, adapted to form the best harbour for mercantile purposes; its proximity to Spithead, the great naval depot of Portsmouth, the unequalled excellence of its anchorage, the capacity of its basin, the ease and safety with which, after the improvements in contemplation have been carried out, it will be entered by vessels of any burthen, all these establish its nautical superiority, while, with London only distant 66 miles from the docks to be made, a rapid communication is insured by railway or canal.

Successive administrations from the time of Mr. Pitt have recognized the importance of establishing at a point of the southern coast of England, within an eligible distance of the Metropolis, a harbour with docks and warehouses for bonding merchandize, whereby all vessels from the westward might save the delay and expence of a voyage up Channel, and avoid the risk to which that tedious and dangerous navigation necessarily exposes them. The political considerations which originally suggested the formation of such a harbour, are of course infinitely strengthened by the revolution effected in naval warfare through the agency of steam; while the vastly improved modes of transit between London and the provinces, invest such an undertaking with a commercial importance, which could not have been previously anticipated. Langstone Harbour is just in this position, but has hitherto been left as nature formed it. If stronger proof were necessary for the absolute necessity of forming docks there, it is to be found in a recent report by Mr. Young of the Underwriters' Room at Lloyds, that accompanies a list of wrecks and casualties to shipping, officially reported to have occurred between Dungeness and London, during a period of eighteen months, from January, 1849, to June, 1850, inclusive, although he states it to be impossible to come to a precise knowledge of the total extent, owing to the numerous vessels which are annually lost on the Goodwin and adjacent sands with all on board. But he calculates the quantity of property lost, in that period, to amount to between £400,000 and £500,000, attended by the sacrifice of a great number of lives. His object was to show the enormous annual destruction of property between the Isle of Wight and the Thames, and which would be avoided by homeward bound ships discharging in local docks, besides the saving that would be effected in the rate of insurance, time occupied between the Island and London, and the extra cost of wages, provisions, and incidental expences. Another interesting document is added by him, being an abstract of the loss of shipping and life between the Isle of Wight and London for the seven years from 1837 to 1843 inclusive, by which it appears that during that period 499 vessels lost anchors and cables, were partially dismantled by bad weather, or being run foul of, or sustained other damage, 560 vessels took the ground, but got off again, 260 vessels entirely wrecked or foundered, of which the crews and passengers were saved, 56 vessels

were totally lost with all or several of the crews or passengers, the total number of casualties being 1375. During the first six months of 1850, it appears that no less than eight vessels have been lost between London and the Isle of Wight with all on board, and the number of lives so sacrificed is estimated at little short of 500. These are important facts, all tending to show the necessity of establishing a harbour by which they will be avoided,—indeed, by which this loss of life and property may be all saved.

Though it is impossible to approximate to an accurate estimate of the proportion of trade likely to be secured to Langstone, yet it must be evident that much of it must be secured, and that even a fractional part of it alone would constitute a very extensive business. But it will be apparent that a large proportion must be concentrated at Langstone Docks, when it is considered that a great portion of the goods imported is housed and bonded for exportation—that such goods cannot be deposited so advantageously as at Langstone, and that thence merchandize may be re-shipped and dispatched to sea more speedily and at far less expence than from any other part of the United Kingdom.

Since this paper was completed, we are glad to find that the good people of Portsmouth have discovered the real position of their harbour with reference to commercial enterprise, and finding it hopeless, from the requirements of the country, to avail themselves of it, have turned the tide of their patronage and support to the Hayling Docks. We read the following in the *Hants Telegraph* of last week:—

*Philosophical Society.*—Last evening a paper prepared by Mr. Fincham was read on “on the means by which and the extent to which Portsmouth may be benefited by acquiring a commercial character.” Several remarkable instances were cited from ancient and modern history of the elevated position which cities and towns have attained as the result of commercial enterprise; the favourable position of Portsmouth was pointed out, and the following question was proposed for discussion. If the chief obstacle to its acquirement of a commercial character consists in the fact that Portsmouth is a naval arsenal, may not the advantages be secured by the formation of docks in Langstone Harbour. Mr. Fincham submitted to the meeting a plan which he had devised for the accomplishment of this object. Extracts were then read from a publication recently issued, which stated, on the authority of Sir John Rennie and other eminent Government engineers, that Langstone Harbour is capable of being made a safe resort for merchant vessels, and a valuable asylum harbour for ships of war, protected by Cumberland Fort.—*Hampshire Telegraph*, 3rd February.

With the latter part of this argument we by no means agree, seeing that our men-of-war have asylum enough already; and we recommend the friends of the design to stick to their merchant ships, and have nothing to do with the bulky vessels of war,—which indeed are not very likely to have anything to do with them.

But on the whole the foregoing is a sensible view of the subject, and if we are not mistaken Portsmouth will gain greatly by it. For our own part, as mere unconcerned spectators of these matters, excepting inasmuch as the advantage of the country is concerned, we

look on the whole undertaking as one of the most desirable schemes yet devised. When complete, the harbour will possess extraordinary facility of access and egress, the intricate and dangerous navigation to the Eastward will be entirely avoided by it, a capacious asylum of trade will be opened in a most advantageous position, from whence vessels may be at sea in the very middle of the Channel within two or three hours free from all the dangers of narrow navigation; and from its central position on the coast, foreign produce by means of the rail would thence flow at once into the very heart of the country. We sincerely wish the undertaking that success which in every point of view it so justly merits.

It is no doubt on account of its great advantages that we find the scheme has met with the support of his Grace the Duke of Richmond and of Naval Officers high in official position as well as some influential civil authorities at Portsmouth and Chichester.

NOTES DURING A CRUIZE WITH THE BALTIC FLEET,—*in the Summer of 1854.*

(Continued from page 64.)

July 1st.—In the evening two respectably dressed men were found cruising about the fleet in a shore boat with two sails. They gave out that they had something of importance to communicate to the Admiral, and were accordingly taken on board the flagship. I was sent for, and with Capt. Hutton and the Secretary we sat in deliberation about them for some time, but did not elicit anything that was not known before, and what had been learned from the master of a small schooner examined in the morning. Every one was in a most anxious state of suspense, and the men were coming aft in clusters as far as the rules of subordination would permit, hoping that all the infernal machines in the Baltic were coming out to blow them up, rather than continue the monotonous life they had so long been living. The Admiral was fully convinced that the crisis, or rather plot, which he had been looking out for so long, was going to take place, and sent for me to take the steamers under my orders, and counteract upon them. I believe the two men, one a Swede, and the other a St. Petersburg Fin and pianist, wanted to get away from Helsingfors, and thought the easiest and shortest way was to come off to the fleet.

2nd.—We were all in great hopes of having a quiet Sabbath, the Admiral having agreed to Capt. Hutton's proposition to allow the fleet to remain at rest; but there was such a panic that the anchorage ground was rocky, that orders were given for sea again and we were consequently disappointed. Signal was made to put *Alban* under *Euryalus*, *Otter* under *Cumberland*, orders for *Boscawen* to discharge all her spare stores into ships in want; a despatch having arrived from

the Commander-in-Chief, which rumour said was to the purport that cholera was in the fleet;—that the batteries at Kronstadt were too strong,—and that the advanced squadron with the Commander-in-Chief was on its way back with all haste:—and what else could be expected? I believe the most careless and ungodly in the fleet do not look for success at all when such public and uncalled for profanation of the Sabbath is practised. The *Euryalus* having to hoist in her boats and other preliminaries before being ready, we found time to have service; and before starting went on board the Admiral to give into the Captain's hand a protest against making a retrograde movement, and proposed the fleet should sail about 12 miles N.E., into an open space between the Tokans Sodar Skar and the Balkans, push the steamers in shore in advance, and with them and the boats together cut off all communication between Sweaborg and Kronstadt; for this intercourse is very considerable and we should have the advantage also, from being within five miles of the enemy, that we might easily watch all his movements. However, we crossed the Gulf in the afternoon, and anchored, with the *Euryalus*, to the S.E. of the Nargen Lighthouse.

3rd.—At 4.30, landed at a small village, taking the precaution to have a boat, manned and armed, lying off the landing, and the *Alban's* bow gun all ready to look after us. But it was not necessary. The ladies had certainly taken to the bush, but the male sex came to the shore and received us. We soon found that we had landed amongst a most interesting colony of Swedes, Fins, Dutch, and Germans, who were giving us unmistakable specimens of these languages, but to each other they spoke in Estonian. Many of them had a fair smattering of English.

This Island of Nargen belongs to the Government, and these people pay a yearly rent of £73 for it, and about £30 more for permission to fish in the sea! A tolerable specimen this of the paternal care of the Emperor Nicholas in filling the coffers of the State, to which even the fishermen must contribute. Imagine our countrymen doing this on the coast of England! However, these poor fellows manage to keep a small quantity of cattle and pay their rent, living chiefly by sending their fish to the Revel market. They appear to use nothing but a fine meshed net, and catch a species of sprat, which they salt, and also small flounders, which any where else would be thrown away. But all are fish that come to a Finlander's net.

Having opened a communication with the natives so successfully, a report accordingly was made to Captain Ramsay. After breakfast we landed to visit the lighthouse. This is a splendid pillar of masonry; it is built entirely of stone, and finished in a style that would be creditable even to the Northern Commissioners. The outhouses are in keeping with it. The lantern has been removed, and the summit of the building is carefully boarded over. The oil had been left in the cellars, but of course was not removed by us. On the eastern side of the Island a military station was discovered rather retired from the coast and in such an interesting site that we could not make up our minds

to destroy it, though I must confess I was for applying the torch. The poor man, however, who lived near it pleaded so hard about the wrath of the Russians being visited on him that we were induced to forbear. In the afternoon, leaving the *Euryalus* at anchor, we set about examining the shoals in the bay and looking for clearing marks. While we were thus employed a sad accident occurred. In towing a windsail overboard one of the stokers by some means became entangled in its gear and was fairly dragged overboard by it, and, though the ship was moving slowly through the water and a boat was towing astern, he sank before assistance could be given. I was on the stern of the vessel at the time and could have jumped overboard after him and was only prevented from doing so by seeing him swimming, apparently, quite well. Poor fellow, in another minute he began to throw his arms about in the water, and disappeared when the two boats were almost within their own length of him. We concluded that the windsail bow-line must have become fast round his legs and caused him to lose his presence of mind, for both he and the windsail disappeared together. His loss was severely felt in the ship, for he was a quiet good man; and, for my own part, I could not help feeling that I could have saved him if I had not been too careless about the matter by considering him safe. This is the first piece of affliction that has befallen us since leaving England. May it be a lesson to us all; little did we expect the blow from this direction.

4th.—We landed early for the purpose of looking at the village of Nargen, situated at the south end of the Island. It is small, and presents a picturesque appearance with its diminutive windmills and wooden houses. We were rather taken by surprise at being addressed in tolerable English by one of the fair sex of the place and several of the men who had come to meet us. We first inspected the Star Fort, which makes such a formidable appearance in the plan of the Island on paper, and which the French blockading ships had garrisoned with a strong party of soldiers and guns. We found it covered with luxuriant grass and wild flowers, and from the account of the natives it had been dismantled for 200 years. For nearly three months has our fleet been cruising about these seas, and this simple fact, which might have been ascertained in a few hours, was not known. But as it was evident nothing further was to be done with such a peaceably inclined fortification, we re-embarked to continue our yesterday's operations against the sand banks.

No sooner had we begun our interesting proceedings than they were interrupted by the appearance of a schooner with a large Russian ensign standing out from Revel. Of course we were soon in chase of her, under full steam, and found that she was trying to get through the passage between Wolf Island and Rockhonen Point. But before she could succeed in doing this the bow gun was throwing 32-pound shot so close, both ahead and astern, that the crew let go the anchor inside a reef at the entrance of the channel and deserted her. To penetrate such a navigation within a mile was not in the power of *Alban*, so away went Ward in the gig to bring her out or burn her.

Ramsay and myself started in another direction to examine a very tempting stack of wood on Wolf Island, cut all ready for the Revel market, but which would do very well for our fires. Scarcely had we left the ship when a squadron of the Imperial Guard was seen galloping down to the beach in gallant style; and soon some of them appeared in the schooner's boat pulling off to her as fast as they could, while others were following them. *Alban* had been anchored with a spring on the kedge just to be ready for occasions such as these, and it was accordingly appealed to to bring the bow into a favourable position. But it was of no use for the kedge came home, as Jack says, or rather yielded to our efforts instead of holding fast, as its duty was. Whilst lifting the anchor and turning bow on (for the *Alban* carries no "sting in her tail") Ward was obliged to take care of himself. Finding the rocks were so close, he was unable to work the vessel out; so he quietly sent one party to unbend the sails and another to light a fire in the Captain's bed, while he commenced a little rifle practice on his own account at the gallant Imperial Guards who were on their way to him in the schooner's boat. But whether these gentry found themselves out of their natural element, or whether they considered his rifle practice sufficiently good without any further proof of it, they suddenly turned the boat's head to the shore, which they reached with all the haste they could; and, landing, only thought themselves out of harm's way when they were looking at us from behind a cottage which stood hard by. But they had reckoned without their host, for a shell from the bow gun went flying over them and compelled them speedily to take to their heels for the wood, their own officer gallantly leading the way as fast as his legs could carry him. In a few minutes more the schooner was in a blaze; and the fun was finished by a little practice at her as well as at a military post on the point, at 3,000 yards' distance. The whole affair was witnessed by the people of Revel; to whom it must have been a novelty of no gratifying description to see their vessel burnt so close to their port. It was concluded she was employed in carrying stone for building some of the new fortifications. In the evening we anchored again alongside the *Euryalus*, and the crew were left to amuse themselves on shore with the seine and making bonfires on Nargen.

The Marquis de Custine relates a curious story about this same place (Revel) which you may not have met with. It is curious as evincing an enduring tenacity of ancient customs. He says:—

"The sight of that place, which has not long been Russian territory, recalled to our memories the proud name of Charles XII and the battle of Narva. In this battle was killed a Frenchman, the Prince de Croi, who fought under the King of Sweden. His body was carried to Revel, where he could not be buried because during the campaign he had contracted debts in the province and had left nothing to pay them. According to an ancient custom of the land, his body was placed in the church of Revel until his heirs should entirely satisfy his creditors. This corpse is still in the same church where it

was laid more than one hundred years ago. The amount of the original debt has become so greatly augmented by interest and by the daily charge made for the keeping of the corpse, that there are few fortunes which would suffice to acquit it.

"In passing through Revel about twenty years ago the Emperor Alexander visited the church, and was so shocked with the hideous spectacle presented by the corpse that he commanded its immediate interment. On the morrow the Emperor departed, and the body of the Prince de Croi was duly carried to the cemetery. The day after, it was brought back to the church and placed in its former position. If there is not justice in Russia there are, it would appear, customs more powerful even than the sovereign's will."

5th.—About the time we thought the aristocratic inhabitants of the Warnberg at Revel had finished their breakfasts we commenced a tour of the Bay, standing as close in shore as prudence would permit. We were thus enabled to look at their fortifications, our nearest position being about a mile and three quarters from the Strikberg battery, in which we observed a large encampment of soldiers. It was impossible to resist hailing the *Euryalus* to try the effect of her ten-inch gun at this field of canvas; on which there was a great clapping of hands on board of her. But the *Euryalus* adopted the wiser part, as it would certainly have drawn down on us the fire of three hundred guns. One advantage would certainly have been gained, that of ascertaining whether the guns were mounted in a new battery which presented 150 embrasures, but, nearer than this, none could be seen. The morning was beautiful, and the people of Revel turned out in great numbers to look at the two English steamers surveying their Bay. After gaining all the information we could respecting the defences, *Euryalus* started in search of the French blockading frigates with despatches and information that they might safely anchor off any part of Nargen without risk of being fired at by the Star Fort, and I afterwards met them coming in for the first time to take advantage of our discovery.

The rendezvous being Port Baltic, in the evening I steamed cautiously in, looking out for our consort, with a due respect for the formidable fortifications shown on the chart, and at length observed the frigate, to my astonishment, at anchor off the town with the signal "negotiating" at her mast-head, and a boat with a flag of truce pulling off from the shore. It turned out that the battery was much in the same state as that at Nargen; and perceiving several vessels inside the mole the *Euryalus* had sent her First Lieutenant to inform the authorities that she intended to take them out, and wished to know if such a proceeding would be opposed. The officer was received by the Captain of a squadron of horse, and was informed that the town was at our mercy, but would not promise not to resist the capture of the vessels!

On examining them, one of them proved to be a fine bark of 300 to 500 tons, the others smaller. As they were found to be scuttled,

it was considered upon the whole not worth the time and risk of getting them afloat. The Captain then sent to say that if they would promise not to bring down artillery we should not molest them. It was necessary, however, to communicate with the General, who was at Revel, before the terms could be agreed upon, and a lancer was sent off full speed, and to return in three or four hours.

6th.—No answer having been sent off, the First Lieutenant went on shore at 9h. and found the messenger had returned. A paper was then drawn up stating that the terms prescribed would be agreed to provided we did not land here. I pointed out to the Captain that the word "here" ought to be clearly defined, as it would be necessary for me to land at Rago (the island opposite) to obtain information about the place, and that they might consider that an infringement of the convention. In order, therefore, to clear up this point, hoisting a yard and a half of duck on a pole, I set off for the mole. The Captain, with a German who had been English Consul, received me politely, and it was immediately arranged that the word "here" should mean the town of Port Baltic and the peninsula of Pakerort, on which it stands. While the agreement was writing out several officers arrived, and in a short time I found myself smoking a cigar with eight or ten of the Imperial Guard, and discussing the state of the war. On inquiring of them if they thought it would soon be over, they replied that it rested with us, it was quite in our hands. On which I replied that the Emperor could settle it at once if he chose. "But," said they, "Lord Palmerston is the cause of it." This, indeed, was a curious state of things, to find the war attributed by Russians to Lord Palmerston. His name was once up, it is true, in no favourable way further south, but to find it connected with the present war on the shores of the Gulf of Finland was more than I expected and showed a state of ignorance of political matters which it is the policy of the Emperor to preserve. Indeed, here was our first proof that ignorance is essential to the iron rule which he maintains over these people. Of what use would it have been to have said to them that England and France considered the Emperor to blame, that it proceeded from his ambitious designs on Turkey, his want of observance of the tenth commandment and endeavouring to get possession of his neighbour's property because he was not strong enough to protect himself,—in fact, that he was neither more nor less than a powerful bully and robber, that this was the real cause of the war? They would not have believed it, and, perhaps, could not have comprehended it. So I left them in their ignorance as to who was really to blame. I thought it better to invite them to come on board; at which they appeared much pleased, but said their General would not allow them. They were most of them gentlemanly young men. I think some of them had just arrived from Revel, as we observed numbers of little tricoloured flags glittering on their lances between the houses of the town. Some wore polished leather shakos, and their dress looked rather seedy; but the later arrivals sported the Russian helmet, with green frock coats, silver cross belts, with the spread eagle, in metal, either of gold or silver gilt, as



ornaments to their accoutrements, which gave them a very handsome and soldier-like appearance.

The town is the prettiest I have seen, though chiefly inhabited by fishermen. The Russian and Lutheran churches and a few public buildings, intermixed with some fine trees, produce a most pleasing effect.

Rago Island, opposite, is the most uninteresting place I ever landed at. No information was to be obtained, though many spoke Swedish, and not even a chicken could be purchased. It had only one redeeming point, and that was a most extraordinary erection in the shape of a pier; which the natives say was intended for a roadway across to the town, the distance being a mile and a quarter and the depth fourteen fathoms. The work, after going on for seven years, was then given up. About 250 yards remain on one side and they pointed over to the intended terminus on the other near the battery, but which our convention prevented me from examining. Seven or eight acres of land have been lowered six feet for filling in the roadway, and an enormous quarry of stone for facing it.

7th.—Having nothing more to do here, we took our departure at 4.30 a.m., and, having examined the nature of the bottom to the west of Nargen, proceeded to Baro, where the whole fleet was observed at anchor. On going on board the great ship I delivered the despatches with which I was charged without being asked any questions about the cruize.

8th.—This morning some inquiries had been made about our landing at Port Baltic, which ended in something about being made prisoner. This was an unexpected kind of consideration.

In the evening great excitement was caused in the fleet by the appearance of a steamer joining it with English ensign and pendant over Russian. As we had never seen her before, it was concluded she had been cut out from one of the Bothnian ports; others, again, surmised she was bringing intelligence of the fall of the Crimea or Bomarsund. But, after some suspense, it proved to be the ———, which had taken and burnt a small schooner, about the Aland Islands, that some of our cruisers had refused to meddle with; and this was the cause of all this great display. I cannot tell you how annoyed every one was at such proceedings in the face of the French fleet.

I forgot to mention, on arriving yesterday, we heard that two of the French vessels had run on some rocks in, or at the entrance of, the harbour. The history, as it went, is this:—The ———, being left alone to blockade this place and protect the buoys during the absence of the fleet, caught a little schooner and brought her to Admiral Corry off Helsingfors. In the meantime, out came the Russian boats and cut away or sunk all the buoys, as any one of course might easily have foretold. On her way back the ——— found a boat in the act and gave chase; but, after running herself on shore and sending away her boats, gave it up. By way of retaliation, next day, Sunday, she commenced shelling the Telegraph, and, after an hour and a half of this work, the officer in charge came out and made our people a low bow;

of course this was very disgusting. Report says — was firing her 18-pounder carronades at the Telegraph, which is 100 feet high, and further goes on to say that the Commander, wishing to get the buoys again down in their places, sent for his Second-Master and ordered him to lay one on the Troskar Shoal, and then went into the sick list. The Second-Master, feeling the responsibility, sent for the Gunner and became very ill himself. The Gunner, knowing more about laying down a target than a buoy, pitched it over at the first shoal water he came to, doing the very thing the Russians would have done had they been left to do their work; that is, he placed the buoy a quarter of a mile or more *inside* the rock, and the *Vengeance* accordingly standing that way sailed upon it!

(To be continued.)

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#### ON THE VALUE OF STEAM AS AN AUXILIARY IN LIFEBOAT SERVICES.

Sir,—Conscious of the valuable aid of your highly accredited record of maritime events, and in the hope that the observations I am about to make may attract the attention of other periodicals connected with our mercantile marine, I proceed to offer a few remarks upon facts furnished by my own experience in lifeboat service.

My principal object is to awaken in the minds of all those on board of, or connected with, our steam towing vessels (many of which are of great capacity and power) the valuable assistance they are calculated for, and might occasionally give to sailing luggers and other craft, if they were—when in a position to do so—ready, anxious, and zealous to render such assistance. Why not, when the storm is rising, bank up the fires and stand by for a start on this errand of mercy? In many cases they would be more than rewarded by salvage, and sure I am that any claim for remuneration would be instantly responded to by those noble institutions established for that purpose.

I can best explain what I mean by stating a recent case in point, and without any mention of names. I trust that, with you, my own will be a sufficient guarantee as to the simple fact having transpired in the manner related.

After a fearful night of snow-storm (of all other trials the most blinding and bewildering to the tempest-driven mariner in this dangerous navigation) morning broke upon us with alarm guns fired in rapid succession; but all to seaward wore an impenetrable veil of spray and snow. We were prepared, and our little steamer dashed out of the harbour with the Northumberland Lifeboat in tow, and was soon lost to sight in its progress towards the Goodwin Sands. So far well. But our apprehensions were increased by the continued alarm signal guns, apparently from both the light-vessels; and our luggers

were manning in all haste, under storm sails, to follow to the rescue. But!—aye there was a fearful *but!*—the storm was from the S.E., and the position to be reached dead in the wind's eye. It would take the smartest vessel under canvas too long a time beating up to a shoal some miles distant to afford the slightest prospect of success. The young flood, too, was making fast, and the unfortunate vessel on shore must be engulfed before these brave fellows could reach her. What a moment of suspense? What painful ideas floated upon the minds of all who had in their own experience witnessed the horrors of the cast-away? And such there were as lugger after lugger left the piers and, close-hauled struggled against wind and tide and sea in their hopeless course. But, in a short time, they near a steam towing-vessel, jogging about and looking out for a job. Surely he will volunteer in the good cause and, taking the luggers in tow, give them a pull to windward, and thus enable them to reach in time that scene, it may be, of unutterable distress. No! they have passed him unobserved.

. Again the alarm guns are repeated! What if, it should be an emigrant ship? What if more than a hundred living souls are in jeopardy? The lifeboat can only receive her comparatively small proportion at a time; the steamer's paddle-boxes prevent her going alongside; and the luggers should be there. We know what they have done, and we are assured of what they can do!

An hour of suspense has elapsed, and there is a partial clear! The white line of breakers along the shoals are visible, but no vessel, large or small, is there; she is engulfed and lost! The harbour steamer with the lifeboat comes into view, and they suddenly alter their course and bear away to some object to leeward. At intervals, a frail boat is seen lifted upon the crest of the sea, and rowing towards the Gull Stream Lightvessel. It is the crew of the lost vessel, and they succeed in reaching her just as the steamer and lifeboat also come within hail. Had they missed her, rescue was at hand, and that rescue would have been owing to the auxiliary aid of the harbour steam tug. They are foreigners, and in a piteous plight. The light's people clothe them. The lifeboat transfers them to the warm cabin of the steamer. A glorious solace to half-perished men where every spray froze as it fell; and hot coffee revives and cheers them.

The vessel they had lost was a schooner, not quite 200 tons. But what if our fears had been realised? What might not auxiliary steam and those luggers have achieved?

This is no fiction! Sections of lost vessels are now, even now, floating upon the water, of whose fate all is and will be mere conjecture. Will not the steam towing companies (whose vessels are always hovering close along the coast) issue general orders to the people in charge always to volunteer their efficient and valuable services, trusting to the reward which is sure to follow, directly or indirectly, in so righteous a cause. I am sure they will when proper reflection is afforded on the value of such services:—The restoration of the despairing seaman to his home and country,—perhaps to a new and more

worthy life, rescued here to be saved hereafter! In such a cause, where are the British hearts who would not bid it "God speed!"—They will!

K. B. MARTIN,  
Harbour Master, Royal Harbour, Ramsgate.

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LOSS OF THE BRIG "MARY" AT NATAL, WITH EARLY RECOLLECTIONS  
OF THAT SETTLEMENT.

(Continued from p. 71.)

Our interview having terminated, and it being evident his Majesty had important business on hand, from his brevity and apparent anxiety to finish with us, we withdrew to contemplate the wild novelty of the spectacle around us. Nothing indeed was wanting completely to manifest that we were in a new world, at least to us; that between it and the civilized there was a great gulf. I had read a little about strange lands and wild people, but the reality that now presented itself before me far surpassed the utmost stretch of my imagination. I had been greatly interested, as no doubt youths generally are, with the adventures of Robinson Crusoe, but the reality of my own were about to rival the fictions of Defoe. Drove of cattle with bands of warriors were to be seen in every direction, altogether presenting a scene of wild grandeur and animation very different from the general solitude pervading every other portion of the country.

It was now noon, and we had taken up our position under the spreading branches of a tree, the shade of which was a protection from the heat, and looking on with great interest at the preparations, when we perceived in the distance approaching groups of white shields moving rapidly onwards, like the white crest of a wave. These were the great Umpagates, or the king's body guard, dressed in full war costume; who, with his Majesty at their head, were to lead the dance. By the time these had come up and taken their position on the right, the king was dressed in his full uniform of war, by a glance of him through the crowd of warriors by which he was surrounded, I saw that his person was highly decorated with green, red, and yellow,—colours only permitted to be worn by royalty. But the war dress most attracted my attention. This was the first time we had seen the Zoolas dressed in this manner. The first portion of their dress consisted of a kilt, composed of stripes of tiger-skin made into the shape and length of the animal's tail, and closely joined on to a girdle fastened round the waist. Below the knee is bound a tuft of hair generally, and apparently that at the end of the tail of the ox. This covers the shins nearly to the ankle; but no kind of covering is used for the feet, either in the shape of shoes or mocassins. The upper

part of the war-dress is a cape made of the same material as the kilt, which, with a hole in it to admit the head, drops on the shoulders and covers the back and breast, leaving the arms quite free. These are generally ornamented with bracelets of beads and bangles. Round the forehead is bound a tiara of stuffed tiger-skin, about three inches in diameter at the middle, and tapering smaller at the back of the head, where it nearly meets (exactly in the shape of what sailors call a pudding, used to prevent chafing). In front of this tiara a long plume is stuck vertically, and at the sides about the ears are also appended little bunches of red feathers, very neatly put together, the whole in fact giving them a very warlike and commanding appearance, and at a distance a body of these warriors bore no small resemblance to a regiment of Highlanders; but a nearer approach of course expelled this illusion.

The same style of war-dress, as worn by the king, is also worn by the warriors, differing only in the material; that composed of tiger skins is only worn by chiefs, the rest are made up of monkey's tails, or the skin of that animal made up in imitation, while the cape or upper garment was made of the tuft of hair at the extremity of the tail; the head band also was devoid of the plume, excepting that of a chief or captain, who invariably wore this mark of distinction; we observed Dingaan, who was at the head of the white and black spotted shields, to be dressed in the same manner as the king, but without so large a display of beads; the king having a long band of these thrown on his shoulder, in the manner of a soldier's belt.

By the time the guards had formed, we saw, issuing from a private gate at the back of the palace, a crowd of females, numbering about two hundred or more, marching two and two, with great order and regularity, towards the scene. Their sable arms and legs were profusely decorated with beads and bangles, while round their dark brows were tastefully bound several rows of different coloured beads. The ingubo or petticoat, which constitutes the entire of the Zoola lady's dress, was richly decorated with little brass and metallic balls, very highly polished; and their dark skins also splendidly polished with grease. A few had their necks choked up to the chin with these brass rings, (called bangles,) which one would suppose must have been very uncomfortable as well as inconvenient to the wearer, the neck being thus rigidly kept in one position; this part also of the lady's toilet had of course to be performed by a blacksmith. These women were the umtwane-in-kosse, and were now brought forth for the dance. On arriving at the ground of operation, these women formed in line behind the king, the two regiments being drawn up in front. Suddenly by a quick and very accurate movement the men were wheeled into a circle inclosing the women, the king being in the centre, the ladies having formed in the same manner facing the men. The dance began by the former clapping their hands and stamping their feet, at the same time singing a Zoola air at the top of their voice. This was the challenge for the men, who now approached the females, holding their spears and

clubs in a threatening attitude, and singing also at the top of their voices in turn, and stamping with their feet, now advancing a few paces, and anon receding, appeared to be the whole manœuvres of the dance, which to us altogether presented a mass of confusion. Nevertheless all was conducted in their way with the greatest regularity. The most exact time being kept to the vocal music, and the rough bass of the men's voices blending with the more gentle ones of the females, altogether combined to produce an agreeable harmony; while the valley rang with the sound of this music, the ground resounded with the tremendous stamping of the many thousand feet; but the spectacle itself was novel, grand, and wild, beyond my power of description.

Dancing is a favourite amusement with the Zoolas, who were soon all excitement at this grand turn out; and the perspiration soon flowed in streams to their feet, which, mixing with the unctuous matter with which their bodies were anointed, produced an odour within a considerable radius of the scene that would have required a few gallons of eau de Cologne to overcome. Many a Zoola warrior's heart beat high on this occasion with excitement, when, advancing in the dance, honoured by the presence of the choicest beauty and elegance of the Zoola kingdom, as well as that contributed by conquered nations; while on the other hand it was a great treat to those handsome damsels to see the Zoola heroes in this grand display before them, and paying homage to their beauty, as it is only on such occasions that they are permitted by Shaka to move from within the bounds of the ize koshla.

The dance and song were kept up till late in the afternoon; we were tired of looking on, and returned to our huts. In the meantime fifty oxen had been slaughtered, and Sotoby, with a score of cooks, was employed in preparing the meat in huge earthen boilers to feast the dancers. We came in for a goodly share of boiled beef, of most rich and excellent quality, with a due proportion of boiled Indian corn ground to a paste between two stones, and sour milk in calabashes, so that we had no reason to complain for want of food. The evening was devoted by the multitude to festivity and small dancing parties.

Amidst such an assemblage of savages, we could not be long without witnessing scenes of another and very different description. Early on the following morning three unfortunate victims, who the evening before had been enjoying the festive scene, were now carried forth for execution. What their crime was we could not at that time discover; but I subsequently learnt it was on complaint made against them for a breach of the corn law.

It has often excited my pity, admiration, and astonishment to witness the fortitude and dignified calmness with which a Zoola will go forth to execution and receive his death blow. No fetters or cords are ever employed to bind the Zoola culprit; he is left at liberty to run for his life or to stand and meet his doom. Many do run, but few escape; for, alas! every man they meet is an enemy; many stand and meet their fate with a degree of firmness that could hardly be imagined.

The cruel and barbarous manner by which criminals are put to  
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death, is shocking to humanity. There are no regular executioners ; that would be superfluous where every one appears to have a savage gratification in the horrid and revolting employment, and all are ready to carry out the most sanguinary orders of the king or an enraged chief. The victim is first stunned by a blow on the head with a club, which, when well directed, terminates his sufferings at once ; but it often happens that he is merely stunned, and the moment the wretched man falls to the ground, a sharp pointed stake (which is already prepared) is introduced behind and thrust up the abdomen, and being in this manner skewered, he is thrown into the nearest thicket or jungle. Instances have happened, that after being thus impaled, the wretched creatures have recovered sufficient strength to withdraw the stake from the body and get away. I saw a man who was then living and had attained a pretty old age, who, having been treated in this manner, and left for dead by his executioners, recovered sufficiently to drag the stake from his body, and proceeded directly to Shaka, with the bloody weapon in his hand, to sue for pardon, which was granted ; and from henceforth he became an almost constant attendant at court, Shaka having considerably enriched him with cattle. It appears he had been a person in authority, a captain, or something of the kind, and besides restoring him his former possessions, Shaka had increased his stock.

Notwithstanding the cruelty of this mode of executing criminals, not one of these savages, to whom I explained the more humane method adopted by us, but shuddered at the cruelty of our practice of hanging a man up by the neck. So much for the force and effect of habit, showing how different men's notions are moulded even in the matter of humanity, and how difficult it is to alter a state of things, however barbarous, that has obtained for generations. Is it a wonder that the progress of civilization is slow, and all attempts to force it only increases the obstacles and adds to the obstinacy of those who are opposed to it. I have had favourable opportunities of observing with what tenacity the savage clings to his habits of life, and also to his superstitions, and how absurd and ridiculous the most refined domestic system appeared, compared to his own ; and I believe it possible to be easier for an ignorant man, in fact, more properly speaking, for human nature to relapse into a state of barbarism, than it is to advance a savage to a state of civilization. These opportunities have also convinced me that our sympathies for the unhappy and deplorable state of the savage, are mistaken. His misery has no place but in our imagination, being unknown to him, and irrespective of a future state of existence. Were I called upon to state in which condition the most happiness existed, I should, from the knowledge I have of man in both conditions, bear testimony to the Zoolas being the most cheerful and happy people of which I have had any experience. These opinions may not be orthodox, but are at any rate based upon experience. On the other hand, if we are to deplore the darkness in which he is placed as regards his future and eternal happiness or misery, we must at the same time bear in mind "that of him to whom much is given much

will be required," and how much we may have to answer for who have so large a share of the talents that the Lord gave to his servants, and how better it may be for the savage in that day of account than for many of us.

One of our party, Ned Cameron, a seaman who had served his time in a West Indiaman in the Jamaica trade, being a lively frolicsome fellow, seeing that dancing was the order of the day, and a favourite amusement with the Zoolas, determined on giving his Majesty a specimen of his own performance in that way. Ned had, in the course of his nautical training, learnt a great variety of Negro songs and dances, and was, moreover, an excellent mimic. His intercourse with the Niggers, while on strallop duty, dragging sugar, had not been neglected; and he could imitate Quachee in all his actions most admirably, and with whom he said he was always a great favourite; and he did not see why he should not hit it as well with the great king Shaka as he had done with Joe Sash, the head driver on the Amity Hall estate. Mr. Hutton, the chief of our party, was opposed to the scheme, as well as several of his shipmates, not knowing how his majesty might be inclined to take the performance. But Ned was not to be put off his old favourite project by any chimerical apprehensions of danger. He felt certain of pleasing his audience and particularly the king, and Ned set to work to prepare his instruments. All that he required was a tambo, which he said was rather awkward to have to play and dance besides; however, as none of the rest of us had acquired any of Ned's musical accomplishments, he was obliged to make his arrangements accordingly.

Having procured a large earthen pot, about the size of a five gallon keg, out of which the bottom was carefully knocked, in its place, a piece of cow hide was tightly stretched over in fashion of a drum. This constituted the "tambo," or drum, which, as Ned had to beat and dance also, he now slung so as to hang on his neck. Having tightened up his tambo to his satisfaction, Ned sallied forth determined on introducing his performance as soon as the King should be abroad. Of course none of us would volunteer to accompany him on his expedition, nor did our friend Ned seem to care much about our desertion, feeling within himself great confidence that he would meet with a favourable reception. It was not long ere the desired opportunity offered; and, the King having taken up his usual post under a large tree, as was his custom in the morning, our friend Ned advanced with great confidence and, after performing the usual ceremony and obeisance, commenced his Negro song and dance.

With a boyish curiosity, I had followed Ned so far as to keep him in sight, at the same time, as I thought, sufficiently in the rear as not to be implicated with him, should any harm come of his project. Those who have seen a Negro dance, with all its fantastic movements and gestures, know it to be amusing enough. Shaka was so highly pleased that, sending immediately for Jacob, the interpreter, he presented Ned with five oxen for his excellent performance, besides making



him drink about a gallon of Caffre beer, which was poured out into his tambo. Fortunately for Ned, his drum was not very tight, so that it saved him from bursting, as it would have been a great want of decorum to leave or throw away anything given immediately by the King. All that Ned regretted was that it had not been old Jamaica instead of swipes.

The throng continued daily to increase around the capital, and the accumulated host of warriors was now prodigious, far beyond our conception of the Zoola force. The whole day long was devoted to the war song and dance, and the night was followed up with festivity and mirth. On these occasions, this mighty Zoola monarch, relaxing somewhat from the stern severity of the despot, granted indulgences that were more highly appreciated from the rarity of their occurrence and the shortness of their duration.

The novelty and wild grandeur of this vast assemblage of at least fifty thousand savage warriors, the innumerable fires brightening up the darkness around the capital, like a beleagured city, is more easy to imagine than describe. After three days' sojourn, gazing on this, to us, new and wonderful picture, our party make application to return again to the solitude of Natal; where, at that time, nothing distinguished it as the abode of humanity but the melancholy wreck of the ill-fated *Mary*, now so high on the beach as to defy the surge of the angry waves. Mr. Hutton's application to return was favourably received by the King, with the exception of myself, who, his majesty very sagaciously observed, could be of no use in the construction of the umcombie; but that I should remain with him to explain the use and administer the medicine to patients. Though, in this capacity, I was as ill adapted for service as that of a carpenter or ship builder, it was not so easy to convince the sable monarch of my unfitness for the office, and he determined on keeping me with him.

On this intelligence being communicated to me, my heart sank within me, and I nearly fainted with the idea. The horror of being left alone in the midst of this wild and terrible scene, cut off from all communion, all intercourse, and even the sight of civilization, my heart sank with despair. Compared to it, my recent shipwreck, and the very waves that had threatened every moment to swallow me up were, comparatively, insignificant. Great was my despair when, on the following day, my shipmates took leave of me, and, as I thought, in all probability for ever.

Shaka very liberally supplied them with several head of cattle for our use at Natal, and assured them of every assistance in his power for the building of the vessel; and, to convince us of his sincerity, he full often repeated his promise.

(*To be continued.*)

THE CRIMEA.—*Translated from a Paper in the "Nouvelles Annales de la Marine et des Colonies," which appeared originally in the "Moniteur de la Flotte" of Paris.*

The Crimea, formerly called the Tauric Chersonesus, or Tauride, an oddly shaped peninsula projecting to the south between the Black Sea and the Sea of Azof, and joined, on the north, to the continent of Europe by the narrow isthmus of Perekop, is the richest, the most picturesque, and the most delightful province of the whole Russian Empire. It has about 600 miles of coast, with a superficial area of about 1,200 square miles. The Strait of Kaffa, which connects the Black Sea with the Sea of Azof, separates it, on the east, from the Caucasus. From east to west the Crimea is divided into two parts, one on the north and the other on the south, by the Yaila Mountains; which rise abruptly from the coast, commencing immediately opposite the western shoulder of the Caucasus and forming, as it were, a continuation of that mountain chain, broken through by the strait above mentioned. From the Yaila Mountains, as a base, many ridges of less elevation extend towards the north in a direction nearly parallel to each other. These mountains, magnificently wooded, richly irrigated, and separated by fertile valleys, gradually diminish and merge into the dreary and monotonous desert, the continuation of the Steppe of Nogais. The highest of these secondary mountains is the Tschadyr-dagh, or Tent Mountain,—the Mons Traperas of the ancients,—being 5,184 feet above the level of the sea. Not only is its summit covered with snow throughout the year, but the large and deep fissures in its sides, loaded with ice, are the sources, in the summer season, of lofty and sparkling cascades.

The Yaila Mountains, facing Russia and ever exposed to the cutting blasts of the north, are barely covered, even to their lowest levels, with a poor unproductive soil, and present an arid and desolate aspect,—without towns and almost destitute of villages. The extensive plains at their base are intersected, here and there, by numerous banks of salt and salt marshes, indicating that, at some remote period, the sea was there; but now tainting the atmosphere with their poisonous exhalations.

The Putrid Sea, or Siwasch, a species of lake almost entirely separated from the Sea of Azof by the long, narrow, and sterile tongue of land of Arabat, dries so completely during the hot season, as to be passable for horses, leaving exposed large tracts of pestilential mud and slime. No doubt these northern regions of the Crimea are miserable and unhealthy; but, on the other hand, as a compensation, the southern slopes, from the crest of the plateau of the Tauride to the seaboard on the south, constitute one of the most picturesque and magnificent countries on the face of the globe. The mildness of the climate, the clearness of the sky, and the serenity of the air, leaves nothing to be desired even from the plains of the most favoured parts

of Italy. The valleys—sometimes obscure and winding between high walls of peaked mountains, sometimes spacious and lighted up by a brilliant sun—are traversed in all directions by meandering streams and important rivers. Fountains and cascades, extended into sheets of crystal, are here so transparent as to permit the smallest coin to be seen at enormous depths. The soil, everywhere fruitful, displays in all directions, with tropical splendour, an exuberant vegetation.

The Tartars have possessed these valleys from time immemorial, and the appearance of the villages, which rise like amphitheatres on the sides of the mountains, afford unequivocal evidence of the general comfort which once reigned in those regions. Although it requires at least three hours to reach the summit of the Tent Mountain, the fatigue of the ascent is amply repaid by the splendour of the view from its elevated ridges. An extensive and animated scene is there presented. The spectator there may dwell in admiration of the peninsula throughout its wide extent: towns, flocks, vineyards and castles, ruins and shady hamlets, forests and corn fields, buildings, costume, scenery, —all present the most charming contrasts. A Greek convent by the side of a Turkish mosque may be seen on a mountain; the steep sides of which are hewn into regular steps, with a summit spread like a sea of verdure in prairies as beautiful as the most luxuriant pastures of Switzerland.

Here, amidst half demolished towers and the grim ruins of the gloomy fortresses of bygone days, the aristocracy of Russia establish their country seats,—bright enticing habitations, surrounded by orchards, vineyards, and olive groves. Here, mechanics and soldiers, labourers and trading Jews, sailors, priests, Rayas, Armenians, and Tartars mingle together in the streets and the markets, on the quays, and in the squares, at the baths and in the bazaars. Each, with his own language, religion, costume and manners, actively employed, courteous to strangers, and quite tolerant to neighbours;—the Russian alone inspiring general hatred, the effect of his despotic government and the ruthless exactions of the state. If it be asked why a population so varied should be found in the Crimea, according to the testimony of historians, this country, since the days of Herodotus, has been successively invaded or conquered by no less than seventy different nations. Each town is distinguished by its own peculiarity, thus affording unmistakable evidence of its age and origin. There are not two alike. Thus, in close proximity, may be seen two towns, one a Greek or Russian and the other a Tartar or Turkish, without the slightest admixture or interests common to both.

The principal towns of the Crimea are well known, at least, by name, and each might easily become the subject of a lengthy description.

Simpheropol is of modern date, situated in the north, and is the work of the Russians, two all-sufficient causes for its want of comfort and its forbidding aspect. Its streets, however, are strait, spacious, and regularly laid out, with well constructed houses. It has no commerce, and not more than 4,000 inhabitants.

Bakstchi-serai, or the City of Gardens, is the ancient capital, and residence of the Tartar Khans. The streets are narrow, crooked, and irregular, rising one above the other, and reached by steps cut in the mountain side,—true type of an oriental town. It has more than thirty mosques, built of free stone, with elegant minarets, besides Greek churches, Armenian temples, and a synagogue. A thousand subterranean canals supply the town with water; collected in basins and fountains, from whence it runs in innumerable streams, cleansing the streets, supplying the houses, and irrigating its well renowned gardens: which, sheltered from the cutting north winds, and yet enjoying a cool atmosphere and a mild and equable climate, not only produce their flowers particularly early but also fruits of delicious flavour. An active commerce, promoted by intelligence and industry, has enriched Bakstchi-serai. Its cutlery is of the finest description; and its morocco leather excellent, and costly in price.

Sebastopol, founded in 1786, is, strictly speaking, only an arsenal, resembling the seaports of L'Orient and Rochefort, and contains nearly 20,000 inhabitants. The town is built at the back of a steep and rugged hill, in parallel streets, with tile-roofed houses. Of the advantages to be derived from its magnificent harbour we shall have occasion to speak as we proceed.

Theodosia, now Feodosia, built by the Genoese, enjoyed, at one time, an almost fabulous prosperity; but the Russians have blighted it by their presence, and, as elsewhere, their brutal tyranny and vexatious administration, have put to flight its primitive inhabitants. Although, now, a heap of rubbish, it contained, before the conquest of Catherine the Second, more than 40,000 houses, while Kaffa, which has sprung from its ruins, cannot reckon, at present, 4,000 inhabitants.

Perekop, which by the Tartars is called Or-kapi, signifying a fortification, is situated on the isthmus of the same name; it is in fact little more than an entrenched enclosure, containing a few miserable houses in the midst of a swamp.

Amongst the principal towns of the Crimea, we must not leave unnoticed,—Sudak with its choice wines, Eupatoria famous for its extensive breweries, Jalta, Jenikali, built by the Turks in 1703, Niksta with its temple raised in honour of Linnæus, Orianda the chosen residence of the Emperor Alexander with its marvellous Sara and its imperial castle of fairy-like magnificence, and lastly, Aloupka, which, although but a village, is entitled to special notice, if only for its Gothic castle, the domain of Count Woronzoff, which may well be called the palace of a prince in one of the finest situations in Europe.

If from a description of the towns of the Crimea we proceed to consider the fecundity of the soil, there will be still more reason for admiration and astonishment. Its agricultural products are well known always to have been abundant and of superior quality. It was called the granary of Mithridates, and not without reason; for if that prince, as it is said, drew from the Crimea annually two millions of talents of silver; it is no less true that it supplied him with 200,000

measures of corn. By a recent statistical statement, the number of vines in the Crimea is estimated at 100,000,000, producing 8,000,000 litres\* of choice wines. Among its exports are wheat, millet, and Indian corn; and tobacco is also cultivated with success.

Every degree of temperature on the globe may be found in the Crimea,—from the frigid region of the snow-clad mountain summit to the scorching heat of the southern coast,—yielding the fruits of every clime. In the depths of its mild valleys, where winter is scarcely known, the oak preserves its foliage through the most rigorous season; and the primrose and saffron put forth their early flowers in January and February. In no country in the world does the vine flourish more luxuriantly than in the Crimea, where superior descriptions have been transplanted from Burgundy, Champagne, and Bordeaux, from Hungary and the Rhine, from Spain, Portugal, and Madeira. The Sudak wines of the Crimea are of great celebrity, partaking much of the flavour and other peculiarities of those of Champagne. Not only the grapes of the Crimea, but all other fruits attain there an exquisite flavour; and the most delicious vegetables reach perfection. Among the fruits we may enumerate apples, peaches, apricots, prunes, pears, melons, strawberries, lemons, oranges, nuts, almonds, raspberries, figs, and pomegranates. The laurel and the myrtle grow wild, and the cypress attains a perfection not equalled in Andalusia. The abundance of mulberry trees promotes an extensive nursery of the silkworm. Capers grow wild on the sea shore, and its olives and sesame produce superior oil. The manna-tree, the sunflower from which is extracted a blue colour, the gallnut and others, the kernels of which are used in the preparation of morocco leather, the kermes, hops used extensively in the breweries at Eupatoria, mico coulier, turpentine, the rock rose, the emerus, and arbutus, these are among the riches of the vegetable kingdom of the Crimea. Again, horses and fat cattle are bred in the peninsula as well as sheep and goats. Bees-wax and honey are exported in large quantities. The undressed lambskins, of the richest black and grey colour, are of great repute, and sold everywhere under the name of "mersuschki" or "baranks" of the Crimea.

In addition to all these rare advantages, the geographical position of the Crimea must ever render it of considerable political and commercial importance. From the Danube it receives the produce of Western and Central Europe; the Euxine connects it immediately with the prolific provinces of the heart of Asia; by the Bosphorus it communicates with Constantinople, and the Dardanelles open to it a direct and short route to Greece, Italy, Egypt, and all the ports of the Mediterranean; the town of Termar connects it with the Caucasus. By the Sea of Azof and the Isthmus of Perckop it communicates freely with the northern regions of Europe and Asia, and it is easy to conceive the rapid and lucrative traffic which it must find in this direction with a population subject to all the rigours of the frozen latitudes, by

\* Four litres and a half nearly to a gallon.

pouring in not only its own productions, but those of Anatolia and other parts of the Levant. We will consider, as we proceed, the advantages of its position as a naval station.

The Crimea presents a vast field for study in archæological science. Amongst its ruins, spread in every direction, may be traced all the various phases of its civilization. In 1835 Mons. Dubois, a learned traveller, furnished the Geographical Society of Paris with an interesting catalogue of his discoveries; the ancient Greek monuments having particularly attracted his attention.

In the Crimea, says an English author, the numerous remains of towns covered by the soil, forts, and prostrate columns, canals nearly choked up, aqueducts, roads, and other great works of public utility, of which at present nothing remains but the vestige, bear incontestible evidence of its once flourishing condition in the scale of social life. Tumuli, the dimensions of which far exceed anything of the sort elsewhere, attest by their profusion what the population must once have been,—or at least indicate with certainty the hordes of warriors of barbarous tribes who have perished on its soil.

Such at the present day is the Crimea, its people and resources, its strength, position, and aspect; and if we turn to the pages of its history, they will be found to contain particulars no less interesting.

The ancient inhabitants of the Crimea were the Taures or Tauro-Scythians, according to Pliny and Ptolemy; but its seductive climate, and the immense advantages of its maritime position, attracted the Greeks to its shores at an early period, principally from Asia Minor, who enriched it with their commerce. They first established themselves in small trading factories; but afterwards in populous colonies in the surrounding flourishing towns. As a province of the kingdom of the Pontus, some ages afterwards, it supplied Mithridates during his long wars against the Romans, with unlimited resources. On the fall of their heroic enemy, the Romans annexed it to the kingdom of the Bosphorus, which they conferred on Pharnace, his son, as the price of his treason. Cæsar, however, in the year 47, deprived him of it in three days.

At the decline of the Empire by the invasion of the barbarians, the Crimea again changed masters. More perhaps than any other region bordering on the Euxine, was this country subject to the invasion of the Celts, the Goths, the Scythians, and the Huns, whose exterminating hordes descended from the dark forests of the North, or the boundless plains of the heart of Asia. The Roman Emperors, even up to the time of Julian, made ineffectual attempts to dispute their possession, or reconquer it; it was not spared, and moreover became subject to all the horrors which everywhere mark the footsteps of these sanguinary and licentious tribes. Fortunately for the survivors of the oppressed people, dispersed and decimated as they were, to this exterminating torrent succeeded the invasion of another race, also of Asiatic origin. But this people was in a far more advanced state of civilization, and otherwise well disposed to lay the foundation of enduring and prosperous establishments. The invasion of the Tartars instilled new

life into the Crimea, and was an era of splendour and prosperity which it never knew before, nor has ever reached since.

A remarkable historical similitude may be traced in the dominion of the Tartars in the Crimea and of the Moors in Spain. Both attained by invasion and conquest, they both eventually proved a blessing to the country they had subjugated. They have left behind them imperishable monuments of their greatness and of their high state of civilization; and although they were eastern tribes of Musselmans, and warriors, they proved themselves notwithstanding the friends and protectors of literature and science. Perhaps the comparison in some respects may be in favour of the Tartars, and if this be not the general opinion, calumny is to blame, for it certainly is so; and all contemporaneous historians, whether their enemies in politics or religion, bear evidence of the fact. Be that however as it may, it is impossible to deny them a character marked by mildness and humanity, and a laudable spirit of tolerance towards the disciples of an opposite faith to their own, and therefore at all events on this head they were far in advance of all other followers of the Prophet.

Under the Tartar rule the Crimea not only became a refuge for the persecuted Jews, but also for Christian sects opposed and oppressed by each other. At one time we read of the Protestants flying to their hospitable shores, to escape from the bloody rigours of the Inquisition. At another, Roman Catholics, or the children of the orthodoxy of Russia, each in their turn as they became the victims of persecution, were supplicants for shelter to the disciples of the Koran. It is easy to perceive on reflection that the effect of these successive migrations was a prolific source of the rise and prosperity of the Tartar kingdom. The Crimea is not the only country that has peopled and improved itself by the political dissensions and religious disputes of other nations. The Jews cultivated amongst them a love and knowledge of the science of commerce; habits of industry accompanied the Protestants to their land; and the literature of all the communions inspired them with a taste for intellectual study.

Whenever historians have not been blinded by prejudice, they have drawn an interesting portrait of the Tartar character. Not only have they described them as being the best cavalry in the world, as courageous and daring soldiers, but they have spoken in high terms of their virtues, public and private, social and domestic; their sincerity, their good faith and honourable dealing in all their engagements, and their devoted attachment to one another. To this hour the traveller in the Crimea contemplates with pleasure and satisfaction the remains which still exist of their public and philanthropic establishments, founded and supported by their Khans and private individuals; and look with admiration on monuments which attest no less to the good taste, wealth, and glory of their authors than to their compassion and consideration for the unfortunate:—in a word, they point through all time to an age when, from the centre of the Crimea, the Khans of the City of Gardens extended their salutary rule throughout Western Tartary. Unfortunately the Empire is at an end. Like all kingdoms

founded by a conqueror, they only last so long as his successors possess the same amount of ability and power of undertaking great military achievements; there is scarcely any interval between their meridian glory and their complete decay.

The empire of the Khans in the Crimea, at the death of Tamerlane, became broken up into numerous petty independent states, each rivaling the other. The peninsula and the vast countries north of the Black Sea (that is, from Bessarabia to the Caspian) then became the appanage of a descendant of Genghis Khan, named Gherai. Of the whole inheritance torn from Tamerlane, this portion of it maintained the longest its ancient splendour. In spite of the incessant wars waged against it by Europe, the Crimean Tartars were not finally subdued until the end of the eighteenth century, and even then only by their becoming the architects of their own ruin. Their union with Turkey proved to be the principal source of their weakness: as a dependency of the Ottoman Porte their position on the frontier of Europe being the most exposed to attack, constantly drew on them the first and severest blows dealt against Turkey by the Christians. Their vigorous energy, however, might perhaps have triumphed over this, if it had been all; but by degrees oriental habits, the life of the harem, and an abuse of sensual enjoyments, enervated their hereditary courage; and the unfortunate and fatal indolence which has ever characterised the Turkish government, hastened above all their ultimate fall. Nevertheless, compared with the rest of the Ottoman army, they maintained to the last their former reputation for military superiority. Even when Russia, repulsed by the Western Nations in her aggressions, returned with all her strength to the shores of the Black Sea, had it not been for the internal dissensions which she too well succeeded in fomenting among the Princes of the Crimea, it is probable that even up to this time they would have preserved their independence. But how was it possible for her to stand? Distracted by opposing factions, one relying on Turkey, the other *under* the protection of Russia, and the Porte, blind to the future, instead of using every exertion to strengthen a nation which was her strongest barrier,—in concert with Russia, whose dangerous ambition she too well served, prepared by a thousand intrigues the entire submission of the Peninsula. It is to be hoped that the present generation may not have to pay dearly for the errors of their predecessors.

It is well known that the quarrels between Russia and Turkey commenced at the end of the reign of Peter the Great. Having effectually established himself upon the shores of the Baltic by the occupation of Livonia and Courland, this ambitious monarch turned his thoughts to the opposite extreme of his immense possessions. His great political sagacity convinced him that in order to become a great military and maritime power of the first order, it was absolutely necessary that he should be master of the Crimea and the Caucasus,—two points which, by insuring the command of the Black and Caspian Seas, would in the sequel enable him to attempt unlimited conquests. This



project once conceived, was put into execution and followed up to the hour of his death with an indefatigable constancy.

In 1724 he extended his dominions by treaty to the chain of the Araxes; with Machiavelian policy, which has never ceased to prevail in the councils of his successors, his object was to remain at peace with the greater powers, selecting among the small states more convenient victims,—not that he attacked even these by rude and overt acts. It answered his purpose better to intermeddle, under one pretext or another, with their internal affairs! Following the example of the Roman Senate, if he saw two parties in litigation amongst any of his weak neighbours, he offered to arbitrate between them, and under colour of supporting the weaker side, it was not long before an officious protectorate in favour of a faction was succeeded by the dismemberment and ultimate submission of the whole nation, which then became incorporated as a part of his empire under the simple denomination of a province!

It is well known that Peter had great facilities, which he bequeathed to his successors, for playing a similar part in the Crimea. The Mahometans and Christians, opposed to each other in the Turkish empire, were often at variance; and the latter placed themselves under the protection of the Russians, who by degrees weakened the Ottoman nation by successively wresting from it Georgia, Mingrelia, Armenia, and Wallachia. From Peter the Great to the Czar Nicholas, the policy most faithfully preserved has been to maintain the principle of "*divide et impera.*" By this system of aggression the encroachment of Russia in the Crimea was finally ended by its complete subjugation in the reign of the Empress Catherine II. in 1787.

To say that millions of Tartars perished in half a century, would be far short of the truth, for innumerable masses emigrated beyond the Caucasus and all the regions of the East. One entire tribe, say the historians of Catherine, the Tartar Ivargens, in order to escape from their oppressors, found their way by the shores of the Caspian along the Volga; men, women, children, luggage, and cattle; and were beyond the reach of their enemies before their escape was known. History has not recorded such an emigration since the flight of the Hebrew slaves from Egypt.

The Potemkins, (Gregory and Paul,) both famous in Russian history for their insolence and tyranny, were the principal instigators of this conquest and its accompanying disasters in the Crimea; consummated under the immediate direction of General Suvarof, who, it is said, wrote his bulletins in bad verse by the bivouac fires of his soldiers! and whose ferocious deeds have rendered him the most notorious commander of Russia. Adventurers and outcasts were collected from every part of Europe to assist in this work of desolation and destruction; all descriptions of outrage and barbarity were then perpetrated; cruelties more hideous than the enormities of the Anthropophagi were practised on the miserable vanquished people; not content with demolishing and laying in ruins their houses and palaces for pil-

lage in search of hidden treasure, the Russians under Suvarof tortured the poor defenceless Tartars by fire and mutilation in order to extort a confession of the secret hiding places of their supposed riches!

After the fall of Kaffa the monster Suvarof, writing to the empress, said, "The soldiers return from plunder with their hands full of gold, and diamonds and jewels lie piled in heaps in the camp!"

In vain was the policy of France opposed to the conquest of the Crimea by Catherine; in vain did Mons. de Choiseul endeavour to enlighten the Ottoman Porte by his council: it was rejected. England, wholly engrossed by her American war, was not in a condition to give much attention to eastern affairs. Pitt no doubt saw with alarm the menaced condition of Turkey, and even proposed to send a British fleet to her relief; but the measure was unpopular and overruled by the opposition of the country.

Gustavus IV. of Sweden attempted a diversion in favour of the Porte, but was himself defeated. Prussia expressed her discontent, but went no further. Joseph II., in Austria, had the imprudence to lend his hand to the work. Poland, at that time governed by Poniatowski and indebted to the Empress Catherine for his throne, was too cautious to raise any obstacles to the Czarina. In fact, of all the nations of Europe and Asia, the Mountaineers of the Caucasus alone came to the relief of the Peninsula, and opposed with effect the triumphant march of the Muscovites! They raised an army of 10,000 picked men, and placed it under the command of Mansour Bey, who at that time was as Schamyl Bey is at present, the high priest, general, legislator, and prophet of the Caucasus.

At the head of his 10,000 Lesghiens and Circassians, he joined the Tartar party who had preserved their traditional patriotism, and after a succession of signal and uninterrupted victories, drove the Russians out of the Peninsula. The Crimea would then have been saved, had not Muscovite intrigue succeeded in sowing fresh dissensions. The Tartars, saved by Mansour Bey, allowed themselves to be deceived by a petty and ungrateful jealousy against their liberator; denounced by them to Abdul Hamed, the Sultan of Constantinople, the brave and unfortunate Mansour was thrown into prison, but released only to be again incarcerated, and finally ended his life in tribulation and injustice!

No sooner was Catherine mistress of the Crimea, than she was anxious to visit her new possessions. She arrived in the peninsula, accompanied by the Emperor of Austria, Joseph II., and a brilliant cortege of Princes. It is well known by what bold deceitful artifices the clever Potemkin succeeded in concealing from his mistress the ravages of this bloody war, and in persuading her that comfort and ease existed when in fact there was nothing but misery. Whole troops of people were made to travel during the night in the train of the Empress, who was enchanted to see her new provinces (as she supposed them) so well populated. By a dextrous and rapid change of scene, villages were pointed out to her which had no existence, and the *fronts* of houses were hastily erected and painted to disguise the

prevailing solitude!\* Upon the gate at Kherson was written "The Road to Constantinople." Neither Catherine nor any succeeding Czar ceased to remember that significant inscription.

In a political point of view, it is of the last importance to Russia that she should remain mistress of the Crimea. We do not mean to infer by this that it is a question of life and death to her; so vast an empire can well survive the loss of a province. But, at the same time, the loss of the Crimea, viewed in the light of national tradition, would be an affront so bloody to the cabinet of Petersburg and so ruinous a check to her future prospects, that the blow would force her to an entire abandonment, or to an indefinite adjournment, of a system of foreign policy which has been the aim and glory of Peter the Great, of all his successors, and of the nation at large.

On the day that the Russians are driven back beyond the Isthmus of Perekop, will be realized an event until then unknown in their history,—the abandonment of a territory once definitively acquired. They will be constrained to renounce dreams that have delighted and fascinated them,—dreams of ambition over the Levant, Persia, India, and southern Europe, or rather, we may say, dreams of universal dominion! Such conquests were only to be undertaken and achieved with the aid of a powerful navy. This navy Russia has nursed and increased at Sebastopol,—where alone it could be raised,—and the moment she ceases to possess a roadstead, port, and arsenal in the Black Sea, will be the death blow to that navy; and under its ruins will be buried all her long cherished hopes.

A nation is powerful that has never undertaken an enterprise without bringing it to a successful issue. It then feels neither timidity nor apprehension; more than this, it inspires all around it with a sort of instinctive terror, which doubles its real strength. Such has been the case with Russia from the time that its greatest Emperor opened to her the road to the East. No river has impeded her onward march; no mountain chain has been so high or so steep as to stop her career; and the ocean, which for half a century has formed her natural boundary, instead of confining her more securely within its limits, has only appeared to her rulers, with too much reason, an easier road for further extension. Not only, then, would the loss of the Crimea to Russia destroy that boldness which a prestige of two centuries of unchecked aggrandisement had given her;—not only would it prove to her rulers that she, in her turn, is also vulnerable, but it would lower the enthusiasm of her people, and would strengthen and reassure her enemies. And, above all, by depriving her of the most valuable portion of her seaboard, would trip from under her that political ladder

\* The reader will remember the journey of Catherine to Cherson. She traversed deserts, but they built her lines of villages at every half league of the road by which she passed, and as she did not go behind the scenes of this theatre on which the tyrant played the fool, she believed her provinces were well peopled, though they continued cursed with a sterility which was owing to the oppression of her government rather than to the rigour of nature.

*Marquis de Custine in Longman's "Traveller's Library."*

by which she expected to reach all the objects of her covetous ambition.

In a word, the loss of the Crimea would be, for the empire of Czars, the destruction of the past and the annihilation of the future. We may well expect, therefore, that, whatever may be the events, or whatever may be the duration of the war we are now engaged in, Russia will fight for the Crimea, as she would for her existence, a battle "*pro aris et focis*;" and *why* we will endeavour to explain in a few words.

The peculiar position of Russia as a maritime power has, perhaps, not been sufficiently considered. The fate of her navy is either to have no existence or to be the most powerful in the world. Up to the present moment, strictly speaking, it does not exist. What, in fact, are two squadrons, however numerous and well disciplined, and however well armed they may be, from the moment that they are condemned, in time of peace, to carry on their evolutions within two inland seas,—two species of impracticable lakes, one half of the year; while they find themselves, in war time, hermetically blocked up in these lakes and, moreover, on every occasion of pursuit, forced to shelter themselves ignominiously behind stone walls? What is it but a fleet, powerless in its own defence, to range and enforce respect for its flag along its own coasts, incapable, in a still greater degree, to lay waste those of its enemies, or capture and destroy on the high seas their commercial wealth? The Russian navy has no existence!

If, on the other hand, they are permitted to strengthen and improve their condition at Sebastopol, the day will come, and that at no distant period, when an overwhelming fleet will make a descent on the Dardanelles; and, that barrier once broken, if Russia does not become sole mistress of the Mediterranean, she will at least possess herself of a large portion of it. Greece will open her arms to receive her, and, Turkey powerless and overwhelmed in the united grasp of her two implacable enemies, the Piræus, Constantinople, and Sebastopol, will become the Cherbourg, the Brest, and the Rochefort of the Czars. Russia will then indeed be in a condition to assemble her ships in line of battle and fearlessly await the advance of our squadrons. Then, from Smyrna to Gibraltar, from Trieste to Alexandria, the commerce of France and of England, of Austria and of Spain, will have reason to wish to avoid her flag. Germany, entirely dispossessed of the navigation of the Lower Danube, will have lost the most precious jewel in her crown. And this will not be all!

Russian invasion has been suspended in the Baltic since the annexation of Courland, for it was not possible to attempt everything at once. But, the Eastern nations disposed of, she will return to her aggressions in the North with fresh ardour, and with facilities and a vigour multiplied a hundred fold by her recent triumphs.

At first, she will, by slow degrees and diplomatic intrigue, weaken Sweden, Prussia, and Denmark, as she succeeded by similar means to enervate and corrupt the nations of the East and Poland; and then rushing to arms, the Sound will share the fate of the Dardanelles:

Dantzic, Kiel, and Copenhagen, that of Constantinople and the Piræus. What if this plan is gigantic? it is not too monstrous for a kingdom which aims at universal monarchy with scarcely the power of concealing her object;—nor too bold for a nation which Europe, either by connivance or inability to prevent it, has permitted to extend itself from Petersburg to Athens. When that day arrives, two fleets will depart, one from the Crimea and the other from Finland, to unite, with insolent pride and power, in the Straits of Gibraltar. Neither will it all end here!

Russia, in reality, possesses at Archangel and Kamschatka more important naval establishments than is generally known; sufficiently important, at least, to dispose her to fancy that she is mistress in the northern seas and to promote most important relations with Japan and China. Already, presuming on the strength of her armaments in those remote parts, she has betrayed an eagerness to strike out a new path for herself, following in the footsteps of the United States; and her great influence at the court of the Celestial Empire is well known. And, even now, the progress and development of these naval establishments, notwithstanding their diversity and distance from each other, advance with boldness, because they are solidified.

Consequently, in proportion as she enlarges her arsenals and increases the number of her ships on the ocean and in the Mediterranean, Russia cannot fail to multiply, in an equal degree, her power in the Southern and Northern Seas. We may well, then, pause to consider what, in the end, will be the amount of her gigantic maritime wealth?

If France is fortunate in possessing harbours opening on two seas, what will Russia be when her's are found in the four quarters of the world?

No doubt both England and France despatch their fleets to the extremities of the world; but, beyond the Atlantic and the Mediterranean, cut off as they are by thousands of leagues from the mother country, they are dependent for their resources and shelter on colonies more or less prosperous. But, under defeat, or weakened by disease, or even in victory, what time must be consumed in making known their disasters, in order that they may be reinforced or replaced by new ships and fresh crews. Russia, on the contrary, in following up the view we have taken of the subject, with her own empire reaching every sea, however maimed and crippled, apparently, her squadrons may be; in reality, they will always have, or nearly so, the protection of their own coasts, and be at the threshold of their supplies.

Another consideration not to be overlooked in contemplating the whole of this great question is, that, owing to her vast extent and the bounty of Providence, Russia contains within herself, more than any other country, all the material elements necessary for the wants of a maritime nation. Wood, iron, copper, lead, tallow, resin, hemp, coal, &c. Such, then, is the exclusive good fortune of Russia that, if possessed of seamen and power to range at large, by her marine, she

would easily surpass all other nations, having all her resources within herself; whereas no maritime power could ever obtain the same advantage over her.

Russia stands quite alone in a naval point of view, inasmuch that, at present, her fleets may be said to have no existence. But, on the other hand, if she is permitted to nurse and increase them at Sebastopol, they will very soon equal, and even surpass, those of all other countries. To be all or nothing, such is their destiny. They may be extinguished for ever by wresting the Crimea from the Czars; but to leave them in possession of it would be an irreparable mistake, pregnant with the most frightful consequences.

We are profoundly ignorant of the secrets of European diplomacy, nor is it easy to foresee to what the chances of the present war may lead. Neither can we say what is understood by statesmen to be the precise meaning and the weight to be attached to the expression "pledges and guarantees" against Russia, so frequently used in parliamentary language and official documents. We can neither say nor predict if the possession of the Crimea is at this moment, or will be hereafter, a point of contention. But this we may unhesitatingly affirm that, however flourishing the condition of the peninsula may have been in past ages, its future destiny is to exceed all its former magnificence.

If the Crimea is to remain a Russian province, all the intelligence and wisdom of that Government will be called forth to render populous, industrious, commercial, opulent, and powerful, an entire country which is destined to become the base of vast operations against the Levant, and all Europe and Asia at the same moment.

As a Russian province, the Crimea will be in a century the centre, by position, and the heart and soul, by its wealth, of the greatest empire of either ancient or modern times. If, on the contrary, Russia is forced to abandon it, the peninsula will inevitably become for ever an impregnable bulwark between an enraged usurper and a nation equally determined to defend itself. And, if necessary, conjointly, all Europe and all Asia will apply themselves, by all the means, and at all risks, by united and unceasing efforts, to produce, to preserve, and to cherish within it, a life and energy without equal. No doubt the time has not arrived to say by what means and at what sacrifices this is to be accomplished. Nevertheless, we purpose, in a future article, not a solution of this question, enveloped as it is in all the darkness of the future, but to prove and endeavour to elucidate some of the arguments of the great problem.

The possibility has been entertained by some parties that the Crimea may again be brought under the dominion of the Porte; to which they have grave objections. Without giving any opinion of the value of their arguments, or of the wisdom of certain other hypotheses which have been proposed, we believe that there are combinations both possible and advisable which do not appear to have occurred to them.

We will sum up, in a few words, the substance of our preceding observations.—VOL. XXIV.

servations. The Crimea, a fertile country, with a delicious climate, in a strategical position of inestimable value, has, up to our own time, played an important part in the affairs of the world. The issue of the conflict which, at the present moment, is agitating all within it and around it, will, perhaps, decide the momentous interests of the civilized world. For we firmly believe that on the future fate of this little peninsula depend the happiness or the misery, the glory or the downfall of many great nations.

LEON DE NAVALO.

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#### A DESCRIPTION OF DELAGOA BAY AND THE BORDERING STATES.

Delagoa Bay lies between lat.  $25^{\circ} 20' S.$ , (at which point it is improperly called the River Lagoa,) to the River Mapoota, lat.  $26^{\circ} 59' S.$ ; and from Cape Snyack, lat.  $25^{\circ} 28' S.$ , long.  $32^{\circ} 55' E.$ , to the mouth of the English River, which is on the same latitude, and in long.  $32^{\circ} 32' E.$

Into this bay three great rivers empty themselves; namely, the Mapoota, at its S.W. angle; English River and King George River to the west. There is no river on the N.E. side, as marked on the map. In the entrance of the bay, between Lagoa and Cape Snyack, lies an island named Elephant Island, which, with Cape Snyack, forms an excellent harbour, Port Melville.

The harbour which is most frequented by whalers, is on the English River; into which the following rivers empty themselves, viz., the Temby, Mattoll, and Dundas. This harbour, which is excellent and formed by promontories stretching into the sea, would form an excellent dry dockyard.

The Mapoota is a beautiful river and navigable for a long distance, like the Temby, which is navigable for large vessels. The principal river, however, in this bay and on the coast is King George. Its source is from a great distance. It is so very full that it frequently bursts its banks, finding other outlets into the ocean. The river flows for several miles in a direct line with the coast, and rises in the mountains of Inhamban, nearly north from its mouth. Light canoes only can navigate it in safety, in consequence of occasional torrents rushing down. Were it not for this, we could keep up a free intercourse with a very extensive and fruitful country, as far as the Portuguese port of Maricca; which is said not to be far distant from its source, though the situation cannot be more exactly ascertained than that it is the principal of the Rios de Tenna.

Snyack extends from the bay and the island of the same name (sometimes, improperly, called St. Mony) to the south, by the bank of the river. It is bounded on the west by Port Melville and the Ma-

poota country; on the east by the ocean; and on the north by the sandbank of Delagoa Bay.

The natives are naked and timid, in consequence of living peacefully on an island, and never engaged in wars or forays with their neighbours. They have abundance of cattle, fowls, and fish. They collect ambergris on their coast. They are without religion, but practise witchcraft. There are no elephants or other wild animals on the island. They change their produce for coral and cotton wares. The king of Snyack pays a tribute to the king of Mapoota as an acknowledgement of his supremacy. The population is estimated at 10,000.

Mapoota is bounded on the north by Delagoa Bay; on the N.W. by the kingdom of Temby; on the S.W. by the Vatwaha, a very warlike race of Kaffirs. It appears that, not long ago, Mapoota was taken by the Vatwaha, and they entered into a settlement. They are more industrious than the Mapootas, and have already so much improved the country that its produce is abundant. The inland Vatwaha exchange their ivory and horns for corals and coarse cotton ware, which they obtain from the Portuguese factory. Their productions are cattle, goats, fowls, rice, Indian corn, millet, sweet potatoes, pine-apples, plaintains, and various other fruits that grow in temperate climates. Onions and cabbages they have in great abundance, and other fruits indigenous in this colony. In dress, want of religion, and manners, they have much in common with the natives of Snyack and Temby. They are very fond of traffic, and are said to be very treacherous, whenever they can be so with impunity, like all the natives in the vicinity of the bay and rivers, except the natives of Snyack. The population of Mapoota is estimated at 20,000.

Temby is bounded on the east by the bay, on the north by the English and Dundas Rivers, on the west by the small district of Pengelly, on the south by the kingdom and river Mapoota. The subjects of this kingdom are timid, gentle, industrious, cunning in trading, and false when tempted to be so to accomplish any desired object. With these people the British officers and men had more to do than any other; and at length, in consequence of their entreaties to be taken under British protection, their prayer was granted, on their ceding the sovereignty of their country to the King of Great Britain. Their country is fruitful, but has recently been destroyed by the Vatwaha, which is no doubt the cause of this cession. The natives are exactly the same as those of Mapoota and Snyack, and all others around the bay; they all speak the same language as far as they are known northwards.

Masooma, or, as described by Diego de Corte, Asooma, is situated between the mouths of the English and King George Rivers; a very small state, where the Portuguese factory is situated.

The Vatwaha, like the inland tribes from 13° S. to the borders of the Cape of Good Hope, understand the use of iron. It is said, that all the inland tribes make carpenter's and mason's tools, which even the Portuguese factory make use of.

The inhabitants of Delagoa Bay arm themselves with assagais and



lances, and protect themselves with shields of an oval shape and of different sizes.

It is said, that the Vatwahs clothe themselves with the skins of animals; but those I saw were naked. They chiefly live on animal food, and protect their bodies with large shields made of ox-hides, in which they carry from three to six assagais, so as to be always prepared, in case of need, to draw them as from a quiver. The people of Delagoa are too timid to fight by night; the Vatwahs always attack by night, knowing that no resistance will then be offered them. The last mentioned are of a generous nature, which is much in their favour. It is said, that they never attack their enemies before previously making known their intentions. By all these people towards the south, coral is much sought for, and used as money.

The huts of the inhabitants of Delagoa Bay are round, and well and curiously built. Polygamy is common. The richness and respectability of the husband depend on the number of his wives, who are treated like slaves. Each wife has her own hut. They cultivate the lands, assisted by their husbands; who labour willingly, and are anxious to obtain instruction from Europeans.

Captain Owen says:—"Temby and Pengelly have at least 20,000 inhabitants; Mapoota is tributary to Temby and has the same number of inhabitants. Snyack is a tributary to Mapoota and has about 15,000 inhabitants."

"The above," he adds, "are rough calculations, but Temby has 32 chiefs, each of whom has 500 followers, amounting in all to 16,000 inhabitants, which is below the mark. Pengelly is a small and dependent town of Temby, with a population of about 5,000. Mattoll is a large town, but at present in a wretched condition, owing to the last attack of the Vatwahs. It is bounded on the south by the River Dundas; on the north by the smaller towns bordering on the George River and Maamba; on the east by Masooma, Manbose, and Mayhoy. Mattoll was once well peopled and wealthy, but its inhabitants are now reduced to a starving condition. The population, however, in all these towns, including those of King George, is estimated at 100,000.

"The climate is very temperate. The thermometer never rose above  $86^{\circ}$  to  $88^{\circ}$ , nor below  $76^{\circ}$ . During winter this bay is visited by American and English whalers.

"The banks of the Mapoota, and the rivers which fall into the English River, are mostly muddy. The land which lies behind is a rich, open, level plain, from 20 to 50 feet above the level of the sea, and covered with bushes. But King George River is of a different character. The changes of the season take place in September and March. From September to March, though the rainy season, the climate is very delightful.

The bay itself, according to Captain Owen, is in every respect excellent; and the harbour is of great importance to Great Britain as regards her colouy in South Africa. For with the exception of Saldanah Bay it is the only harbour on the coast. Through it the whole inland countries of Africa will consequently be opened for commerce;

where millions of inhabitants are prepared to receive clothing and civilization. The Cape of Good Hope can also procure supplies from hence. This bay is also well adapted for establishing a whale fishery, as both kinds of whales are caught here. The river furnishes seals, hippopotami, tortoises, ambergris, and fish. In consequence of its situation, a free trade might be carried on with all the places along the coast of Madagascar at all seasons of the year. These are (he said) great advantages to Great Britain, to which may be added that her dominion might be extended from thence as a centre southward on the coast, including the whole of Natal, which is by far the richest and most beautiful country of Africa.

But should this bay fall into the hands of the Americans, French, or Russians, it will prove injurious not only to our own South African colony, but also to the commerce and possessions of East India, both in time of war and peace. In peace, as a warehouse for Indian produce; and in war as one of the best situated harbours from whence hostile proceedings might be undertaken."

The above is extracted from an account of Capt. William Fitz-William Owen, Captain of H.M.S. *Leven*; and my impression is, that in consequence of the great interest Capt. Owen takes in this place, it will be made so well known to the British Government, that it will be made a British settlement. Against this I have nothing to say; but I am much averse to the introduction of settlers, indiscriminately or not selected, into places already well peopled; or a set of immoral evil-doers are introduced to teach their sins to the natives, without making known the good morals of their countrymen. There are people in abundance in these countries to work their own lands, who only want fit persons to direct their civilization. By the surrender of Temby to the British Government, Capt. Owen endeavoured to protect the natives from oppression, and to divide the superintendence equally between Europeans and natives.

The fact of the cession of Temby having been ceded by the Chief Kapell to the sovereign of Britain, is universally recognised in the neighbourhood of Delagoa; and an expectation has never ceased to be entertained there that a British settlement would be established at Delagoa. The Portuguese, under the doubtful tenure of the squatters in this old dependency of the Cape of Good Hope, seem to have left Delagoa to the management or mismanagement of irresponsible agents to keep up a nominal state of Portuguese authority.

It is said that the independence of the Trans Vaal Boers, cannot be recognized without the sanction of an Act of the Imperial Parliament. The sanction of Parliament to their independence it may be safely predicted will never be given. Thus, in the views of some, the importance of having a British settlement at Delagoa is greatly increased. More people, however, will probably think this importance would be greater if the independence of the Trans Vaal Boers were recognized. All will perceive, that now that the immense tract of country between the latitude and longitude of the Great Lake and the boundaries of Natal and the Sovereignty is certainly destined to be under the go-

vernment of a European power, and with a numerous population of Europeans, that the command of the port of Delagoa is indispensable to the security of the South African colonies.

To those who are taking so lively an interest in the discovery of gold in South Africa, the fact that gold was one of the exports of Delagoa under the Batavian Government, must be deemed important. Whence was this gold obtained? From the interior where the emigrant Boers have spread themselves, or was it imported from some other place? We should naturally infer from the interior.

*Cape Paper.*

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#### DR. TYNDALL ON MAGNETISM.

On Tuesday, January 16th, Dr. Tyndall commenced a course of lectures at the Royal Institution on magnetism and frictional electricity. He confined himself in this introductory lecture to a description and illustration of the elementary phenomena, it being his object, as he said, first to take a superficial view of the subject and to point out the landmarks which would serve as guides when he entered into deeper investigations.

In noticing and exhibiting in different ways the phenomena of magnetic attraction he dwelt particularly upon the attraction at a distance, and observed that this remarkable action of two bodies on each other is a never-ending source of admiration to a philosophic mind, and its cause remains as inexplicable now as when first discovered. Dr. Tyndall at the same time indicated that that marvellous action, though it appears so extraordinary on account of their being no seeming connection between the bodies, only exceeds in degree the ordinary circumstance of a cart following a horse when it pulls at the traces. In the latter case, indeed, there is an apparently continuous connection between the body of the moving horse and the cart, though when the molecules which compose the traces are separately considered, it is found that they are detached from one another, and that the traction is really effected through invisible space. Thus every action of one body on another may be regarded as taking place at a distance, and the alleged turning of tables by the touch of the fingers is not, therefore, theoretically absurd, though it may be physically impossible.

The origin and progress of electricity was traced from the discovery of the attractive properties of amber to the discovery of the Leyden jar; and Dr. Tyndall remarked on the circumstance that the excitement of attractive properties in amber by friction remained a barren fact for two thousand years as evidence of the stagnant state of science during that long period. It was not till the beginning of the seventeenth century, when Gilbert added greatly to the number of known electrics, and the phenomena of electricity were exhibited in a more striking manner, that the subject attracted any attention.

Dr. Tyndall exhibited the attractive power of various electrics when rubbed. In one experiment a soap bubble formed the object attracted, and was kept suspended in the air and was drawn about in different directions by an excited glass rod.

Dr. Tyndall was anxious to impress his audience with the conviction that all forces emanating from a centre diminish in intensity according to the square of the distance; and to illustrate this fact more clearly, he cast the shadow of a screen by electric light at measured distances apart. This law, discovered

by Newton, applies equally to gravitation, light, electricity, and to all forces emanating from points; and Dr. Tyndall wished that it should be thus clearly shown, as it would form an important consideration in subsequent investigations.

In the third lecture of Dr. Tyndall on magnetism, he considered more particularly some of the peculiar and more recently discovered properties of magnetic force. Having, in the first instance, repeated the experiment of magnetising a thin bar of steel, and then breaking it into pieces, to show that polarity resides in every separate particle, he contrasted the action of steel with that of soft iron, in which the magnetism is instantaneously induced, and as quickly departs when the inducing force is removed. This property of becoming magnetic is, however, limited to a certain temperature; and Dr. Tyndall exhibited several experiments to illustrate the interesting relation that appears to subsist between magnetism and heat. Having heated a poker red hot, he brought it near to a suspended magnetic needle, on which it appeared to possess no influence, but when the poker was cooled the magnetic action was immediately restored. The magnetic property of soft iron is not, however entirely dissipated by heat, though it has been ascertained by Matteucci that the magnetism of a red hot bar is about fifteen million times less than that of cold iron.

The effect of heat in diminishing magnetism does not take place gradually, but at a certain temperature the heated iron suddenly changes its magnetic character. This was shown by an ingeniously arranged experiment, in which a red hot iron ball was suspended to a scale beam immediately over a magnet. At first, and whilst it remained of a bright red heat, the ball swung about slowly, with a regular pendulum action, not affected by the attraction of the magnet beneath; but on a sudden its oscillations became more rapid, evidently showing that its susceptibility to magnetism had been restored.

Another effect of the induced magnetism in soft iron, in variance with the action of permanent magnetism in steel, was shown in the geometrical increase of attractive force by adding to the strength of the magnet. To prove this, an electro-magnet was excited in different measured degrees, by regulating the current of electricity that passed through the surrounding wire coils, and the amount of attraction excited towards a small mass of soft iron was determined by a weighted beam. When the strength of the magnet was doubled, the weight it lifted was quadrupled. This curious result was explained to be owing to the induction in the soft iron of an amount of magnetism equal to that in the magnet, and they thus reacted on each other with a double force, producing a quadruple power. The same effect would not be produced by the attraction of a piece of steel, because its attraction towards the magnet remains constant, and is increased by increase of power only directly in proportion to the strength of the magnet.

Towards the conclusion of his lecture, Dr. Tyndall directed attention to dia-magnetic phenomena, observing that whilst only iron, steel, nickel, and a few other bodies are magnetic, nearly every body in nature possesses the peculiar property discovered by Professor Faraday, in 1846, of being what is termed dia-magnetic, that is, of being repelled by magnetic poles at right angles to their ordinary lines of attraction. On the lecture table there was collected a great variety of articles, including gold, silver, bismuth, wax, wood, tallow, potatoes, cabbage, fish, and beef steak, all of which, if suspended between the poles of two magnets, would place themselves in a position across the two poles. Several experiments were exhibited to show the peculiar action; and Dr. Tyndall expressed his opinion that further research into these interesting phenomena will lead to important discoveries respecting the nature of magnetic force.—*Daily News*.

## LETTER FROM H.M.S. "RATTLESNAKE."

H.M.S. *Rattlesnake*, 27th August, 1854.

My dear —— There is an old proverb in the East, which no doubt you remember, "Receive strangers kindly lest there be a wandering angel among them." This was curiously brought to my mind about 11h. p.m. on Monday, 21st August. A sail was reported coming in to Port Clarence. I was thinking of whale ships, and whether or no we might not obtain some potatoes or casks of flour from them, and perhaps be able to send a few days' later intelligence; but certainly did not think of the *Enterprise* and Captain Collinson. However, I thought it would be but civil to show even a whaler some attention in coming into an unmarked anchorage, and, therefore, showed position lights for her guidance.

Some idea that I might gain intelligence, or hear something as to the state of the ice in the Arctic Sea, made me go on board myself. As we neared the ship, in the dark, a "pipe" was heard, and the Coxswain, an old shipmate of mine in the *Herald*, said, "It is one of the Arctic ships, Sir." I said, impatiently rather and unbelievably, "We shall soon know." I went on board, and recognized Captain Collinson; but, although I knew him, I could not help saying, "What, is this Captain Collinson?" It was so unexpected and unlooked for. The meeting was most joyful. Unless it had been Sir John Franklin himself, I do not think anything in this world could have given me greater pleasure. But it may all be expressed in the mere fact that he had been unheard of for three years. In that time he has, I regret to say, lost three men; but Captain Collinson himself, and the remaining officers and crew, are in most excellent health; I never saw a set of men looking better.

As the *Plover* only sailed on Saturday, August 19th, Captain Collinson determined to follow and recall her. He sailed on Tuesday 22nd at 3h. p.m. Had he not been so baffled with calms and southerly winds in the Straits, we should all have met here together,—*Enterprise*, *Trincomalee*, *Plover*, and *Rattlesnake*. Captain Houstoun sailed from the anchorage off Grantley Harbour on the morning of the 19th, but did not clear Port Clarence until 8h. a.m. on the 21st, little more than twelve hours before the *Enterprise* came in. There appears to have been a little fatality (to use a foolish word) about it. We passed Point Hope on the 9th August; Captain Collinson passed it on the 10th. The *Enterprise* must have been within ten or twelve miles of the *Plover* on Saturday or Sunday, 19th or 20th August; but the weather was so thick that they did not see each other. Then the *Trincomalee's* sailing only twelve hours before the arrival of the *Enterprise* was a cause of regret to me, for I must confess I should like to have remained and accompanied the *Plover* to the southward. However, when we have received such joyful intelligence of the lost being found we ought not to complain.

It must be a source of extreme gratification to Captain Hamilton and yourself to think that the result of the measures taken in search have proved to be most judicious. The *Resolute*, being at Dealy Island, was no doubt salvation to Captain M'Clure and his crew. The *Plover*, again, being at Point Barrow, was, as the event has proved, most admirably adapted for succouring the *Enterprise*. And this ship being at Port Clarence has not proved altogether useless in enabling the *Enterprise* to proceed at once and recall the *Plover*.

I have no doubt, when Captain Maguire's journal comes to be compared with Captain Collinson's, it will be found that their travelling parties approached very near each other. If the *Plover* reaches Point Barrow before the *Enterprise* overtakes her, I have no doubt the first intelligence to meet Maguire will be news of the *Enterprise* having passed. Camden Bay is less

than 300 miles from Point Barrow, and in May Maguire himself was actually within 100 miles of the *Enterprise*.

These things prove that search may be interminable and unsatisfactory. Giving up Sir John Franklin and the *Erebus* and *Terror*, seems sometimes, to me, like deserting a friend in need; yet it is almost hoping against hope, hoping against what must almost be a certainty, to imagine they are yet alive. Yet I cannot help wishing further search was intended. This is a very unsatisfactory conclusion, in fact no conclusion at all, but it still expresses the mingled doubt and hope, anxiety and apprehension, with which every one must view the subject.

I have enclosed a list of provisions now on board the *Enterprise* in my letter to the Admiralty; and no doubt Captain Maguire has given full details of all his supplies, but I may say that he has provisions for 540 days for forty-one men. Captain Collinson was very anxious indeed to lose no time in following the *Plover*; and, as you may suppose, he had much to hear and much to ask about, therefore I am not quite so well acquainted as I could wish with the amount of his supplies. But he has 260 days beef and pork; 280 days flour and bread, but this does not give flour on beef days, but only flour in lieu of bread. His supply of other things is not equal to this. Of tea, he has only 120 days; chocolate, 198 days; sugar, 160 days; rum, 117 days. But then the *Plover* has 540 days for forty-one men; or 365 days for her own crew (forty-one), and 117 days, of all species of provisions, for Captain Collinson's crew, fifty-nine in number. I am troubling you with this detail because I cannot avoid bearing in mind that it is not impossible both *Enterprise* and *Plover* may be detained in the north for this season, 1854-55; and it is no more than common forethought to think what supplies they have, in case this emergency takes place. Ice navigation is proverbially uncertain, and, although I do not think it probable that they will be caught, still it is not impossible. I think, however, from the foregoing detail, that we need not be under any alarm even if this occurrence should take place, as they would be sufficiently aware of the fact in time to husband their resources.

Captain Collinson desired me to embark all the stores and provisions; but, as I had longer to think over the matter than he had, I have not wholly broken up the caché.

As I said before, I wished to have remained until both returned to Port Clarence, but Captain Collinson thought it of more importance that immediate intelligence should be conveyed to the Admiral of the safety of the ship. So we left Port Clarence at 8h. p.m. on Wednesday, 23rd August, distributing ample presents to the natives, and promising them still more if they did not steal during our absence.

The house we have built is one that has never been seen in these parts before, and will be, if the natives only preserve it, a most useful and beneficial place of shelter for them. It is so substantially built that it will, I am confident, last for fifteen or twenty years. I cannot help regretting that we could not stay and finish it thoroughly. The main pillars are ten feet deep, in a dry gravelly soil. It is 60 feet long; 20 broad; 7 feet 6 inches high; pitch of the roof 8 feet; 15 feet 6 inches from the ridge to the floor. A cellar underneath, sufficient to hold 300 casks, 4 feet deep. On the south-west gable is the following:—"This house was built by the crew of H.M.S. *Rattlesnake*, under the superintendence of Mr. James Oliver, Carpenter, as a place of refuge for the men under Captains Collinson, M'Clure, and Maguire, now engaged in searching for Sir John Franklin. Anno domini, 1854."

Mr. Oliver, the Carpenter, and his crew, J. H. Stanley, Thomas Mercer, caulker, and George Millard, deserve great credit for the completion of this work. It has been a source of great interest to me. We took nothing from England but the nails. It has all been built by our men bringing wood from

Point Jackson and Point Spencer, our own sawyers,—volunteers for the business,—and Mr. Oliver and his carpenters to direct and superintend and do the essential parts.

I have always had a fancy for building, and when I come in for my property (of which I am only kept out because the lawful owner still continues to hold it) I shall certainly dabble in bricks and mortar; meantime, I have been trying my hand, at Her Majesty's expence, with posts, rafters, weather boards, planking, &c. You must excuse a joke, although a poor one, but something is due after that wearying detail.

It appears disheartening in all our search to think how futile all the labour, exposure, and anxiety have been in the grand result of ascertaining the fate of the *Erebus* and *Terror*; but, when we know what Arctic travelling is, we cannot be surprised at it. I think the circumstance of Captain Collinson being at Camden Bay and Maguire being at Point Barrow, without having communicated, proves this; proves, I mean, that the search may be interminable, (I mean, as to ever succouring the missing voyagers,) and, after all, unsatisfactory. When I hear of the state of despondency the crew of the *Investigator* were in; and the anxiety, weariness, and desire to be relieved, of the *Enterprise*; I cannot but despair as to those in the first expedition.

I am sorry to hear that Mr. Kennedy, in the *Isabel*, has been so unsuccessful; but I have not had any exact accounts as to the conduct of his people. I am really lost in wonder when I think of the distance he and Monsieur Bellot travelled. I really think, from all that we hear of that young man, he was an honour to his country and to human nature. He appears, from little traits related of him, as well as his unquestionable merit in a public point of view, to be worthy of all esteem, respect and admiration. "Whom the gods love, die young." So peace be with him. "Call no man happy until he is dead," and he seems to have been prepared for his end; it is the friends one most feels for.

Sunday, 24th September.—We anchored off San Francisco, and found that the *Trincomalee* had arrived on the 18th; but that she had sailed, in company with *Amphitrite* and a French frigate, on the previous day. I intend to sail for Valparaiso to-morrow or next day.

HENRY TROLLOPE.

I was very much gratified by the offer of an American pilot boat. On hearing that we had been engaged in the Search for Sir John Franklin, they volunteered one of their number to take the ship into the harbour without making any charge. I was really gratified by the spirit, and, although I did not wish it, I felt that I could not refuse the offer.

Will you tell Sir Francis Beaufort that Sir Francis Drake might have re-fitted in the bay looked into by Vancouver, for that there is shelter in it, when close in, for a ship or two, in five fathoms, with a sandy spit, projecting to the S.E., which protects it from all winds. This bay is about five or six miles inside Punta de los Reyes, and fifteen or eighteen from the entrance of San Francisco. It is still called by our descendants, the Americans, "Drake Bay."

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#### TESTING OF CHAIN CABLES.

February 17th, 1855.

Sir,—May I be allowed to postpone the promised description of my eccentric bitt till your next number, while I offer a few remarks on the present method of testing chain cables.

From a meeting of the Town Council of Liverpool on Tuesday last, (see the *Liverpool Courier* of the 14th inst.) I infer that the above subject was and is one of great anxiety and probable doubt with shipowners, inasmuch as one of the Corporation "thought the testing ought to be so complete as to give parties buying the chains perfect confidence." However correct this assertion, public confidence may suffer from it. As, however, my own views have long been in disapproval of the present system of testing cables, and the question is one of acknowledged vital importance to both the Royal and Mercantile Navies, I presume to offer, through your useful and so widely circulating magazine, not only to the nautical world in general, but especially and respectfully to the Lords Commissioners of the Admiralty, the Elder Brethren of the Trinity House, and to the Town Council of Liverpool, my very humble grounds of objection, merely as a rough material for abler heads than mine to work upon.

My brethren of the "long bow" I trust in its *literal* sense only) will back me when I say, that, in casting an arrow, to keep the bow too long on the full stretch weakens and destroys it,\* even when well seasoned; whereas greater strength may be used in a sudden draw without any injury to it. The same law seems to me to be applicable to a ship's chain, when it has not been previously damaged by the present system of slowly testing, as I will show: I proceed on the supposition that a substance is an aggregation of atomic particles. That in a perfectly homogenous body its particles are, under ordinary circumstances, in a state of equilibrium; being in approximation to each other, not in contact. That external force applied as tension will increase the distances of these atoms. That pressure will, on the contrary, diminish this distance. That equilibrium is due to an inherent force of attraction in each particle (magnetic or electric), as opposed to a certain repellent force, such as heat, &c. All substances, therefore, are, in some degree, elastic, but I confine myself to wood and iron. In a bow, for instance, (to use a simple illustration,) the wood, during a prolonged tension, admits among its disturbed particles the intrusion of more heat, &c., (*i.e.*, more repellent force,) hence the wood acquires a set. The distance between the atoms of wood is thus increased, and the bow is weakened. (Shipwrights bend oak planks thus, by heat and water, and set them to required shape.) With iron, the case is similar: a long continued tension, like that of the hydraulic press, as at present used, separates the atoms of iron.

But an exceedingly important property of iron seems to me to have been overlooked; and I think the sudden snapping of chain cables, as in the *Prince*, the *Henri IV*, the *Taylor*, and a thousand other disastrous cases, may be partially accounted for, and, probably, in some measure, prevented in many future perils if we regard this fact: that although we find the breaking strain of bar iron to be from twenty-three to twenty-eight tons to the square inch of sectional area, at about a steady and continued strain of ten tons, the bar permanently lengthens! In other words, the particles become permanently separated,—*i.e.*, the bar becomes permanently weakened!

Now, I beg to suggest that, as in the case of the bow, a much larger force of tension might with every safety be applied to an iron chain if we could find means of applying a properly manageable and sudden test, with a competent register of the force used.

At present, it is required that each chain supplied to a ship in H.M. service be subject to a proof test according to its sectional area. Taking the chain cable of a first-rate for example, this proof amounts to ninety tons, or eighteen tons per square inch of area; while at *fifty* tons the metal of the links is weakened by the permanent lengthening. In my humble judgment, there-

\* "Keep the bow bent and it will break presently."—*Old Adage*.



fore, it appears that the surplus test of forty tons, by slow working hydraulic machine, is rather injurious than otherwise, inasmuch as it destroys at once that elasticity of the metal which is so much needed in sustaining safely a sudden shock, while riding heavily at sea, and that, probably, a proof test of equal amount nearly when *suddenly* applied, would securely detect any flaw or imperfection without any permanent derangement of its particles; care being taken, of course, to examine, as at present, every link after the testing. For all defects which endanger a bar or link has reference only to this excessive separation of atomic particles; and of such nature are cracks in the metal, honeycomb, imperfect welding, &c. A proper welding heat and blow of a hammer are only used to bring the atoms within the sphere of each other's attraction; and a proper equilibrium is attained by the process of cooling, during which, of course, the metal shrinks to its proper average density and elasticity. The sudden method of testing would much more resemble the strain of a heavily riding ship, or a sudden check in bringing up, on board a ship where my eccentric bits are not at hand, than any gradual, equally increasing strain, in the hydraulic press, sustained through a period of some minutes, to the destruction of a large portion of the elasticity of the metal.

I question, therefore, whether we might not dispense altogether with the hydraulic press as a testing machine for cables, and apply a sudden and safer test by means of a steam hammer upon a well extended chain, properly secured round bits, like those of a ship.

I think I could answer all reasonable objections to my proposed application of this most manageable yet most powerful machine and respectfully suggest the subject for consideration as the result of some personal experience in testing, with so much satisfaction, my own patent deck stoppers at Saltrey.

I have the honour to be, &c.,

S. M. SAXBY.

To the Editor of the *Nautical Magazine*.

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#### SUMNER'S METHOD.

Greenwich Hospital, December 16th, 1854.

Sir.—Mr. Fitzmaurice seems to have misunderstood my remarks upon the method which formed the subject of his first communication. It would indeed be a pity that we should lose the experience of good navigators, which is so often required to support the theoretical speculations of the mathematician; but it is surely not fair to speak slightly of the mathematical discussion, to the test of which all mere experiments of practice must be submitted. Few persons possess that amount of skill which would render a demonstration unnecessary, even in matters much simpler than the one under discussion.

Mr. Fitzmaurice has not in either of his letters distinctly stated that he found this method in his own head. And my second object in writing was to suggest that in all cases when it is deemed worth advancing something supposed to be new, that not only the why and wherefore should be given, as of much greater value than such a vague term as experience, but also that if any merit exists the party entitled to it may have his share.

Mr. Fitzmaurice has mixed in this, his last, letter two methods, of entirely different character, together; and I do not agree with him either in the limitations given to the application of Sumner's problem, nor with his enunciation of the other one to which he alludes.

I have the honour to be, &c.,

JOHN RIDDLE.

To the Editor of the *Nautical Magazine*.

## NAUTICAL NOTICES.

## PORT NATAL.

Extensive changes in the entrance of the harbour are being produced by the works in progress there under the superintendence of Mr. Milne, the colonial civil engineer.

The works were commenced in March 1850, and estimated to cost £100,000 when complete, of which £10,000 have been already expended by annual grants. Their object is to confine the body of water which is forced out by the ebb tide within limits, and to bring the whole power of the tide into play upon the channel, by artificially blocking up the other two tributary ones now in existence. To effect this, a solid stone pier is being run out from the sandy point on the west side of the entrance towards the bar; its dimensions are, six feet wide at the top, along the whole length, and fifty feet at the base close in shore, widening to two hundred and fifty at the other end: it will be four feet above the sea level at high water, and its total length about 2,300 feet. On the opposite side is a high bluff, nearly steep to, whose extremity is Cape Natal, across the rocks projecting from which a wall is to be built with a lighthouse on its outer end. The space on the bar between the end of the wall on one side, and the stone pier on the other, is designed to be 500 feet wide, and the quantity of water to pass through the opening at each ebb tide is calculated to be sufficient to maintain a depth of twenty-eight feet at high water spring tides, assuming a tidal velocity of only two miles per hour. Hitherto the bar of sand which crosses the mouth of the principal channel has constantly varied as the power of the ocean swell to raise it has been met by the counter effect of the ebb tide to depress it, and *vice versa*, the former being increased by the prevalence of certain winds, the latter by rain.

In August 1854, about 1,000 feet of the solid pier was completed, and its effect is already apparent on the bar. The mail steamer *Natal* crossed it at high water without touching, as did also a barque of 300 tons, and a brig of 250 tons.

The stone is procured from the bluff nearly opposite the works: it is a red sandstone, and there is plenty of it. The work of quarrying, is performed chiefly by Kaffirs.

The shape of the sand banks has been somewhat altered by the works, and there being some other discrepancies in the existing charts, a new trigonometric survey was undertaken and completed with the assistance afforded by the direction of his honour the Lieut.-Governor.

The harbour at present is not available for H.M. steamers of such draft as *Hydra* or *Dee*, which must lie at the anchorage outside the bar, where there would be no difficulty in supplying them with coal. Small vessels of about 200 tons may cross the bar loaded at high water.

JOSEPH DAYMAN,  
Lieutenant in charge of Cape Survey.

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 ERRONEOUS CHARTS—*Caution to Seamen.*

We have frequently had occasion to point out the errors of chart makers, and have repeatedly cautioned the unwary and too confiding seaman on this evil to which he is liable. It is not long ago since we had to notice the inaccuracies

of Mr. Imray's charts, the chartseller of the Minories, in those of Newfoundland and the West Indies, which latter fell under the observation of one of our Consuls. We regret to find by the following, which we have received from abroad, that the charts of the Pacific, from the same source, are well calculated to preserve the character of this gentleman's charts for incorrect hydrography. It is excusable when the position of islands and dangers in the ocean are uncertain and ill determined to find them out of place; but when they are allowed to remain in their wrong position after that has been corrected and published to the world, it is one of the first duties of this journal to expose the neglect, and caution the mariner against using such charts. We quite agree with "the Colonial Skipper," who complains of these chart makers, and the greater is the pity that the system of this country permits it. In this respect our merchant seamen are yet unprotected; they have no time to look into these matters, but if they will look into our pages now and then, they will find something on this subject to their advantage.

The following is a complaint worthy of their attention.

#### ELIZABETH REEF, PACIFIC.

Sir,—Noticing in your journal a remark by Captain Boggis of the *Robert Syres*, as to the erroneous position of Elizabeth Reef, I beg to submit the following:—

June 3rd, 1846, I passed about two miles to the southward of the reef; the weather fine and clear, at 10h. a.m. I observed, four sets of sights, by three good chronometers, and angular distance of sun and moon at same time, the former placing the reef in  $158^{\circ} 55' 45''$ , the latter  $159^{\circ} 0'$ . Latitude by double altitude,  $29^{\circ} 58'$ , at noon the reef E.S.E., magnetic, nine miles. Latitude per altitude,  $29^{\circ} 53'$ .

Horsburgh places the reef,	$30^{\circ} 5' S.$ ,	$159^{\circ} 0' E.$
Capt. Boggis . . . . .	$29 56$	$159 8$

As the reef is much in the way of vessels from San Francisco, and also of those (when driven to the eastward) through Torres Straits, I think the mean of these might be taken as data for the exact position of the reef. That in the charts is in all probability the one assigned to it by the *Fairy*, which was sent to examine it after the wreck of the *Elizabeth* in 1831, and places it in  $29^{\circ} 30'$ ;  $158^{\circ} 30'$ .

EDWIN COURTENAY.

To the Editor of the *Sydney Morning Herald*.

#### ELIZABETH REEF.

Sir,—As Captains Boggis and Courtenay, with a laudable desire to establish a correct position for the above, have furnished you with the result of their observations, I have thought that the following extract from the published report in your journal at the time, may assist materially any one who desires to have the reef correctly in his chart.

It will be remembered that after the loss of the barque *Tyrian*, in 1851, H.M.S. *Acheron*, was despatched from this port to the reef, and brought off the captain and several others from the wreck of that ship.

The following is a portion of the report from the officers in command:—

“H.M.S. *Acheron*, Sydney, Dec. 13th, 1851.

“Having by good observations found H.M.S. *Acheron* had been set in an E.N.E. direction by current in the vicinity of the reef, thirty-seven miles in sixteen hours, while on the east side of the reef, and W.N.W. twelve miles in

ten hours. on the western side, which leads me to infer that this was the cause of the loss of the *Tyrian*. By good observations made on board, I place the

North part of the reef in .....	29° 50'	0° S.,	158° 59' 45" E.
East extreme ditto .....	20 53 45	159 4 45	
Wreck of the <i>Rosetta Joseph</i> ..	29 52 30	168 55 0	
Wreck of <i>Tyrian</i> .....	29 53 30	159 8 30	

The reef extending in an E.S.E. and W.N.W. direction for at least fifteen miles, and six to eight miles in a north and south.

Within one mile and a half of the reef we had soundings in 22 fathoms, 24 and 26 fathoms, soft coral and weed.

NAPOLEON LEWELL,  
Second Master H.M.S. *Acheron*."

It is disgraceful in chart constructors that they do not avail themselves of well-authenticated positions, as the one above undoubtedly is, instead of which many go on perpetuating errors in succeeding editions of their charts, leading the unwary mariner, who only looks to the date of the publication, to suppose that all that is known of the locality represented is inserted up to the latest available period. In 1851 I made a voyage to California and back to this port, procuring just before I left here two large charts, styled respectively "New Charts of the North and South Pacific Ocean, published by James Imray, late Blatchford and Imray, 116, Minories, London, 1849."

The numberless errors and inaccuracies in them would be far too numerous to mention. One perhaps may suffice to show the *care* with which they have been compiled. The South point of Tahiti is laid down in lat. 18° 15' S., while in the Admiralty chart of the island on a large scale, it is in 17° 53', a difference of *twenty-two miles*. In 1840, the American Exploring Expedition made numerous discoveries in the South Seas, establishing the positions of many islands and reefs, and proving the non-existence of many others in or near the positions assigned to them, yet in these charts, published nine years afterwards, I can find no trace of that Expedition's valuable performances having been taken the slightest notice of.

It would be well if shipmasters, when stating the inaccuracy of a position on the chart, should also add what chart they refer to.

I am, &c.,

A COLONIAL SKIPPER.

To the Editor of the *Sydney Morning Herald*.

#### KNOLLS AT THE ENTRANCE OF THE ENGLISH CHANNEL.

We find the following in a recent number of the valuable paper we have quoted and if the example of the Mate of the *James Innes* were more frequently followed, our charts would be generally materially improved. The knoll is very near to another laid down as doubtful, which can now no longer be so, and the complete accordance with it in latitude as well as its close proximity to it in longitude, is very satisfactory, showing that a rising in bottom, or *haut fond* as the French term it is certainly there.

Cork, 5th January, 1855.

Sir,—I beg to forward you an account of the existence of a knoll, or patch of ground, one part of which being situated in lat. 49° 52' N., long. 8° 52' W., a bottom fine sand, having on it 45 fathoms of water. The soundings were

taken on board the *James Innes*, of Falmouth, on her passage from Mazatlan to Cork, under very favourable circumstances, so that there can be no doubt of the accuracy of the depth taken. Soundings were again struck at noon, the ship having sailed but a few miles to the eastward, when the line showed a depth of 76 fathoms, sand and shell, which corresponded with the depth shown by Norie's chart. A further knowledge of the extent of the shoal might be of considerable service to homeward-bound shipmasters; and by inserting the above in your valuable paper, you will greatly oblige,

Yours obediently,

J. W. BLAMEY,

Mate of the *James Innes*, of Falmouth.

*Shipping Gazette.*

**THE MINERVA SHOAL.**—The whaleship *Canton 2*, Folger, of New Bedford, arrived at Sydney (N.S.W.), Sept. 29th, after having run on shore on the night of the 30th August, on a reef 300 miles south of the Feejee Group. The ship remained forty minutes on the reef, when the crew succeeded in backing her off; at the time she lay on the reef, they had 5½ fathoms of water in the waist. They lay by until daylight, and found that the reef lies level with the water, with a few small black volcanic rocks scattered over it; its position is in lat. 28° 50' S., long. 178° 58' W., and is about thirty miles to the west of a reef called the Minerva Reef in some of the charts. Having got clear of the reef, they found the cutwater partially knocked off, with the sheathing hanging from her bows in many places: tried the pumps, found they were leaking 120 strokes per hour, when she bore up for this port; since that time the leak has increased to 260 strokes per hour. Capt. Folger states, that when five miles off the reef, it could be seen from the mast-head. He considers it one of the most dangerous reefs in the Pacific, from its being so low, and the impossibility of seeing it time enough to avoid it in the night time.—*Shipping Gazette.*

The foregoing will serve as a useful caution to give the Minerva shoal a wide berth when passing to the westward of it. Ships should by no means attempt to pass between it and this reef, as it is entirely unknown, for they are most likely on the same bank.—ED. N. M.

#### NOTICES TO MARINERS.

**NORWAY. EGERO LIGHT ENTRANCE TO EGERUND.**—No. 196.]—The Norwegian Government has given notice that on the 16th November a Fixed Light was established on the West Point of Egero, near the northern entrance to Egersund, at 156 feet above the level of the sea, and visible at the distance of 22 miles in all directions from seaward.

The tower, which is painted red, stands in 58° 24' 45" N., and 5° 48' 15" E. of Greenwich.

**KATTEGAT. LIGHT ON THE KOBBER GROUND.**—[No. 197.]—The Danish Government has given notice that the Temporary Light Ship stationed on the Kobber Ground, at the distance of eleven miles S.b.E. from the Easternmost part of Læso Island, has been removed, and a three masted vessel, carrying a Fixed Light on each mast, has been moored in her place. Each of the three masts is surmounted by a ball.

The new vessel is painted red, with a white cross on her side, marked "Kobber grunden."

The Light on her mainmast is 41 feet, and the two others 29 feet, above the surface of the sea.

The position of the vessel is at  $2\frac{1}{2}$  cables' length S.E.b.S. from the South Beacon (Ny Vager) of the Kobber Groand, in 4 fathoms, and in  $57^{\circ} 8' 30''$  N., and  $11^{\circ} 20' 30''$  E.

The Upper Light is visible at the distance of eight miles; but Masters of vessels are reminded that the three Lights will not be opened out clear of each other unless seen above a point and a half on either side of her fore and aft line.

**BALTIC. KIEL FIORD, RED LIGHT AT DUSTERNBROOK.**—[No. 198.]—The Danish Government has given notice that in last December a Red Light would be established at Dusterbrook in Kiel Fiord.

The Light will be exhibited on a small iron tower at the Bathing establishment at Dusterbrook, and will be visible, on the starboard hand, to ships approaching Kiel at the distance of six miles

**ELECTRIC TELEGRAPH ACROSS THE SOUND BETWEEN DENMARK AND SWEDEN.**—[No. 199.]—A Submarine Telegraphic Cable having been laid across the Sound from Vedbeck, on the coast of Sjælland (six miles to the northward of Copenhagen) to Hveen Island, and from thence to Hillesborg, on the coast of Sweden, (three miles to the northward of Landskrona,) notice is given that the following beacons have been erected to point out the position of the cable.

At Vedbek two beacons standing W.  $\frac{1}{2}$  S. and E.  $\frac{1}{2}$  N. of each other, show the direction of the cable as far as the south point of Hveen, and

At Hillesborg two similar beacons, bearing E.N.E.  $\frac{1}{4}$  E. and W.S.W.  $\frac{1}{4}$  W. of each other, show the direction from the south point of Hveen to the Swedish shore.

Between Velbek and Hveen the line of the cable is marked by several small floating beacons carrying a pole with a flag, while at the south end of Hveen a larger floating beacon marks the junction of the two branches of the cable.

Mariners are requested not to anchor between these marks, nor on the above lines of bearing, lest they should damage the Electric Telegraph Cable, or lose their own anchors; and they are specially enjoined to comply with any directions they receive from the pilots for avoiding them.

**SPAIN. REVOLVING LIGHT ON CAPE SAN ANTONIO, ALICANTE.**—[No. 200.]—The Spanish Government has given notice that on the 1st of January, 1855, a Revolving Light will be exhibited on the old tower of Cape San Antonio, in the province of Alicante, in  $38^{\circ} 48' 30''$  N., and  $0^{\circ} 12' 42''$  E. of Gr.

The Light will revolve every half minute, and being 580 feet above the level of the sea, will be visible in clear weather, from the deck of a moderate sized vessel, at the distance of nineteen miles.

**UNITED STATES. FLORIDA.**—[No. 1.]—The Lighthouse Board of the United States has given notice that the following changes were to be made in January in the undermentioned Lights.

1.—The Revolving Light on Sapelo Island was to be changed into a Fixed Light varied by flashes. The approximate position of the Light is  $21^{\circ} 31' 30''$  N., and  $81^{\circ} 24' 0''$  W. of Greenwich, and being 74 feet above the level of the sea, will be seen from the deck of a moderate sized vessel at the distance of fourteen miles.

2.—The Fixed Light at St. Augustine will be changed to a Fixed Light varied by flashes. The approximate position of the Light is  $29^{\circ} 52' 18''$  N., and  $81^{\circ} 25' 0''$  W. of Greenwich; and being 68 feet above the level of the sea, will

be seen from the deck of a moderate sized vessel at the distance of fourteen miles.

**ADRIATIC. CURZOLA CHANNEL.**—[No. 2.]—Notice has been given that on the middle of the Lusnac Shoal, which lies between the rock of that name and the Island of Badia, in the eastern entrance of the Channel between the Islands of Curzola and Sabioncello, a floating Beacon has been placed in five feet water. It is of a four sided pyramidal form, the upper part of which is painted Red, and the lower part White; and to avoid this shoal vessels must keep 20 fathoms distant from the Beacon.

**UNITED STATES. FIXED LIGHT ON BOONE ISLAND, MAINE.**—[No. 3.]—The Lighthouse Board of the United States has given notice that a new Lighthouse Tower has been erected near the old Lighthouse on Boone Island, in about  $43^{\circ} 8' N.$  and  $70^{\circ} 29' W.$  of Greenwich, and that its Fixed Light was to be exhibited on the 1st of January, from which date the Light in the old tower would be discontinued.

The tower is built of grey granite, 118 feet high; and the Light being 133 feet above the level of the sea, will be seen from the deck of a moderate sized vessel at the distance of eighteen miles. The keepers' dwellings stand to the westward of the tower, and are of the same grey colour.

The following are the bearings and distances of the New Lighthouse from prominent places in the vicinity, viz. :—Boone Island Ledge, *W.* distant three miles. York Ledge Beacon, *E.b.N.* distant five and a half miles. Isle of Shoals Lighthouse, *N.b.E.  $\frac{1}{2}$  E.* distant fifteen miles. Whaleback Lighthouse, *N.E.* thirteen miles. The bearings are magnetic.

**TIME BALL AT DEAL.**—[No. 4.]—Notice is hereby given that a Time Ball has been established in the Royal Naval Yard at Deal, for the purpose of giving Greenwich mean time to passing vessels.

The Ball will be raised half mast high at five minutes before 1h. p.m. nearly, and will be raised to the mast-head at three minutes before 1h. p.m. nearly, every day. The time to be noted is the instant at which the Ball begins to fall from the cross arms of the vane. At the instant of 1h. p.m., Greenwich mean time, the Ball will be dropped.

Should any derangement of the machinery prevent the Ball from being dropped at 1h. p.m., it will be kept at the mast-head for ten minutes, and will then be lowered gradually. At 2h. p.m., Greenwich time, it will again be raised, and dropped by hand; but the accuracy of this time cannot be guaranteed within two seconds.

**MEDITERRANEAN. MARSÀ SCIROCCO BAY, MALTA.**—[No. 5.]—Notice has been given that on the 1st of February a Fixed Red Light was established on the South Point of the rocky peninsula which forms the Eastern shore of Marsà Scirocco Bay, called Della Mare Point.

The Light will be 148 feet above the sea, and visible in all directions, excepting from the land side, between the bearings of  $S. 35^{\circ} W.$  and  $S. 55^{\circ} E.$  This elevation of the Light would command a horizon of fourteen miles radius, but its red colour will probably reduce its limits of easy visibility to half that distance.

The Tower is a circular building, 58 feet high, and serves as a mark for clearing the Monsciar Reef. To pass to the Northward of that reef, keep *St. Elmo Lighthouse* (at the entrance of Valetta Harbour) open to the Northward of *Ricasoli ridge* of hills, and bearing about *N.W.  $\frac{1}{2}$  W.*

To run through the Monsciar Pass, (between the reef and the shore,) keep the Light Tower in one with Sciropp Point. And to take the same Pass, when

coming from the Southward, keep Zoncor Tower its own breadth open of St. Thomas Point. All the above bearings are magnetic.

**BLACK SEA. KAZATCH AND KAMIESH BAYS, KHERSONESE.**—[No. 6.]—Several vessels with troops and stores bound for Kazatch and Kamiesh Bays, on the north side of Cape Khersonese, having been stranded, or endangered, by striking upon the shoals extending off the coast, through incautiously approaching the shore, and owing to the neglect of the existing charts and Sailing Directions, the following temporary notice is published for the guidance of the mariner:—

In rounding Cape Khersonese from the southward, keep Cape Feolent, a high perpendicular cliff, open of a nearer and lower bluff, until the Lighthouse on the Cape bears E.b.S.  $\frac{1}{4}$  S., or Fort Konstantine is seen open of the north coast of the peninsula. Then an E.N.E.  $\frac{1}{4}$  N. course will round the cape and all the shoal water off the points, none of the rocky ledges extending more than  $2\frac{1}{2}$  cables off the shore.

Dvoinaia (Double) or Kazatch (Cossack) and Kamiesh (Reedy) Bays, form the first large opening to the eastward of the Cape. There is anchorage in from 15 to 20 fathoms, at a distance of half a mile off the entrance, on a bottom of muddy sand, where a stranger should bring up, or lie to, until communicated with by the Guard Boat.

In entering Kazatch or Kamiesh Bays the north-west point, and the middle point that separates them, (which may now be recognized by an earth battery on it,) should not be approached nearer than  $2\frac{1}{2}$  cables' length. And no vessel should run up the western or Kazatch Bay without a pilot, for this Double Bay, which looks clear and wide from the outside, has a reef of sunken rocks extending three cables' distance in a north direction from the tongue of land which divides the head of the bay into two parts.

The channel on either side of this sunken reef is only from half to three quarters of a cable's length wide; has a depth of from 7 to 9 fathoms, with a bottom of stiff sandy mud; as also in the upper part of Kamiesh Bay. In the outer part of these bays the ground is less tenacious, being a muddy sand with gravel and shells; and no anchor will hold in less depth than 7 fathoms.

As a general rule none of the points on the north side of the Khersonese Peninsula should be approached nearer than  $2\frac{1}{2}$  cables' distance.

The south coast of the Peninsula is steep to; Cape Feolent is a high perpendicular cliff, black at its lower part, but capped by a white calcareous stratum that inclines gradually to Cape Kherson, which is low, the base of the Lighthouse at its extremity being only a few feet above the sea level.

The Light now shown at Cape Khersonese is a Fixed pale Light, instead of Revolving as formerly; it stands at an elevation of 116 feet above the sea, but is not visible beyond a distance of about seven miles.

All courses and bearings are magnetic.

#### IMPORTANT CASE TO MASTERS OF SHIPS CALLING AT AUSTRALIAN PORTS.

Captain Bird, commander of the *Lady Jocelyn*, General Screw Company's ship, appeared before the Bench at Southampton, the Mayor in the chair, to answer the complaint of nine of the seamen of the *Lady Jocelyn* for stoppage of wages. The men had generally £20 and upwards to receive, out of which £4 odd was kept back by the Captain.

The case of the boatswain, William Brown, was taken as one which should



determine the rest, with one exception. Mr. Leigh appeared for the complainant. The Captain claimed to keep back from his wages £4 2s. 8d., being charges he had to pay the police at Sydney in August last, to apprehend Brown as a deserter from the ship.

Mr. Leigh stated the case of Brown to be this: that he had permission on Sunday, the 27th of August last, the ship being at Sydney, to go on shore for twenty-four hours with a mate. The chief officer ought to have given him a pass to secure his liberty ashore, that being the custom of the place, to prevent seamen absconding. The two men were returning on Monday evening to their ship, when the police challenged them, and demanded their passes. They had none, not being aware of the usage, and were taken into custody. Next morning, they were charged at the Police Office with being drunk; but this was, doubtless, a usual pretext, the pass system being a mere arrangement of the police, and not legal. They were sentenced to a fine of £1 for being drunk, or twenty-four hours' imprisonment. As they had spent their money, they were obliged to go to gaol. They requested permission to send word to the ship of their situation, but were refused. When the twenty-four hours' imprisonment expired they came out of gaol, but within three minutes were tapped on the shoulder, and told they were apprehended as deserters. They were taken to the ship, where the Captain at first refused to receive them, but on the interference of the third officer, who represented them as good men, they were taken back, and resumed duty as if nothing had happened. They were not warned that any stoppage of wages would be made, no fresh agreement was made, and no entry was made in the log of the occurrence. It was not till they got home that any reference was made to the affair.

The complainant having given evidence to this effect, the third officer said they never gave passes to men having leave, and neither he nor the other officers had been asked for any.

Captain Bird said that the men, having overstaid their time, were necessarily considered as deserters.

Mr. Leigh said that if they were deserters they were not entitled to any wages at all, and that Captain Bird, by having received them back to their duty, had condoned the offence, if it were so charged.

Captain Bird said that there would be no possibility of keeping seamen to their ship at Sydney unless stringent measures were used. The police would not look after a man under £4, and, having paid the money, was he to lose it?

Mr. Bernard said the bench had nothing to do with the custom of Sydney, but with the law. The "pass" was not legal, nor the charge of £4 by the police. A police constable was bound to apprehend an offender, without being paid an extra fee for it, in a British colony just the same as in England. The men had not deserted, nor were they charged with it on the log, and the deduction of the money could not be made.

Mr. Fall and the rest of the bench concurred.

Captain Bird said that he was glad the question had been brought forward, as it was of great consequence to shipmasters, and he hoped the information would go out to Australia.

Mr. Leigh suggested that the three great companies at this port should have a bill of regulations prepared to meet cases which the present regulations did not provide for, and submit it to the Board of Trade for their consideration.

The decision settled all the other cases except one, in which a man named Trevellian (defended by Mr. Barber) had been sentenced to a month's imprisonment for assaulting the first officer, and the Captain had paid £3 to get him released from a fortnight of the term. The £3 was ordered to be deducted from his wages.

#### USE OF THE LEAD IN MERCHANT SHIPS.

Our American brethren have often set us a good example. They go right at the root of an evil, while we, although we know it, merely grumble about it. The neglect of the lead is an old sore, and has been the loss of many a ship. The following is a good example for insurance offices, if they really desire to correct this complaint. The Board of Underwriters at New York show that they are in earnest on the subject.

We (*Liverpool Albion*) have taken every fitting opportunity of directing attention to the urgent necessity which exists in this channel for the use of the lead, to the want of which most of the casualties are attributable. The same opinion has taken root in New York in regard to losses on the American coast; and the Board of Underwriters in that city have adopted means for their protection, which are explained in the following extract from a letter recently received in Liverpool from one of the principal insurance offices in New York:—

“In consequence of the many disasters on our coast, arising from neglect in not heaving the lead, the Board of Underwriters about six months since passed a resolution suspending all masters whose vessels may be lost on the coast, and if they cannot account to a committee of examination satisfactorily, they are suspended for a year or more, and cannot be insured while they remain on the suspended list. There is no coast in the world equal to our own from Montauk Point to Florida: not a single rock; the soundings as regular as can be wished for; and, notwithstanding, there are more vessels lost upon it, while engaged in the trade between New York and Liverpool, than upon your own, which is considered so much more dangerous.”

**PRESERVATION OF IRON STEAMERS.**—The efficacy of Peacock's composition appears by every application to stand unrivalled. We find the following in a recent number of the *Morning Herald*:—

The General Screw iron steam-ship *Calcutta* is in dock at Southampton, being cleaned and coated with Peacock and Buchan's composition. We are informed she was last coated in July, 1854. She has since been a voyage round the world; one side coated with a new black composition, and one side with that of Peacock and Buchan. Upon the ship becoming dry, the side done with the black composition presented the appearance of a half-tide rock, being one mass of weeds and barnacles from the keel to the water line; whilst the opposite side was remarkably clean, having only a partial thin slimy coating, offering no impediment to the speed of the vessel.

The Admiralty have ordered several iron steamers, taken up for the transport service, to be coated with Peacock and Buchan's composition.

#### NEW BOOKS.

**REAR-ADMIRAL SIR JOHN FRANKLIN. A NARRATIVE.**—By *Rear-Admiral Sir John Ross, C.B. K.T.S., &c., &c., &c.* Longman & Co.

This little pamphlet has been drawn up by Sir John Ross to show “under what circumstances, and what were the causes which led to the failure of the several expeditions sent out for the rescue of Sir John Franklin.

Doubtless, after all the failures and the lapse of years, and the recent intelligence brought home by Dr. Rae, which is the first to lift the veil which shrouds the sad mystery, it is not now so difficult to imagine the *probable* course taken by Sir John Franklin. But when all was uncertainty, and no possible clue could be obtained as to the route he took,—when all the world was speculating upon contingencies,—some thinking he had struck north,—some south,—some boldly asserting he had penetrated west,—and others as boldly that he had gone to the east,—(*nolens volens*, as the case might be,)—it is not, we think, to be wondered at that the Arctic Council, upon whom Sir John seems to fix the blame of a fruitless search up the Wellington Channel, should have been sorely puzzled *what* course of search to recommend. We preface our notice of this pamphlet with these remarks because we feel assured that Sir John is altogether in error in supposing that the Arctic Council, as represented by Mr. Pearce, (the talented artist who composed the picture,) had much to do with the proposed line of search up the Wellington Channel. They clearly could not have had. It is notorious that, with the exception, perhaps, of one or two individuals, none of the Council had much, if any faith in Sir John Franklin's having taken that route; while some of its members were altogether opposed to the idea.

That it was, nevertheless, a *probable* route few now dispute, as it opens out, through the Queen Channel, discovered by Captain Penny, into the Polar Sea. But that sea is, apparently, so encumbered with ice as only to be rarely if ever navigable. Still Sir Edward Belcher's run up to the entrance of that sea without impediment, through both the Wellington and Queen Channels, has, at least, set at rest the question of the first named channel being "always blocked with ice."

The pamphlet of Sir John Ross is one which will be read with interest, and is drawn up with great ability. It takes a calm and quiet review of the whole subject. He was, unquestionably, the *first* to stand forward and to urge the necessity of sending to the relief of the missing expedition in 1847. He was the *first* to volunteer for the service. And, adopting, apparently, the motto

"Haud ignara mali miseris suocurrere disco"

in 1850, he nobly went out in a little vessel of his own to aid in the search, and wintered in the Arctic Seas at an age which few of us survive to pass even at our fire side;—Sir John being, at that time, upwards of "three score years and ten."

This was of itself a noble act, and will ever be remembered with the name of Sir John Ross as long as chivalrous deeds in the Naval Service of England are valued by this country.

The following admirable letter from Lord Hardwicke expresses better than we can the sentiments we could wish to convey. It will be found in page 72 of the pamphlet.

Sydney Lodge, Southampton, 9th April, 1850.

A man at your time of life undertaking, on his own means, so severe and arduous a service, is a rare and splendid example of devotion to friendship and science.

If my refusal to subscribe to aid it would stop you I would act on this selfish and stingy suggestion; but as I see by the subscription list you are likely to gain the required sum, I shall give my mite to so good a cause. You will, therefore, find £50 at your disposal at Messrs. Cox & Co., Charing Cross.

Wishing you, from my heart, all possible success,

Believe me, &c.,

HARDWICKE.

To Sir John Ross, C.B., K.C.S., &c., &c., &c.

We cannot enter into the question of the cause of the failure of the Expeditions to relieve the unfortunate Explorers; but it is only another instance of what is passing around us all the days of our life:—"Man proposes, God disposes."

The pamphlet will well repay a perusal, and we recommend it to our readers, who will not lay it aside without admiring the great energy and good will of Sir John Ross, whose weak point appears to us, to lie in imagining *ill will* of others towards himself, which we are confident does not exist.

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SUMMER TOURS IN CENTRAL EUROPE.—By *John Barrow, Esq.*—Dalton, Cockspur Street.

Owing to the success of a similar work, published last year, Mr Barrow has again presented to the public the jotting down of another two months' tour.

In the present little hand-book, his route is by the interesting towns of Belgium to Cologne; and, after a passing glance at the beautiful and romantic banks of the Rhine, he leaves that far famed river, and, striking inland, visits Frankfort, Heidelberg, and on by Ulm and Augsburg to Munich. From this city he makes a delightful trip of nearly three weeks, quite out of the traveller's high road, through the Tyrol, by the Pass of Ampezzo, to Treviso, Padua, Trent, and Como. Leaving the Austrian dominions, he visits Turin, and spends a day or two at Genoa, views its palaces and the blue Mediterranean, and, recrossing the Alps by Mount Cenis, wends his homeward way by Chambery, Lyons, and Paris.

The writer is evidently keenly alive not only to the beauties of art, but also of nature; of the former his enthusiasm is called forth by the works of Rubens and Vandyke, and the magnificent antique carvings scattered throughout the churches of Belgium; while of the beauties of nature his graphic descriptions of the wild and pastoral scenes amid the Tyrol mountains must be read to be thoroughly appreciated.

We doubt not that the success of this little hand-book will equal its predecessor; for it is just the book—small both in price and size—to amuse and interest one when travelling by the rail.

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THE BINNACLE COMPASS CORRECTED BY ITSELF.—By *A. B. Becher, Commander, R.N.* Potter, 31, Poultry.

The best way of introducing this little treatise to those of our readers who may not have seen it in the last number of the *Nautical*, is to reprint the object it professes.

"The object of this little treatise is to draw the attention of the Commanders of our mercantile shipping to the dangerous condition of their compasses when the local attraction to which they are liable remains unheeded;—to show that the binnacle compass may be used for finding its own deviation, and that a plurality of compasses (each of which requires its own correction) is not necessary for that purpose;—to commend that all important article the binnacle compass to their serious and most careful consideration,—to keep it at all times as free as possible from all iron work; and to lose no opportunity, wherever they may be, of finding its errors of deviation, and allowing for them in the manner described."

To the above we may now add the following opinion of one of our first seamen on the Repeating Compass Card by which this is effected, made by Mr. Dent, the writer being in command of one of the finest steamers out of Liverpool:

31, Falkner Street, Liverpool, Feb. 1st.

Sir,—I have waited thus long before replying as I find it difficult, the short stay I am ashore, to secure a quiet hour to give the work that consideration which I knew it would merit. I have now read it, and feel much pleased with the important matter which it contains and the popular style in which it is written. I feel fully persuaded that it will be of great use to the mariner; and if its suggestions are carried out, we shall not hear of so many accidents taking place, or of such singular performances of the compass.

With regard to your Repeating Compass Card, it will be, unquestionably, of great use to the navigator, and will have even more advantages than you have enumerated.

I have the honour to be, &c.,  
JOHN MILLER.

Captain Becher, R.N.

### NEW CHARTS.

*Published by the Hydrographic Office, Admiralty, and Sold by J. D. Potter, 31, Poultry, and 11, King Street, Tower Hill.*

ENGLAND, Penzance Bay, Capt. G. Williams, R.N., 1854	-	-	1	6
BLACK SEA, Balaklava Port, Capt. Spratt, R.N., 1854	-	-	1	0
WEST INDIES, Haiti, Samana Gulf and Bay -	-	-	1	6
"    Bahamas, Caicos Islands, Cockburn Harbour, Mr. Parsons, R.N., 1852	-	-	0	6
"    Louisiana, Mobile Bay, U.S. Survey, 1854	-	-	0	6
NORTH AMERICA, East Coast, Gut of Canso, Chedabucto Bay, Capt. H. W. Bayfield, R.N., 1854	-	-	3	0
"    West Coast, Sitka Sound, Russian Survey, 1848	-	-	1	0
SOUTH AMERICA, West Coast, San Lucas Bay, with a Plan of San Jose del Cabo, Capt. Kellett, R.N., 1849	-	-	2	0
Australian Directory, 5th edition, 1855	-	-	2	0
Dardanelles to the Bosphorus	-	-	1	3
African Lights to 1855	-	-	0	2
Catalogue of Admiralty Charts to 1855	-	-	1	0

EDWARD DUNSTERVILLE, Master, R.N.

*Hydrographic Office, Admiralty, February 22nd, 1855.*

### TO CORRESPONDENTS.

We do not meddle with after dinner speeches, even at a Lord Mayor's expense, or we could show QUERY that the Baltic Fleet was well supplied with Charts, and Directions also. No better, even of the Russian Harbours, were to be had from themselves. What would our former Baltic cruisers have given for them?

MERCATOR. By all means, and don't spare them. The cause is both just and righteous.

Will CAPTAIN MACLEAN look after his adopted, and send us timely matter.

A MERCHANT SEAMAN will see that his articles are welcome to our pages on so very useful a subject.

THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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APRIL, 1855.

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NARRATIVE OF THE STRANDING AND RECOVERY OF H.M.S. "NORTH STAR," IN EREBUS BAY, BEECHEY ISLAND, ARCTIC REGIONS.

The *North Star* was lying in Erebus Bay, in September, 1852, waiting for the closing of what had evidently been a very open season, when the ice should set sufficiently fast and firm to allow of cutting in for a full due, and house over for the winter.

The ship was lying in seven fathoms of water, (the bottom a stiff white mud, or marl, under a slight coat of gravel,) riding by the small bower anchor, with sixty fathoms of chain out, and about a quarter of a mile from the shore, well within a line from the southern cliffs of Beechey Island to Cape Riley.

Throughout the whole of the month, the sheltered parts of the bay had pretty frequently frozen over; but the slightest breeze would break it up again, and boats could move about. In the last week, much old broken hummocky ice drove in and out, and on the 27th the bay was pretty clear, but driving fast to the westward outside, in Barrow Straits. In the evening, the wind, veering to E.S.E., brought large quantities into the bay; which, passing close to the ship, frequently came in contact, striking very heavily.

Early on the morning of the 28th, the wind veered to S.E., blew fresh occasionally; when the ice was not only increasing in quantity but in weight, driving fast into the bay, lining its whole northern shores, as well as the eastern coast of Beechey Island. At 3h. a.m. it was, however, again still; and out to seaward there were heavy masses of old floe pieces, heaped together in endless confusion and

covering the whole sea. This stillness lasted until six in the evening, when the wind, breezing up from S.E.b.E., set the ice again in motion and piled it around the ship in huge heaps. This continued until 8h. p.m., when the wind fell and hopes were entertained that no more movement would take place, particularly as the barometer showed no indication of change in the weather; in fact, it had been rising since midnight of the 27th. The weather, too, was beautifully clear, with not a cloud in the heavens.

At 10h., the ice was pretty thick in the bay, all heavy floe pieces; when, at 10.30, a gale came on from S.E., up to No. 8 in a moment, and once more a movement commenced. The ice now passed the ship rapidly, and it was impossible to avoid collision; still, she rode well and there appeared no very great strain on the cable. At 10.45 there came on such a quick succession of heavy squalls that I began to feel apprehensive for our safety; for, with the weight of ice now pressing on the ship, together with the gale, the cable stretched out like an iron bar, all the light floe ice running upon it and parting, whilst the heavier stuff closed in about the bows, adding so greatly to the strain that I expected momentarily to see it part. Veering I felt to be useless, as it would give the ice such additional impetus that we could not possibly check up again; to let go another anchor equally so, for it could never reach the bottom through such stuff as was close about the bows; and, with tackle and holding ground good, a steady strain, though heavy, I considered the best chance was to hold on, for, from the ice being so close packed, apparently, throughout the whole of the bay, it might possibly receive some check. At 10.50 there was an increase in the wind and so much strain that I determined on trying the other anchor. The best bower was, therefore, let go; but, as I anticipated, it lay alongside, ranging aft towards the gangway and not showing the slightest indication of breaking through the ice. We could do no more, the yards had been long braced to the wind and top-gallant masts on deck; our situation was, indeed, a helpless one, and the ship trembled under such a pressure. I felt that it could not last long, the chain must either part or the anchor drag, and vessel be driven in and perhaps crushed amongst the heavy ice, which on passing us appeared of enormous size, magnified, doubtless, by the glare of reflected light from a brilliant moon in a cloudless sky. There was no occasion to turn the hands up, for all were on deck, and saw that no effort could avert whatever fate awaited us. We had an enemy to contend with that no human power could check, and I was happy to see that all were calm and steady.

At 11h. the ship began to drive; the water, from 7 fathoms, in which she was lying, was soon shoaled to  $4\frac{1}{2}$  fathoms, with still a heavy pressure, yet I thought the ice was not moving so rapidly. At 11.20 she took the ground astern, when her head was immediately forced round to the N.E. and nearly over on her beam ends, wrenching the rudder (which was chocked) into splinters at the sheave hole, broadside to, and nearly on the top of a shoal patch, just 1,400 feet from where the anchor was let go. This brought the wind on the

beam, and, the ice still running, I fully expected to see it either forcing up over the side or through the ship's bottom. The gale, too, was No. 9 in strength, and rapidly had there been a change to heavy falls of snow, with a dark and stormy looking sky; the barometer, however, was steady.

At 11.50, it was high water, very nearly, too, the highest springs, and the run of ice appeared to be easing, for the ship began rapidly to rise, so that at midnight she was four or five degrees from an even keel. The well was immediately sounded and found all right. The ice quarter-masters sounded round the ship, whilst the crew hove up the best bower (off the ice), and a taut strain on the small bower chain, well out to the southward and broad on the beam. The soundings were as follows: 13ft. 6in. on starboard bow; 14ft. on starboard gangway; and 13ft. 3in. on starboard quarter; 11ft., only, on port bow; 12ft. on gangway, and same on quarter.

After the anchors were secured, a quantity of provisions were got on deck, and placed already for handing into the boats, if it was necessary to desert the ship, although the chances were very much against many, if any, getting to the shore, in the state the ice then was, and the dark and heavy weather showing evident signs that the gale was not over. As the tide fell, the ship went over on her port broadside, to a heel of  $25\frac{1}{2}$  degrees, at low water. Life lines were, therefore, got up, and decks battened, to carry on the necessary duties; for, bad as the prospect before us was, I still hoped we might get her afloat before the season finally closed, as we had often experienced the effect of the north and N.W. winds on the ice, in clearing the bay, but it had never been so heavy as at this time. All, I think, hoped for such an event, for the strength of the crew, (forty-one, all told,) without some such help, was inadequate for clearing, in time, a space of open water and heaving off; yet they worked on cheerfully in the new and novel kind of labour, notwithstanding so little prospect of success was before them.

All were now busy clearing holds and getting provisions on deck, for landing when we could see clearly the way, for there was so much snow falling in the long continued and frequent squalls, that it was not until nine o'clock, in a lull, that an attempt could be made; the ice being stationary, too, and the ship not more than a thousand feet from the shore, was favourable. A party was sent to explore, but returned with such discouraging reports of the route being so hummocky, the number of large and wide fissures, partially filled with sludge and snow,—deceiving some, to their cost,—that, considering it too dangerous to risk either accident or loss, I deferred it to a more fitting time.

On sounding round the ship again at the high water, and finding it deepest ahead, enough within a dozen feet of the stem to float her; then preparations were begun for heaving off. The chain pumps had been rigged and tried directly the ship righted again, but, happily, she made no water at that time. The main deck ports were all barred in and caulked, with every thing well secured for any contingency.



At 1.15 p.m. it was high water, and, sounding round the ship, we got different depths from what was obtained last night; now finding more by six inches. This was, most probably, caused by the ice; and, observing the nature of that immediately about the bows and starboard side (loose and sludgy), a strain was hove on the small bower cable; but it had no effect whatever on the ship, the anchor coming home as she fell with the tide.

At 2h. p.m., the ice in the bay, about a quarter of a mile eastward of our position, was seen driving to the southward in a long narrow strip, thus forming a canal of considerable length. This could only be caused by tide coming through the narrow channel between Beechey Island and the main, for the wind was still blowing strong from S.S.E., No. 8 in strength.

At low water, the least depth we had was six feet, and on the port bow.

The gale broke very early on the morning of the 30th; and as the tides were now taking off, nothing could be done, for the present, in the way of moving the ship. Finding, therefore, the fissures in the ice somewhat filled in and frozen over, and bridging other places with planks, landing the stores, &c., was commenced. This service employed us fully until the afternoon of the 8th, with the exception of the intervening Sunday and a day that it blew so hard from the S.E., with such thick falling snow, that we could not see our road. However, we had managed to get, altogether, thirty-five tons out of the ship and on shore; which I considered sufficient, as there was a probability of being driven out to sea even yet.

The purchases were rove and all ready by the 11th. The first was the stream anchor and cable. The anchor was carried out and buried in the ice, (therefore, soon froze in,) about twice the ship's length to the N.E.b.E. (true). The cable was brought into the starboard bower hawse hole and to the windlass, with its double purchase on. The remainder of the chain was passed round the ship for a necklace, and to it, at the stem, a 16in. double block was seized. Ten feet within where the stream anchor was buried, a large toggle was placed under the ice, with a chain strop round it, to which was attached two 17in. single blocks and one of our own top blocks. A 4in. hawser (whale line) was rove, the standing part fast to the necklace, and the fall led in through the port hawse hole, thence, aft to the capstan. These blocks originally belonged to the *McLellan*, whaler. We little thought when we took them on board that we should so soon have to use them. The lower yards were got down and topmasts housed.

I had felt very anxious to go over the ice and examine into its state, and, perhaps, be better able to form an opinion on the position we were in, and the chances of getting off this winter. This I could not effect before the 30th, and then only by a view from the shore, for the ice was in so many places separated, and wind occasionally blowing in heavy gusts, that it was hardly possible otherwise. I got on shore abreast of the ship and walked along the eastern shores of Beechey Island to the northern part of the bay; and, although I could not see

much of its outer boundary, had a good view well across to the eastern side, and saw quite sufficient to convince me that however bad our present position was, it might have been worse. The bay, with the exception of that space of open water left clear by the ice driving out the day before, was covered over with old broken up heavy masses, and forced into hummocks, from ten to twelve feet in height: occasionally, also, berg-like pieces at least twenty feet above the surface. It was fortunate that we were not lying further off shore, for I am confident that, had we been only half a cable more to the eastward before driving, we should have had this heavy ice to contend with, driven sooner, and, in all probability, lying a helpless wreck amongst it. It would have been impossible to have resisted the pressure, and such ice would either have gone over or through us, after bringing up at the head of the bay, whose whole northern shores exhibited ice lying heap upon heap in inextricable confusion. Close along the shores of Beechey Island in the bend formed by the long, low, and narrow strip terminating at the eastern point of the island, was a good extent of smooth floe, where we might, possibly, have escaped; but the difficulty then would have been in getting out again, against which I had been so cautioned. Again, riding there with the strong east and N.E. winds, which we had frequently experienced in September, we could not have veered without tailing on the ground. Union Bay, at this time, was clear of ice, it was only a few days ago that I was walking on it.

On the 5th of October, I had another examination of the ice, and from the summit of Beechey Island. From its N.W. part I saw Wellington Channel closed, excepting a few short lanes of water here and there. The ice was very heavy and hummocky. A thick coating of new made ice covered Union Bay, inside a line from Cape Spencer to a short distance west of the *Resolute's* cairn on Beechey Island, and, if no more gales break it up before the close of the season, will form a good smooth floe. From the southern part of the island, I had a good view of Barrow Strait, showing a great portion of open water yet, with large quantities of heavy sailing ice in it. A continuation of the wind then blowing (N.W.), although light, would soon make a clear sea; somewhat stronger, would drive the ice out of Erebus Bay; indeed, I expected something of the sort before a final close of the season, and prepared for it by laying out warps, &c. The lane of open water to the eastward of the ship, which opened out some few days ago, extended like a river quite to the edge of the ice, and joined that in the strait.

Some of the floe pieces about the ship were very heavy, one on the port quarter, close to, fifteen feet in thickness, another, a little more distant, twenty feet. That on the port quarter may possibly have prevented the ship driving further on the shoal, for at low water when she falls over it was almost touching. At a later period, 12th of October, I was again walking on the ice and out towards the strait. The long lane of open water was completely frozen over, showing a solid smooth floe. On either side of it the ice was piled in heavy hum-

mocks. From abreast the point of coast within Northumberland House, from one and a half to a cable's length off the beach, was an accumulation of heavy berg-like pieces and hummocks formed by the piling of crushed ice, twenty to thirty feet above the surface level. It would have been certain destruction to anything amongst it, tremendous indeed must have been the pressure, and all along the whole of the southern and western shores of the island was the like endless confusion.

The first heavy heave we had on the purchases was on the morning of the 14th of October. The tides had been gradually getting up, every preparation was made, and we were looking for the highest, which I had found generally to be on the afternoon of the second day after the full and change of the moon. Winds too influence them, north or N.W. winds causing an increase. On the 13th, at noon, it was high water, the greatest depth being thirteen feet, the purchases were only hove to a taut strain, when we continued blowing the ice up and clearing it away from about the bows, but from the lowness of the temperature, ranging for the last few days between 6° and 7°, the process was very slow, for so much sludge remaining added greatly to the speedy formation of the young ice. However, if we could only move the ship three or four feet ahead with the first efforts, I should consider our getting off certain before the winter finally set in, and by the end of this month, October. If not, we must give it up for the season.

On the morning of the 14th, at twenty minutes after midnight, the tide was higher than we have yet had it, so all being ready, purchases manned, and charges placed (4lbs.), we hove a heavy strain, then blew up, so completely shattering and loosening the ice about the bows, through which we might have hove the ship at least eight feet on end, but unfortunately there was not sufficient water, the tide standing at the 14 feet 4 inches forward, and 13 feet 3 inches aft. On the afternoon there was a higher tide, but our efforts were equally fruitless, we could not move the ship notwithstanding the depth of water was greater than at any previous time. There was 14 feet 8 inches on each bow, 13 feet 8 inches on starboard gangway, 13 feet 2 inches on port gangway, and 13 feet 10 inches by stern post. The least water was therefore amidships. The tides now began to take off, and finding so much difficulty in clearing out the ice broken up by the charges, and the quantity of sludge remaining, which the low temperature soon formed into a solid mass again, I determined on trying with saws and parbuckles in an attempt to open out a dock, for I could not think of giving up as long as we could work on the ice. Although it was certain to freeze over again, yet the new ice would be more easily removed when the next tides came on the 29th, than the heavy stuff, in the proposed line of dock; one piece measuring 30 feet by 40 feet over, seven and eight feet in thickness, and a short distance from the bows.

We commenced on the 14th with the saws close to the bows; and on the same evening had only cut and parbuckelled out a space of 12

feet by 10 when we came on the heaviest stuff, consequently progress became slower. The inner part of this ice grounding too at the latter part of the ebbing tides, our saws were then of little use; and as it was thinner outside in the same line, the triangles were removed there; but notwithstanding, for the two or three days we worked in this new position, more progress was made, the water froze nearly as fast as it was opened, greatly accelerated by the sludge and small stuff, which could never be effectually cleared out, it really occupying more time than the actual sawing; and the work of a previous day had to be gone over again before we could commence where we had left off. This was by no means encouraging, and however reluctant I might be to give it up entirely, the time would not be far distant when there would be no choice. At all events I determined on making one more effort, by placing the whole of our strength in another place, where, could we clear the ice out, the probability of moving the ship was greatly in our favour. This once effected, however small, we might so shatter the ice with 4lb. charges, that heaving through it to a sufficient distance to get depth of water to float in, might be accomplished.

This new place was on the starboard side of the ship, where the ice was of more uniform thickness, although heavier; and from her constantly rising and falling with the tide, all along the side was open and broken up, consequently only one cut was to be made, which was more likely to prove effectual. We therefore commenced, on the 18th, close aft on the starboard side, about ten feet from the ship's quarter, cutting in a line so as to open a space for her to pass on the starboard or south side of the large floe piece, then by keeping a little to port to clear another floe piece, and once and a half more than her length in the original line of dock, or to the N.E., the desired place would be gained; making the whole distance to be accomplished three times the length of the ship.

Although the difference in depth of water by this new cut for about twelve feet broadside off was but slight, still we should get clear of the heavy floe piece; we therefore set to work with a will and laboured incessantly until the 29th, (the day of the highest tide,) when having only got a little before the forechains, with the space we had already opened frozen solid and nearly as thick as what we had removed, loose and large pieces amongst it, that had been forced from under the main ice by tide, was sufficient proof of the inutility of continuing any further attempts for getting the ship afloat this season. I therefore gave up the idea, feeling it more imperative on me to do so, as the incessant labour in such weather was beginning to tell on the men; their feet frequently getting wet, and there not being sufficient time from the period of leaving off work to commencing again next day to dry their single pair of cloth boots; and there was labour before them of no ordinary kind, requiring every energy to accomplish.

The saws were laid aside, and my sole attention was directed to this work, viz., the endeavour to keep the ship on an even keel without water under her, (the least we had yet had was four feet,) for this constantly rising and falling with the tide, as she had hitherto been doing,

would soon make her uninhabitable. In fact there had been cause in the early time of our disaster for abandoning the port side of the main deck entirely, which was often slightly ameliorated by means of small stones; but as the season advanced they were not found sufficient, and the ship was getting as bad as ever.

To keep the ship on an even keel when the tide left her, shoring naturally recurred to me; but a moment's reflection told me that among ice it would never do, for with it rising and falling with the tide, the shores would soon be displaced, and down would fall the ship, with every probability of her never rising again. It then came to my recollection of how often (when employed as an assistant under Capt., now Adml., Owen in the survey of the Bay of Fundy) I had, when in command of one of the tenders, laid high and dry alongside of wharves, &c., in dock, without doing more than giving a heel in; and the idea struck me, that could such a thing be built here with ice, it would answer our purpose well, and keep the ship in an upright position quite as effectually as with wood and stone. One difference was, and that was a material one, we were large and they were small. However, I determined to try it: for to lie with such a heavy list for at least eight months in such temperatures as we were certain of having, was a most serious thing for consideration. Already we had found the sylvester defective, and when the ship was down with the tide, a complete glacier would form on the port side, with the thermometer showing there  $18^{\circ}$ , whereas on the opposite side it would be between  $60^{\circ}$  and  $70^{\circ}$ . I felt the greatest difficulty would be in sinking a portion of the main ice to get a firm foundation for building on.

To effect this, I first proposed filling the water and all other empty casks we had, and placing them a certain distance, say twenty feet from the port side of the ship, (the side she always fell on,) and when the contents froze build on the intervening space, until such a mass accumulated that no tide would float it off the ground, and finally increased to such a solid wall that the ship might lay against it without the fear of breaking it down with her weight, even when assisted by strong winds. All the ice therefore cut and parbuckelled out from where we had been sawing was broken up and thrown in on the port side, wherever an open space presented, thereby filling up under the bilge; and so increasing the whole that the accumulated weight caused large pieces to crack from the main ice, thus freely admitting water as the tide rose, which overflowing and freezing rapidly, soon formed into a solid and immoveable mass, that not even spring tides could affect.

For the first tide or two after commencing, the weight of the ship crushed all down, but so slowly that I apprehended no damage could have been received; and when about to place the casks, found we had gained so much without them, that my first intention was abandoned; for on the evening of the second day after commencing this unusual way of keeping a ship on an even keel, she was held up two degrees from the extreme heel of  $25\frac{3}{4}$ , consequently our casks were saved.

In another way we appeared to have derived benefit from this filling up the vacant places. The ice had apparently acted as a wedge and

somewhat forced the ship to starboard, for the soundings on that side were more regular and a trifle deeper. This was indeed good news, more especially after our previous labours having so failed; and the work was carried on with renewed vigour. Finally getting her up to  $7\frac{1}{4}$  degrees of heel by Saturday the 30th of October, this I considered quite sufficient, and took no further steps to lessen it; and a strong breeze coming on the same day, fully tested the stability of the work, the wall yielding  $2\frac{1}{2}$  degrees only while the gale lasted, when piling was again renewed, and the ship righted to the  $7\frac{1}{4}$  degrees.

I now looked upon the outside work as completed, the ship safe, and certainly in as snug a position as could possibly be expected under circumstances; her interior condition too was improving. All gear was therefore unrove, the winter housing fully secured, and I was congratulating myself on the completion of so toilsome a job for this season at any rate, when at low water on the morning of the 8th of November, the ship was only heeling  $5\frac{1}{2}$  degrees. Now as nothing further had been done to the banking completed on the 30th, nor any northerly winds of sufficient strength to lessen the heel, I could only conclude that it was caused by the rapid formation of the young ice; and having no bank on the starboard side, we might be forced over before we were aware of it. The work was therefore commenced of building a wall on the starboard side, which kept us pretty constantly at work until the afternoon of the 3rd of December, the only interruptions arising from gales of wind, and unshipping the rudder. Even with the wind only blowing moderately with the thermometer at so low a temperature as we had it the men would be driven on board.

The heaviest gale during the latter work commenced on the 9th of November, from S.b.E., 7 in strength, and increased to 10. It continued for eight and forty hours, accompanied with such heavy gusts, that I really apprehended serious consequences. Happily the wall on the port side stood firm, and when the gale moderated we went to work again. This was the second time the solidity of the work had been tried.

On the 12th of November, close by the stern-post, there was found a depth of 13 feet 10 inches, the most water found in the fall (autumn), and just one inch more than the ship drew when she left Chatham for Deptford to take in provisions. So if we had had open water I doubt if she would have got off without taking out of her a greater portion of stores than had at first been landed. Her draught of water before driving was 14 feet 9 inches.

During the tides in the middle of November the ice about the stern, in moving with the ebb and flow, caused the rudder to work so much that I had it cut through the shattered part at the sheave hole and unshipped.

It may be asked, why was the rudder not unshipped before? simply because there was no knowing how soon we might be driven out to sea, when so much ice was driving about in the bay; and to be driven on shore as we were was never contemplated, when a sufficient depth of water could not be had. Nevertheless, it was tried on the 28th of October, but unsuccessfully; and rather than cut it, the carpenter representing that it would be so much against making it serviceable again, I allowed it to remain; but when it worked so, likely to cause

the stern post injury, there was no alternative. As it was, it was a heavy job, occupying us at least two days.

What induced the builders of it to place such an immense sheave in it, I cannot imagine. If strength was required, which appears to have been the consideration, that rendered it nugatory, for it was in the sheave hole it went when the ship took the ground. A small hole to take the pennant is all that is required, for it is only wanted to lift the rudder out of the gudgeons, the head and heel tackles do the rest.

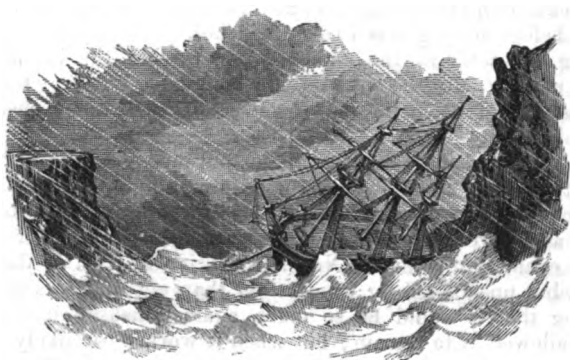
Our work for this year I considered over; it is true it might have been sooner accomplished but for the many interruptions of wind. At those times it was so cold that no one could stand to it long, which, with the shortness of the daylight, (having lost the sun entirely on the 11th of November,) was not in favour of the speedy accomplishment of such work as fell to the lot of so small a number. Again, having for one side broken up all the hummocks close about, the men had to make a wider circuit for material for building. However, all had good reason to be thankful that it was completed.

The first part of the narrative I conclude with the winds, and temperatures of the air throughout the four last months of the year 1852, the greatest part of which time the ship was on the ground.

September was the disastrous month. N.W. winds we had the greatest number of days, but the strongest were from S.E. and S.S.E. and which drove us on shore. Winds from quarters between west and south were very rare. In October the N.W. winds prevailed, but never exceeding in strength 3. The S.S.E. were again the strongest, but not of long duration, 8 was the force, and lasted only a day and a half; the breeze commenced at S.E., however I did not consider it a windy month. In November, from south, to S.E., were the prevailing quarters, and 8 the greatest strength.

The last few days of December the wind between E.S.E. and S.S.E., sometimes blowing very fresh; but throughout the previous part of the month, from south round by east to west the winds were pretty fairly distributed. The mean temperatures, &c., for

September was .	28·8 +	Maximum..	31·5 +	Minimum..	11 +
October .....	13·1	.....	29	.....	9·5 -
November ....	3·12	.....	16	.....	21
December ....	23·7	.....	8	.....	36



*Position of the Ship as she lay aground.*

EXTRACTS FROM A JOURNAL OF CAPTAIN CRACROFT, H.M.S.  
 "GORGON," IN THE BALTIC, 1854.

(Continued from page 76.)

The fleet formed three lines; the French Admiral led the starboard, our Commander-in-Chief the centre, and Admiral Chads the port; the frigates and sloops, all steaming, spread out ahead and on either bow: the speed was regulated by signal to  $4\frac{1}{2}$  knots. In this order we proceeded up the Gulf of Finland, twenty-eight sail in all, eighteen being of the line; and although almost out of sight of land, a cloud of smoke indicated our position and progress to the enemy on either shore continually, for there is no night now to shroud us; the men can work at their clothes on deck all the middle watch:—"Yesterday is not ended, yet to-morrow is begun!" What a telltale this smoke is. Would it not be advisable to furnish all our steamers with the apparatus which, by Act of Parliament, is now obliged to be fitted to land furnaces in England? It would certainly ensure more secrecy in their movements when operating on an enemy's coast.

We passed to the southward of Hochland, *anglicé* Hogland, a remarkable island, from its height, as compared with the low gloomy uninteresting coast of Finland; and at noon, on June 24th, the whole fleet had anchored to the eastward of the Island of Seskar, about twenty-five miles from Cronstadt. On this day cholera had broken out in the fleet, and an engineer (Sapper) on board the *Duke* died of it. Thanks to Mr. Grant's distillery galleys, there is an ample supply of the purest water, the ships provided with stills supplying those who have none, so there is no necessity for the men's drinking the muddy fluid alongside, which, although nearly fresh, is not an anti-cholera mixture; for cooking and washing it does well enough. The summer heat has set in at last: since leaving Baro-sund the weather has been quite tropical, although the thermometer only marks  $74^{\circ}$ . It reminds me of the Woosung River in July; the air, a dull heavy untransparent atmosphere, is stagnant from the prevailing calm, and the flies and gnats are as abominable a nuisance as I have ever found mosquitoes in any part of the globe, the awnings are black with them. I cannot avoid here adverting to the absolute necessity that exists for keeping the men exposed as little as possible to the sun, and heavy dew that falls like rain, for the same causes that operate in the East to produce cholera, are doubtless at work here!

July 1st.—At anchor off Helsingfors with Admiral Corry's fleet. We have been employed during the last week with the *Alban*, under Capt. Otter's orders, buoying the shoals off the entrance to Sweaborg, and there is no little excitement on board, as our proceedings are supposed to be the prelude to something serious at last; the men are sadly in want of some object besides their ordinary targets to practice at; but the Russian fishermen succeed in cutting away the buoys almost as fast as we lay them down, being well rewarded for all they bring in,



so unless a vessel is left to watch every one, our labour is almost in vain.

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The ground has been found very foul in this neighbourhood, and many of the ships have broke their anchors; both our bowers are disabled. It is owing to this, I suppose, and to the exposed position of the fleet in the event of bad weather coming on, that the Admiral has determined to return to Barosund immediately.

\* \* \* \* \*

6th.—I left the sailing fleet at anchor in 30 fathoms outside the Ronskar Lighthouse; and after a pleasant run of forty-eight hours, arrived this morning in the Bay of Danzig: being our first appearance here, the Captain of the Port came off to point out the anchorage; a sailor looking man, buttoned up to the throat in a military uniform. The *Danzig*, a fine looking Prussian man-of-war steamer, (engines by Scott Russell,) just arrived from the Mediterranean, is alongside us. At 8.30 a.m. I landed with the despatches and mails. The entrance to this, the only navigable mouth of the Vistula, is formed by two piers, constructed of wood and stone, projecting nearly half a mile into the sea. A lighthouse stands on the end of the left hand pier, going in, from which a harbour light is exhibited; there is a beacon on the other. A steam dredge was hard at work on the bar, which has not water enough on it yet for the *Gorgon's* draught. I had soon evidence that free trade was at a discount here, by the number of custom-house employés that were perambulating the jetties, which are lined with shipping on both sides as far as the Custom-house at Neufahrwaper, and thence on the left bank of the river all the way to the city of Danzig, a distance of nearly three English miles. The influx of shipping here, owing to "the war," has been very great. Steamers ply every hour between the city and the port; but I preferred the road, and drove up in a drowsky.

It was a hot day, the sun very oppressive; heavy clouds, however, threatened rain, which came down in torrents in the afternoon. The road was well macadamized, and followed the windings of the river on the left bank; it is raised above the level of the low land, on which by the way the produce of the dredge is deposited. Beyond this alluvial flat, which forms rich pasturage, the land rises in broken undulating hills, studded with farmhouses and hanging woods, reminding me of the beautiful banks of the Severn, the grand old towers and spires of Danzig filling in the foreground of the landscape. We drove through the far-famed fortifications, and after delivering my despatches at the Consulate, I took up my quarters at "das Englische haus," the best hotel here.

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Danzig is an interesting city, not only from its past history and antiquity, but on account of the post it occupies as a frontier fortress of the first class, which it owes to the seven years' occupation of the French, who, at the expense of the unfortunate inhabitants, perfected

its magnificent defences. It is the entrepôt of the produce of Poland, and the Vistula flows past its walls bearing many million quarters of wheat annually to its granaries for exportation. In that unhappy country the finest wheat in the world is grown, but the cultivators of the soil eke out a miserable existence on the coarsest rye bread. The peasants who accompany and guard the precious freights, are a most picturesque race, dark and swarthy as the "gitanas" of Spain, and as peculiar in their manners and customs.

In this city the artist, architect, and archæologist will find a rich feast. The Dom Kirche, or Cathedral, a huge brick edifice, contains inestimable treasures in "pictures, carved work, and brasses;" more especially may be noted Von Eyk's Last Judgment, which was removed to Paris by Napoleon, and restored at the peace; and a double screen with folding doors in front of the altar, carved in wood and gilt: the "Coronas" are very handsome: the stained glass in the windows is modern Munich. Extremes meet: thus, we see in the Lutheran church the remains of the gorgeous trumpery of the Roman Catholic temple, of which the people are not a little proud; and no wonder, for as works of art they are invaluable. The Rath-haus, or Town-Hall, whose spire appears to have served as a model for Mr. Barry's ventilators in the new Houses of Parliament, and the Exchange, are most interesting buildings. The street architecture is curious, sometimes grotesque, nearly all gables, with balustrades and "stoop," before the entrance. Gas has found its way here, but the paving is execrable. There is a small island in the centre of the city entirely occupied by granaries, no light is allowed on it, not even a pipe; many of these buildings are very ancient, I noticed the date 1568 on one.

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St. Oliva, a palace belonging to the King of Prussia, formerly a monastery is well worthy of a visit; it is picturesquely situated about five miles from the city on the great post road to Berlin, surrounded by well kept gardens and grounds, which are liberally thrown open to the public.

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On July 7th at 9h. p.m. I left Danzig, having on board, besides the mails and despatches, seventy head of cattle and 30,000 lbs. of vegetables, supplied by Messrs. Brinkman, the agents of Mr. Rencal of Elsinore, the Government contractor, who has to provide about the same quantity weekly for the fleet. We were in sight of the Island of Gottland all the next afternoon, and I longed to pay some of the churches a visit, whose spires and steeples remind me so much of England.

Eased the engines after rounding the Ostergarn Lighthouse, which ought to have a wide berth given it, and at 4h. a.m. anchored at Farosund, intending to tow a collier up to the fleet; but I had my trouble for nothing, as there is a panic among the masters of the vessels collected there, for which vessels, by the way, Government are paying very heavy demurrage. They all refused my offer, deterred by the

dread of the Russian gun-boats, so I proceeded without one. A fresh breeze from the northward drove us down within sight of the spires of Revel, when I had intended making the land about Porkala-udde. Hauled up for the Hasten, which it was difficult to identify, the Russians having removed all the whitewash during the absence of the fleet. Found the united squadrons, numbering some seventy sail, in Barosund, and got rid of my live cargo.

13th.—The *Majestic* went to sea yesterday, in hopes that change of air might have the effect of checking the ravages that cholera has made in her ship's company. The *Austerlitz* ought to have gone too; she has lost fifty-four men already: in fact, more men have been carried off by this fearful disease than would have fallen in a general action.

This evening I paid a visit to the island on which stands the Renskar Lighthouse; it is now a scene of desolation. Here the blue jackets, both French and English, appear to have vied with each other in the art of destruction. The comfortable dwellings of the light keepers, and what were once neat fishermen's cottages, have been gutted; and at last the Admiral, having had his attention called to the timber used in their construction, which was rapidly disappearing, and might be converted into something more useful than firewood, sent the carpenters of the fleet to take down the houses and remove the materials afloat. The lantern at the top of the tower is utterly destroyed; not a pane of glass left, and even part of the staircase is broken down. The view from the summit is certainly magnificent; the town and harbour of Helsingfors, and all the shipping in it, Sweaborg, Revel, the Hockskar, and all the groups of islands to the northward of this extensive sound, form a splendid panorama, the interest of which is not lessened by the presence of our magnificent fleet.

Our bullocks were scarcely out of the ship before a collier came alongside, a Norwegian brig, the master of which gave me some trouble. Many of these foreign colliers have a private venture of liquor on board, and unless carefully watched they have little difficulty in disposing of it; it is well for the commanding officers of H.M. ships to be aware of this. We had not only to clear this vessel, but to ballast her into the bargain; the boats of the fleet being too busy exercising with the scaling ladders (!) to assist. I wish they may have a chance of using them in earnest!

15th.—Our proceedings were interrupted on Thursday by a heavy swell which came in with a fresh southerly wind, although we are anchored within half a mile of the lighthouse, and, as I thought, completely sheltered. But this morning we got rid of the collier, and at 10h. a.m. my signal was made to go under *Alban's* orders. Before noon we were underway and standing for the islands in the vicinity of Degero. We left Pikala Fiord on the starboard hand, and entered the little archipelago. At 3h. p.m. we came to in ten fathoms (mud), the fleet in sight, over the trees, from our mast-head; *Alban* in seven fathoms.

Having made every preparation against a surprise from the gun boats said to be lurking in this neighbourhood,—our guns all shotted

with grape and cannister, and fifty muskets and minie rifles loaded on deck,—sent the boats away to sound. I accompanied Otter in his gig. We landed at several places to take angles for the survey of the anchorage, upon which he is employed, and whenever we fell in with any of the inhabitants were received with cordiality. They, however, told us that they dreaded lest the Russians should discover they had held any communication with us. Their log huts were scrupulously clean and comfortable; in every one I entered I found a testament and psalm-book, in Swedish, for these Fins are Lutherans. We obtained fish, (excellent perch,) eggs, and milk from them, but they would not part with their fowls, sheep, or cattle.

Sunday, thanks to Capt. Otter, was a quiet day, fully appreciated by all hands.

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17.—Otter's attempts to procure a pilot for this little archipelago have been fruitless; so we started this morning on our adventures without one,—he leading, in his gig, the *Alban* following, and *Gorgon* bringing up the rear. The day was lovely, and the sun lit up the beautiful pine clad islets till they seemed like fairy land. We proceeded safely four or five miles, in a westerly direction, and I was in hopes we should get through our day's work without much trouble, when, in a very narrow passage, just after Otter had satisfied himself the way was clear of danger, and called out to me "follow," the *Gorgon* went bang upon a rock which the *Alban* must have escaped by a miracle, as we had only three feet water alongside. Laid an anchor out and in less than an hour she came off. Proceeded again, with a boat on each bow, and at 3h. p.m. anchored for the purpose of reconnoitring the neighbourhood more effectually in the boats. We were now off a place marked Ingo on the chart, and not far from the entrance of a little creek that leads up to the village of Westerby. We pulled up to the latter first with three boats, well armed; but the inhabitants kept out of the way, although we could see them loitering about at some distance. On our arrival at Ingo, we found it had been occupied by a guard of twenty Cossacks, who decamped on our approach. Observed the telegraphs working right and left, and beacon fires burning. This village is prettily situated, but the access to it is not easy. It has some good houses. The church has been lately rebuilt; detached from it is a curious ancient belfry. The inhabitants answered our questions readily enough, although at first they regarded us with great suspicion; perhaps they had been led to believe that we had a design upon their property. They could afford us no intelligence about the gun-boats, and I shall begin to think they exist only in the imagination of the officer who reported to the Admiral having fallen in with them!

18th.—Our cruise was brought unexpectedly to a close this morning. The *Pigmy* arrived from the fleet and recalled us, just as we were starting to pursue our further investigations in these unknown regions. Threaded our way back safely to Baro-sund, where we found everything prepared for a start, some of the French ships already under-

way. Steamers were stationed to all the buoys, to take them up as soon as the fleet had passed, which looks as if this place was not to be revisited this year. My station was off the Great Shirk Rock. At 5h. p.m. we got away with our buoy, leaving only *Imperieuse* and *Dragon* behind. On coming up with the fleet, under a press of sail and steam, my signal was made to proceed to Faro, coal, and bring *Tyne* to Ledsund, Aland Islands.

\* \* \* \* \*

22nd.—We had a narrow escape in running into Ledsund to-day, being deceived by the position of a collier, anchored close to a dangerous shoal; a signal from the Admiral stopped us in time. Cast off the *Tyne*, and proceeded to lay down a buoy on the said shoal, and to get off an English schooner which had run ashore there.

The next day (Sunday) was no "day of rest" for us. Before 8h. a.m. we were despatched in search of the *Chieftain*, a transport, laden with stores, supposed to be in the neighbourhood; and on our return, unsuccessful, we had to go to the assistance of the *Zephyr*, which had grounded above Beacon Island. It was 10h. p.m. before the day's work was finished.

24th.—At 3h. a.m. we were off again for Dagerby, about ten miles from this, where *Valorous* was reported to be on shore, the *Lightning*, with Captain Sullivan, ahead of us to point out the way through the intricate channel leading to it. No charts exist of these waters; I believe nothing larger than a fishing boat was ever here before.

\* \* \* \* \*

At 5h. p.m. our services were no longer required, and I returned to the fleet. In the course of the day, I landed at the little village of Dagerby, and was civilly received by the inhabitants, one of whom spoke a little English. Poor unfortunate people! from their expressions, they are evidently in great fear, and, whatever the result of this unhappy war, they cannot fail to suffer, notwithstanding our anxiety to guarantee them from all loss in the struggle.

25th.—Started this afternoon, with the *Driver* and *Lightning*. At the entrance of Ango Sound, the former parted company and we proceeded through the islands to the northward. Communicated with the *Leopard*, Admiral Plumridge's flag-ship. Shortly after, passed the *Locust*, on the rocks in a very narrow tortuous channel, and *Hecla* busy getting her off. Farther on, the *Basilisk* was anchored for the purpose of commanding one of the landing places on Wardo Island, to prevent supplies being thrown into Bomarsund. About seven miles beyond this, following the serpentine windings of the channel, during which we were more than once nearly ashore, we anchored, at 8.40 p.m., in eight fathoms (mud), north point of Odo, S.S.E.½ E., that of Idolm, W.N.W., and I received my orders to prevent any reinforcements, &c., reaching the fortress from this side. The *Lightning* then parted company and returned to the fleet. The investment of Bomarsund will now soon be completed, and before many days its capacity for defence fully tested.

The enormous rapacity of Russia stands fully confessed in her occupation of these poor islands; nothing, indeed, seems too small or insignificant for her insatiable lust. It is easy to understand that, as a "pied à terre" for aggressive operations against Sweden, they must be important possessions; but in the revenues wrung from the poorest inhabitants, is manifest that greediness of gain is not altogether forgotten in the account. The cupidity of Russian officials is also well known, and here they act as spies upon Sweden besides.

(To be continued.)

SAILING DIRECTIONS FOR THE ISTHMUS OF DARIEN.—PUERTO ESCOCES TO SASARDI.—By John Parsons, Master Commanding H.M.S. "Scorpion."

All vessels intending to enter the port of Caledonia should endeavour to make the land a few miles northward of it, as in general a southerly current prevails, setting into the Gulf of Darien and returning on the eastern coast past Cartagena, and then again joining the Caribbean Stream or trade drift,—having been originally a part of it turned into the Gulf by the prevailing N.E. wind. Vessels of twenty feet draught and upwards should approach cautiously, as there are several shoals existing, of less than five fathoms, between Puerto Escoces and Sasardi, and, no doubt, many others along the coast to the N.W.; this part being as yet unsurveyed, and the multitude of small islands from thence to St. Blas would warrant the supposition that there must be many obstructions under water, as our survey of twelve miles has brought to light several not hitherto known.

Having made out the Isla del Oro, which is 450 feet in elevation, with a cliffy appearance at the base and wooded sides, you will next observe, to the southward, the rocky islets, Las Isletes, and Carreto Peak, forming the apparent termination of the land in that direction. The outer islet on with Carreto Peak will make an excellent mark for distinguishing when in the vicinity of the shoals; but this mark must not be brought on by a heavy ship when in the offing between Isla del Oro and the Isletes.

When off Isla del Oro, with a glass, you will be enabled to make out the outer rock of Piedra Island; this kept on with a hill will lead between two shoals of  $5\frac{1}{2}$  fathoms; but with vessels of not more than twenty-four feet draught, these two shoals may be disregarded. The reason for allowing so great a difference as that between twenty-four and thirty-three feet, is on account of the heavy sea running in here with the trade winds, causing an oscillation of the ship, on many occasions, of six feet below the mean level, and I would particularly caution any one not to pass over these shoals without fully considering.

this matter. During the rainy season the water is said to be quite smooth; during our stay, however, in the breezes, we found it altogether otherwise. On this mark you can steer in until near the reef which skirts the Isla del Oro, and which always shows itself. Rounding this, at about two cables off, and the wind being generally at north, you will, on arriving at Rocky Cay, have to work up for the anchorage.

In working up, do not lose sight of the south end of the sand of Surf Bay, behind San Fulgencia Point, on the western side; or shut in Rocky Cay with Dobbin or Sandy Cay on the eastern. This will give you a clear space of eight to ten fathoms mud, on any part of which you may anchor. You can proceed much further up the channel to Scorpion Cay,—good anchorage all the way,—but no distinctive marks can be given for its navigation. We find the best method is by the eye, from the fore or fore-topsail yards at mid-day, or when the sun is well above the horizon. However, only very shallow shoals are seen in this harbour in that way, those of two fathoms being invisible under most circumstances.

Vessels from sea can also enter as far to the southward as Isla Piedra on with Mount Vernon, S. 76° W., taking care not to open Mount Vernon to the south of Piedra, to avoid the outer Reventago breaker, which has twenty-one feet on it, and generally breaks or tops with the sea breeze.

To sail out, vessels will generally have a fair wind either from E.N.E., in the breezy season, or off the land, occasionally, in the wet. It will be merely necessary to round Rocky Cay and the reef, and getting on the line of Isla Piedra and Mount Vernon, proceed to sea on that course. Should the wind not admit of this, short tacks must be made towards the reef, until past the outer Reventago breaker.

In the event of a ship missing stays near one of the breakers,—a thing very likely to occur from the heavy sea,—it would be better to keep away, and pass to leeward of the shoal, than attempt to tack again; as in the latter case a ship would very likely be thrown on it to windward and immediate destruction would ensue, the water here possessing great force.

The left extreme of Rocky Cay on with a tree top, will lead between the outer and middle breaker; and the right extreme of Mangrove Cay on with the same will lead between the middle and south.

These two last marks could not be easily recognized by strangers, and, therefore, a good judgment with regard to distance should be made. Of course should buoys ever be laid down the navigation would be rendered comparatively easy.

Vessels can also pass along the shore to Port Escoces, taking care not to come outside the line of the left extreme of Dobbin Cay on with solitary tree on Scorpion Cay, N. 48° 40' W., magnetic.

Vessels coming round Isla Del Oro must be careful to avoid the Point Shoal, lying two cables off the extremity of the island, and having four fathoms on it. This shoal breaks with a strong N.E. wind.

The port of the Scotch colony of 1698 is a place of very little value in comparison with Caledonia Harbour; owing to its limited dimensions, the dangers of its entry, and the difficulty of getting out with the usual winds. No doubt it appeared to the colonists everything desirable for ships of that date; and the calm and sheltered appearance of the upper part gave them every promise of a secure port for their small vessels. No marks can be given for its navigation, as the land presents nothing but a series of wooded hills so much alike that there would be no chance of a stranger making them out. The best method is to enter north of Escoces Reef, and, passing midway between that and the western shore, pass on either side of the middle shoal, as convenient. A vessel will scarcely be able to sail to the top of the bight, as, after passing Harbour Rock, the winds will be found in all directions, changing every few seconds, even though a strong breeze may be blowing outside.

Middle Reef, Antonio Rock, and Harbour Shoal, generally show themselves by topping with a strong wind.

With a strong wind, the space from Escoces Reef to Punta Escoces appears to be a barrier reef, generally breaking right across. In entering by this channel, vessels should be careful to steer directly in the centre of the passage, and not haul up too soon on account of the loose shoals off Escoces Point.

The site of Fort St. Andrew and the canal of the colonists was not exactly known until searched for by Dr. McDermott, of H.M.S. *Espiègle*, and myself, assisted by an Indian who had some faint recollection of there being such a place. After a little trouble, we found the canal, quite perfect; the north entry having been cut through the rock, eight feet deep and twelve wide, and the canal being cut angularly, as a fortification. An embankment exists on the side of the enclosed space, evidently for the purpose of defence against land attacks. We could find no vestiges of habitations; neither were there any guns. These latter, I think, have been removed by the Spaniards, and, probably, now help to form the barrier around Fort San Joseph at Cartagena.

We dug into several mounds having the appearance of graves, but could find nothing. These were, probably, heaps from the foundation of buildings, and the cemetery may, possibly, have existed at some distance from the fort. I have named the hill on the extremity of Point Escoces Paterson Hill, being the mound the colonists were accustomed to visit in the evening to look towards the sea in the direction of Scotland (Warburton's work of Darien).

The land in the immediate vicinity of Puerto Escoces is higher than that about Caledonia, and, therefore, offers less advantages for a canal, even were not the port so far inferior; but this merely includes the first and second range of hills, beyond which I have not been enabled to make observations.

Sasardi Harbour is a fine sheet of water; being a mile and a half long and three quarters of a mile wide, with an average depth of six fathoms throughout, excepting a few shoals nearly awash. It is joined



to that of Caledonia by a narrow bar of twelve feet. This, Mr. Gisborne bored, and found it could be easily removed, having penetrated into marl fifteen feet. This would make a clear communication with the advantage of a double entry.

To enter the Sasardi Channel, open Sasardi village of Sasardi Point S. 78° 30' W., magnetic, and steer in on that course until near the entrance; when, either pass at the distance of one third the width of the channel from Sasardi Point, or within a cable of the reef skirting the Sasardi Islands. Four fathoms is the greatest depth you can secure in this last; the other has nine to ten fathoms. The shoal in the middle, a flat hard limestone, will generally show itself by breaking. After passing this shoal, you may steer close past Graze Point, anchoring where best suits you.

To sail out of this channel will not be so easy a matter, as the passage is narrow, the sea rough, and the wind generally against. Should a land wind blow the course out would then be easier effected.

Vessels entering the channel may haul up and anchor off the village, in three or four fathoms, taking care of the dry rocks which exist in that bay.

Several small streams empty themselves into Puerto Escoces; but these are mere rivulets, emanating from the first range of hills and occasionally becoming dry. Good water may be obtained from them; but the landing is, at most times, difficult.

The rivers Aglatomate and Aglaseniqua are streams of from twenty to fifty feet broad, and never dry. The waters in both are excellent, but in rough weather it will be difficult to obtain any from either; at other times, boats may load under cover of the little reef at the mouth of the Aglaseniqua. The banks of these rivers are so densely wooded as to render it impossible to observe the surrounding country from them. Their courses are exceedingly tortuous, and the first party from H.M.S. *Espiègle*, having followed the bed of the Aglaseniqua, arrived at the most extraordinary conclusions with regard to their supposed positions.

The little rivulet at Sasardi is the best place to water at; being generally smooth, though shallow. Up this rivulet, the Indians paddled us for two miles, making our way through fallen trees and other obstructions with much ingenuity. It has but two feet water, and is ten wide.

The village of Aglatomate, situated near the mouth of the river, consists of merely a few bamboo huts. These were occupied, during the expedition, by the New Granadian party; and they fortified themselves against any attacks by an outwork of sand enclosing the village.

The village of Sasardi consists of fifteen huts, containing about fifty people. They have some trade with a few American vessels, principally in cocoa, cocoa nut oil, hammocks; receiving in return, guns, powder, lead, cottons, and culinary utensils. Money is never passed between them; in fact, they know no use for it, except to ornament the feminine part of the community, which they do in great profusion. The Indians we met here are of small stature, but well

made, and the women the most diminutive little things, averaging from three and a half to four feet in height. They wear nose rings of gold, with a great quantity of beads and coins in the shape of necklaces and bracelets for the arms and legs. These latter they have so tight as almost to stop circulation, thus making the limbs appear to have an extra number of joints. During our stay they were exceedingly friendly, however anxious to get rid of us. This they did not attempt to conceal, but expressed great gratification when told we intended to leave. All they wish is to be left alone, and they never allow any of the traders to penetrate the country, or scarcely even to land on the beach. They are exceedingly averse to labour, existing on plaintains, which grow almost spontaneously, hunting, and fishing; at both of which they are exceedingly expert, seldom or never missing their object.

The people of this village have no cattle of any kind, or even poultry. They aver it is too much trouble; and as the woods abound with deer, peccany or wild hog, the wild turkey, a kind of pheasant, and the partridge, they can at all times procure a sufficient quantity of food. They have no cultivation but their plaintain and cocoa grounds, raising no kind of grain or bulbous roots, although the soil would produce them in abundance with a slight amount of labour. Nature, indeed, seems to have provided them with all they desire. They have a small nut which they string on reeds for candles. These emit a powerful light, being of a very oily nature. They have also a berry which answers admirably the purpose of soap.

Great quantities of fish can be caught along the coast, of the kinds common to the West Indies; with plenty of turtle in the months of May and June.

Snakes abound in the woods, and the smaller kinds of vermin are very numerous. Mosquitoes, as may be supposed with a swampy shore, are exceedingly troublesome.

The seasons are divided into two,—dry and wet. The dry season, from January to May, is during the time of the strong trade winds, causing the vapours to pass over the mountains to the Pacific. These are arrested when the winds become lighter, and then the rainy season commences, lasting until December, with fine weather at intervals.

The prevailing wind here is from N.N.W. to N.N.E.; this is the trade wind turned from its direction by the continent of America, and finding a void in the Gulf of Darien, rushes in to fill it; from January to April we had it constantly blowing in this direction, with an approach to calm at night. In the rainy season the wind ceases at night; and a land wind blows from the mountains with occasional squalls, with rain, from the S.W.: but I should think it would seldom blow with any force from S.E. or east.

The breezes in the dry season are exceedingly strong, causing a heavy sea to exist along this coast; care must be taken in standing in for the land to allow sufficient room for wearing in the event of missing stays, a thing of most frequent occurrence with us.

Hurricanes are unheard of in this quarter, it being sheltered by the land to the eastward; and these gales never pass over large continents, confining themselves principally to the open sea, or only passing over small islands.

Earthquakes must be rare in this part of the isthmus. The Indians do not recollect it shaking at any time; this would be most favourable to the permanency of a canal when once established.

During our stay (January to April) we found the climate healthy, having no cases of fever although the men were greatly exposed. The average temperature is about 82°, the atmosphere exceedingly moist and hazy, by exhalation from the sea; the land sometimes cannot be seen more than five miles; such must have been the cause of Mr. Gisborne's mistake with regard to seeing across the intervening portion of the isthmus between his two attainable positions.

The water is in general a dirty olive colour, acquiring this from the colour of the muddy bottom, and a portion of the same material being held in solution, so that it is difficult to make out the shoals, except those in the interior of the harbour, where the water is more settled.

Part of the current before spoken of enters the Sasardi Channel, and also between the islands; and the water is also thrown over the reef in rollers, passing through the cays, out to the south round Rocky Cay. In smooth weather this would probably cease. This current is about one third of a mile per hour in the Sasardi Channel.

The set of the tides cannot be perceived, being overcome by the current in question. High water, full and change, 11.40; rise and fall, 1 ft. 6 in. springs, and 0 ft. 6 in. at neaps.

The trees on this coast are of the most valuable description; all the materials for ship building, houses, wharves, &c., being found in the greatest abundance. The country is a mass of trees, averaging from 70 to 100 feet in height, with a growth of underwood difficult to penetrate. Amongst them are found mahogany, cedar, silk-cotton-tree, ebony, a kind of satin wood, rosewood, fustic, logwood, and many other hard wood and valuable trees, most of them of so dense a texture, as to be of the best kind for the above purposes. There also several kinds allied to the pine family, that would make excellent spars for vessels.

The Indians build their canoes of cedar, and another red wood, that they call calli-calli, very hard. They appear to last an indefinite time, withstanding all attacks of worm or other insect, even the black wood ant, which can generally destroy any fallen tree, seem to avoid some of these as of two hard a material.

The shores and the sides of the smaller hills are composed of an accumulation of coral deposit, forming in some places a loose kind of coralline limestone; but in general being disconnected. This is found to some distance inland, on removing the substratum of alluvial deposit, rendering it probable that the low land from the base of the hills has been formed by drift or upheaval in no very remote age. The cays are mostly heaps of sand, formerly shoals, vegetation taking place

as soon as part appears at the surface. This is fully proved by many of the islands being only joined by narrow necks of sand in the middle.

The deposition of shoals and the formation of cays, appears to be contending within the harbour. No doubt the stream from the Pacific, were a clear cut made, would remove many of these obstructions, and cause an entire revolution in the order of the present formations.

All the shoals are of coral formation, projecting from a surface of mud, proving that their growth is in a greater ratio than the deposition of mud from the hills or other sources. They are kept clean by the action of the sea.

The coast Indians all possess gold, but they derive it from those in the interior; when asked questions about it, they seem reluctant to give information, knowing the avidity with which the white race seek for it.

There are several points which are favourable for the entry of a canal, having deep water in close proximity to the shore, with protection outside. From Point San Fulgencia to Escosces, an entry could not exist, as the sea would constantly damage the works, besides choking the entrance with sand. Should this enterprise ever be carried out, many works to facilitate the navigation of ships would have to be erected, such as a lighthouse on Isla del Oro, harbour and cross lights, obelisks on the shore, buoys on the shoals. But of course it will be useless offering any remarks on these points until some determination is arrived at on the grand question.

Scorpion Cay is in lat.  $8^{\circ} 54' 52''$  N., long.  $77^{\circ} 42' 1''$  W. Relative to Fort Charles, Port Royal, in 5h. 7m. 23s., or  $76^{\circ} 50' 45''$ . Variation is  $8^{\circ} 50'$  E. High Water, full and change, 11.40. Rise and fall, 1 ft. 6 in. springs, 0 ft. 6 in. neaps.

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#### NOTES DURING A CRUIZE WITH THE BALTIC FLEET,—in the *Summer of 1854.*

(Continued from p. 125.)

July 25th.—On going on board the Admiral, heard that Sullivan had captured a policeman at Dagerby; and on entering the gun room found him playing at leap frog with the Midshipmen! It appears he was an old acquaintance of Sullivan's; who, when he first went to Dagerby, had a hint from the people there that it would be doing them a service if he were disposed of; but the policeman had taken himself off to the hills. On the Sunday previous, I had had some conversation with him, but, being in plain clothes, I mistook him for one of the people about the place; and, as I was very friendly, he became

valiant when Sullivan landed afterwards, and assumed his green coat of office. The buoys we had laid down had been removed, and on a remonstrance being made against this, the green gentleman in office boldly asserted his full intention to do so in future. On which, Capt. S. gently tapped him on the shoulder, (a preconcerted signal,) and the next minute he was in the boat. So sudden and unexpected was this change of place, that one of the young ladies actually took on herself to go off in a swoon! but, on coming to and finding she was not herself in the hands of the invaders, she enjoyed the joke as much as any of us. On examining the Russian policeman, he proved to be a straight-forward sort of gentleman, with rather an exalted idea of the functions of his office, considering he was in the hands of the enemy. But he gave us some useful information, in return, perhaps, for having speedily learnt how to ask for brandy and water in good English.

26th.—Commander-in-Chief was to have gone up in *Alban* to Bomarsund, to inspect the batteries; but the *Driver* arriving, the honour was transferred to her, and I was obliged to content myself with some Captains and Masters. When about half way up, I was dispatched to bring one of our Admirals to consult with Sir Charles at Bomarsund. The former, with the advanced squadron of steamers, composed of *Leopard*, *Basilisk*, *Driver*, *Locust*, and *Hecla*, was stationed along the north and east shores of the islands, to prevent any supplies or reinforcements from being sent into Bomarsund in that direction. On reaching the flag-ship, anchored on east side of the Island of Wardo, found Admiral had gone north to station ships so that they should be able to see each other and command the different channels. Stood on, therefore, as far as advisable amongst these unknown islands, sometimes keeping Sullivan's track and sometimes adopting a new one of my own, until I found *Locust* and *Hecla* in a fix in a narrow channel. The Admiral then came on board, and, learning that the Commander-in-Chief had returned to Ledsund, I left him on board his own ship and returned to Sir Charles. Ordered to go and bring Admiral Plumridge to Commander-in-Chief. Which being done, coaled *Alban*.

28th.—Replacing buoys that had broken adrift, and in evening was ordered to Admiral Plumridge, to join the advanced squadron of his division.

29th.—Proceeded to the north, and found *Odin* on shore east of Sando. After getting off, proceeded to lead her north about into Bomarsund, going east of Odo and north of Simstalla. After nearly getting on a shoal badly laid down off Silfverskar, anchored *Odin* in safety to the south of the Simstalla group, and made our way to *Hecla*, three miles north of the batteries.

30th.—Quiet day. Admiral came down to look for a landing place for troops; which was soon settled, and he returned.

31st.—At 4.30 a.m. tripped our anchor and, accompanied by Capt. Hall, went to examine a channel which he supposed would save the trouble of going all the way round by Simstalla. 2h. p.m., *Odin* made signal, "Enemy is making a descent on part of the coast indicated." This put a stop to all scientific operations, and away we all

went in chase. But great was our disappointment when we found that a few fishing vessels with two sprit sails, which the mirage had magnified into large schooners, had occasioned the conclusion. The mirage in the Baltic has covered a multitude of mistakes.

August 1st.—Working away at Hall's channel, which proved very troublesome. No sooner was a passage found than a large piece of rock, probably carried by the ice and deposited in the thaw, was found in the middle of it. Found the vessel on shore for an hour, but hove off without assistance.

2nd.—Still at Hall's channel; which would be a very desirable one, but, with numerous buoys and artificial marks, could not feel sure of more than fifteen feet. Gave it up, and fixed the position of rock in Silfverskar channel.

3rd.—Examined carefully passage north of Simstalla; built a large beacon, with a ball at top, to distinguish it. Observed true meridian, and corrected coast line.

4th.—Found islands to N.E. very incorrect.

5th.—Proceeded to examine and sound to the N.E. of Bergo, to try and discover water enough that way for a line-of-battle ship; which would then complete a passage from Ledsund to the north sound of Bomarsund. Found four fathoms, but think there is more.

6th.—Admiral Plumridge came on board and sent me to a transport for 200 French soldiers, to convey to Bomarsund. Report said that a Colonel, with 500 men, had landed and were in hourly expectation of an attack. On arriving, found the Colonel amusing himself on Lumpar Island, cutting gabions by way of passing the time on Sunday, without any expectation whatever of an attack, and the troops I had on board were very nearly being sent back. After disembarking them, I followed *Leopard* and found she had been on shore in being piloted to anchorage south of Simstalla.

7th.—At 3.30 a.m. proceeded to the northward; where I found the troop ship, and conducted her to the anchorage on the north side of Bomarsund, about three miles from the batteries. Then proceeded ahead of *Leopard*, and brought her into the same place. Informed by Admiral Plumridge that it was intended to land the north division of the army, consisting of marines, French troops, and a rocket brigade, inside of Helsa Holm, and was directed to ascertain if it were part of the mainland, as shown in the chart, or an island, and to find out the best place for landing and any other information I might be able to ascertain in reference to the nature of the country. It appeared to me that the shortest and most effectual way to do this was to land and gain some height which would command the country at the back. Accordingly, with seven of our men, well armed, we proceeded on shore, but found the hills covered with straggling trees, which prevented a good view. The windmill of a village had, however, been observed at a little distance; so off we went there, and found a number of natives in a barn threshing their corn. They very soon gave us all the information we required. A bare hill (Norringsburg) was then observed to the west, composing the isthmus between the northern

water of Bomarsund and the Easter Fiord, a deep fresh water lake stretching down to Castleholm. Three of its sides were steep and precipitous, for this country, with a good road leading round the base of it to Bomarsund. The possession of this position and Castleholm would cut off all communication between the fortifications and the rest of the island, and prevent any reinforcements from being thrown in. A good path was shown me from the village to the beach, which might be made available for bringing up guns.

On returning to the Admiral, was directed to take up a position to the north of Lefto and await the approach of the troops, which were expected in boats, and to give them any assistance they wanted. To gain this position, it was necessary to pass within range of the forts; but they only honoured us with one shot from Noutak, the high round tower, and that fell short. After anchoring, the officers set to work sounding and buoing the channel. On the arrival of the General with the troops, they anchored in the little bay where the debarkation was to take place, and a council of war was held on board the *Lightning*. The plan which we had made was produced, and it was determined that the landing should take place at the hour of three in the morning: Albans to lead the way. Ships and gunboats were placed in position to protect the landing of the troops, and we then voted for a couple of hours rest.

8th.—At 2h. a.m. we were moving. That gallant fellow, Ward, three Highlanders, and a Swede were picked out to accompany me; and the General and his staff landed in *Alban's* gig, whilst two companies of marines formed on the beach as an advanced guard. The French troops and artillery were to land last, while the marines pushed forward and cleared the country. Everything being ready, the *Albans* had the honour of leading the northern division of the Bomarsund army. The morning was rather dark and every hollow filled with a dense mist. Not a sound was to be heard, nor a breath of wind to move the leaves of the dark forest, as we silently passed along the narrow path,—Ward in advance. On arriving at the village of Mangsteckta, we turned our guide of yesterday out of bed, and he soon entered heartily into our views, pointing out any difficulties before us, and the nature of the country in advance.

Just as we left the village, two cossacks were observed about two hundred yards on the right, but they scampered off as fast as they could whenever they saw the skirmishers, and never reappeared. On gaining the road, I returned to the General, who had just found a prize of several women in three gigs, accompanied by a priest. Two of the former proved to be the wives of officers escaping from the fort; one, with a lady's manner, spoke French fluently and had great self-possession, the other was overcome with grief and begged we would not kill her husband! She was afraid to pass the troops, so I sent Swinson, the Swede, to see her to her new house, which was not far off.

The General had now made up his mind to push on with the marines, leaving a few to keep the way open for the French artillery,

and attain some commanding position near the forts. After travelling about a mile on a beautiful road, we came to a halt, and the marines were ordered to pile arms and take off knapsacks. We had scarcely sat down when Captain —— pointed to a rising ground within two hundred yards, on which was an earth work; and, sure enough, turning my glass on it, I found we were close under a masked battery with several embrasures looking towards us. On acquainting the General with this news, no time was lost in getting on its flank. Fortunately for us it had been recently deserted, for it had embrasures for seven guns, and tents for three hundred men. The position of it was well chosen, and had one discharge been made as we passed the turn of the road great execution must have been done, and the enemy would have escaped easily into the woods.

Continuing our march, two more forts were observed near the road, and we at length halted near the village of Scarpar, and in the houses in which some of the officers of the garrison resided. Here the *Albans* made a capture of some muskets, an officer's sword and uniform, and a number of letters; but, as they were in Russian, and we had no one who could read that language, we did not gain much information. As it was supposed we had now arrived at the back of the hill commanding the forts, it was thought advisable that the General himself should make a reconnaissance of its position; and, as great caution was necessary, Captain ——, myself, and two aide-de-camps, with a guard of a dozen, were alone permitted to accompany him. After a good deal of scrambling and crawling work, we came upon the High Fort, distant about 600 yards, and the Middle or Nottick Fort, 800 or 900 yards from us. The hill we were on commanded both, was partially covered with wood, and was composed of flat rocks of granite, with here and there long ridges of moderate sized boulders. On returning to the main body, the General expressed himself quite satisfied with the reconnaissance, and wished me to return to the Admiral with a report of what he had done. At the same time, I left Swinson, the Swede, to interpret for him, having none that could speak that language.

By this time, the French troops on the south side of Bomarsund had landed, and were seen emerging from the woods and covering the sides of the hills, their glittering bayonets and red trousers forming a picturesque appearance as they crossed the cultivated fields to join our force and establish the investment of Bomarsund.

9th.—Admiral Plumridge hoisted his flag in *Alban*, and we went on a cruise to put the blockading ships in their right places. On the northern part of the Parish of Saltvich, and rising rather abruptly from the sea coast, is a range of hills of upwards of three hundred feet high. On one of these were a number of large conical piles of wood terminating generally with a long pole as signal beacons. These beacons had tantalized every commander on the north blockading squadron, and most had formed some plan to pull them down, but the general stringent order against landing had frightened them more than the Russians, and they were still standing as the Rear-Admiral passed



along the coast. "I shall give Captain Scott an order to pull them down," said he, as I pointed them out while we were standing together on the paddle-box. "But the *Albans*," I observed to him, "quite understand that sort of work." And finally it was settled that, with a party from *Odin*, we should set about it that very night. So, accordingly, about midnight,

10th.—We tripped *Alban's* anchor, and with eighty marines and blue jackets from that ship, and with a man who knew the country, (Leander, of Baso, as cold hearted a traitor as ever lived, if one might judge from his cold grey inexpressive eye,) we anchored close in under the Island of Hamer Holmen, opposite Baso, and pulled up to the head of the fiord in the paddle-box boats, keeping as much as possible under the shadow of the land. The beacons were about a mile inland and the hill rises rather abruptly towards the top. We, therefore, extended ourselves when near the edge of the wood, so as to prevent any one escaping; but on sounding the advance we found none but our own party at the top of the hill. The beacons were soon set on fire, and the smoke from them must have been seen far off. After returning to the boat, we pulled to a village where several men who fired on the *Porcupine's* boats lived, but, though taken by surprise, they could not be found. The place, however, is marked, and we hope to have the pleasure of paying them another visit. It was here we were much disgusted with Leander, who was making love to a fine looking girl and at the same time was betraying her father and brother. We returned to *Odin* about 7h. a.m., having completed our work, the only casualties being the first Engineer and the Pilot dead beaten and shaken all over from the number of falls they had encountered in the brush wood.

Towards the southern part of the eastern peninsula of the Great Aland, is the town of Castleholmen, marked in important characters on the chart, and in talking to the natives about it, I found it was a place of some note, the residence of a magistrate, and of a wealthy squire or farmer. The jail also is there, in which were incarcerated some of the poor Alanders for having the misfortune to be pressed into our service as pilots. It is also the key to the eastern peninsula already mentioned, on which the batteries are situated; and any reinforcements landing to the N.W., a contingency never anticipated, must of necessity pass this isthmus, or else expose themselves to our shipping or the General's marines at Noringsberg, as before stated. To possess this appeared to Captain — and myself a very important point, and the following signal was made to *Leopard*, then six or seven miles distant,—“It will be attended with advantage to detain *Alban* until to-morrow.” To which the affirmative was made. After volunteering 150 officers, seamen, and marines for the work, we lay down for a few hours, as the march of eight or ten miles was intended to be made at night. In the meantime *Locust* arrived with the intelligence that 60 men, in two boats, had effected a landing at Gotkarso, and escaped to the main, notwithstanding all his endeavours to cut them off; he had taken the boats, which were large ones, and supposes he

hit some of the soldiers when in the wood with his shells. It was now of more importance than ever that Castleholm should be in our possession. If 60 had been seen to land, how many more might have landed in the very part which was left unguarded? and which we have heard since was the usual route for the gun-boats. At 6h. p.m. we therefore started, and at 8h. p.m. landed our force near the head of Tango Vick, in Saltvick parish, well armed, in good spirits, and with three days' provisions. It was a beautiful calm night, with a slight mist rising from the flat grounds, the full moon shining brightly upon us; not a sound was heard but the steady tramp of the men and the booming of an occasional gun from the batteries trying to prevent the French troops getting their guns in position. Three occurrences we had to be prepared for: meeting the enemy crossing the country, encountering a French reconnoitring party, and advancing at night upon a French or Russian outpost that might be in possession of Castleholm. We therefore advanced with great caution and expedition, and the First Lieutenant of the *Odin*, Mr. Mould, being quite a soldier, and Ward having a great turn that way, made up for the want of a marine officer. The guides soon lost their way, and when we arrived at the first village, and obtained a local one, we had to retrace our steps nearly a mile; this, and other little obstructions, prevented our reaching the neighbourhood of the village of Castleholm until 8h. a.m.

11th.—We then ascertained for certain that 300 French troops had possession of it. As it would have been injudicious to advance further, I had the men put up in some barns, and the officers in a respectable yeoman's house, with plenty of good rye straw to lie on, and then with Warren and one man went forward to communicate with the French outpost, and give them the intelligence of the landing of the Russians. The distance being greater than we expected, and Warren having lost the skin off his feet, I left him and the sailor, and proceeded alone; and as the French could not have been aware of our landing, and I was coming from the enemy's side, I thought the best plan was to put a bold face on the matter, and struck up a lively air, which no Russian would have ever dreamt of whistling. Either the ruse succeeded so well, or the music so entranced the sentry, that I arrived within 100 yards before he took any notice whatever, and then, after challenging, allowed me to pass on to the guard.

A beautiful and unexpected sight presented itself on the turn of the road. A splendid old ruin, of great elevation and strength, stood towering over a wooden bridge, at the furthest end of which were the tents and fires of the camp, and a stronger position I never saw.

When the French heard of our arrival, they were very thankful we had not met a party of thirty-five of their men, scouring the country, as we might have mistaken each other for enemies. I believe the very next day an occurrence of that sort took place; two French picquets, one from the French the other from the English camp, met, and before recognizing each other an officer was killed and some seven or eight wounded.

As they considered themselves strong enough to repel any attack, I returned to our quarters; but about 9h., just as we had finished a good breakfast, a picquet came in to say that it was supposed 800 Russians were near at hand, and that as they were preparing to blow up the bridge, we must cross over, or else they would not be able to keep up a communication with us. I therefore joined the French detachment, and strengthened our position by making loop holes in a barn, and piling wood on each flank. During the day a reinforcement of 700 French arrived, so there could be no excuse for my staying any longer. The magistrates I had orders to look after had fled; and the jailer, such a respectable looking man, with two such pretty daughters, that I could not feel it my duty to burn him out; besides, it would not have been courteous to do so after the French had spared it; and as the torch could at any time be applied, I made him promise he would incarcerate none without the orders of English or French authority, and gave him a paper to show that I had done so. The prisoners, he said, had been liberated a day or two before, and I examined the cells to see that there were none left. As the cuisine of the hut we had taken possession of was not quite in the French style, I sent the interpreter to a wealthy farmer to say we would come and dine with him at four; and a very excellent dinner and reception he gave us, considering that we had stopped all his supplies, even to his salt, that the French the night before had burnt down his windmill, taking it for a telegraph in disguise, and that he had fourteen hungry enemies to feed. A very lady-like young person, the widow of a civil officer, was staying in the house, and received us with a very haughty look, but afterwards explained to the interpreter, that in heart and feeling she was a Russian, and could not look upon us except as enemies; that her brother-in-law and cousins were in the forts, and that every officer was a personal friend, and that it was quite a mistake to suppose that they would easily surrender; that she had parted from them a week ago, never expecting to see them more. Every respectable person we found here is in the Russian interest, and have no wish to be under Swedes or English. In the evening we cultivated the friendship of the French officers, and when we started early the next morning.

12th.—It had produced such a good effect that nearly the whole body turned out to salute us. The French picquet had arrived bringing 100 stand of Russian arms, and the servant of a Colonel who had left the fort for the purpose it was supposed of collecting the troops when they landed. The Colonel himself escaped, but in such a hurry as to leave his papers behind. Before leaving I sent the interpreter forward to a clergyman, whose rectory happened to be on our line of march, to have breakfast ready for us. On leaving, a lady sent us some flowers, and said, that when we arrived she thought she had fallen into the hands of the enemy, but she had found us to be kind friends. The men behaved remarkably well, not a drop of milk nor an egg was taken without being paid for; and one young woman I found running about in great distress because some one had given her two shillings for sixpennyworth of milk. On inquiring how we were

to remunerate the clergyman, he said, the only thing he would miss was the coffee, so we hope to be able to send him some. About noon we arrived at the place of embarkation, and found several officers, the *Hecla* and *Alban's* boats from *Odin* and *Leopard*, all waiting in the greatest anxiety for our return. They had taken it into their heads, that we should all be cut off, and when they saw Capt. ——— come down all alone to the beach, they took him to represent what Marshal Ney is said to have done, the rear of the army. Capt. ——— had caught the contagion, and when the signal "All's well," was made from the *Gorgon*, he telegraphed back, "Thank God!"

(*To be continued.*)

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#### THE REPEATING COMPASS CARD.

Danzig, 18th February, 1855.

Sir,—In reading the January number of the *Nautical Magazine*, I met with an account entitled "The Binnacle Compass," by Commander Becher, R.N., that has given me much satisfaction. For different years I bestowed a peculiar attention on the deviation of the compass needle, produced by the iron contained in a ship, and have found that it deserves all the care Comm. Becher claims for it. The necessity of looking to it, too, has long since been acknowledged by the Naval Authorities in Prussia, and in the Navigation Schools established by the Government, peculiar care is taken to warn the seamen against this insidious enemy of the Compass, as Comm. Becher justly calls it, and to teach them the means how to know and avoid it.

But the chief object of my writing to you, sir, is the circumstance, perhaps interesting to you, that the Repeating Card proposed by Comm. Becher, has been made use of already two years since in H.M. steamer *Danzig*, though it slightly differs in its construction from the proposed one. It consists of a flat circular brass ring, divided like the Compass Card in degrees. Similar to the Azimuth Compass it is fitted with cross vanes, fixed by joints to a brass piece, that can be turned round a pivot in the centre of the circle, and is sliding on the latter. Both ends of the brass piece are sharpened to a pointer for the convenience of reading off correctly. The circle has two pins on its lower face, fitting in two holes of another brass plate, that is fixed in different parts of the upper work, such as on the top of the rail, the rim of the paddlebox, &c., in a line exactly parallel to the central or keel line of the ship. By means of this instrument, we took all the bearings during our voyage to and in the Mediterranean, adding or subtracting the angle of bearing to or from the points or degrees shown by the lubber point of the Binnacle Compass, where always an officer was stationed to read off in the moment the bearing was taken by the Repeating Card.

This method fully answered to all purposes, and the bearings were found to be always correct. Likewise I obtained the deviation of the Binnacle Compass at once, and there was no trouble of comparing Azimuth and Binnacle Compass after you had taken the bearings of the distant object or the compass placed on land; and all confusion in making up the amount or the name of the deviation was thereby avoided. I can therefore but fully approve of the proposed Repeating Card, and join in the wishes of Comm. Becher that this simple and so highly useful contrivance might be introduced on board of all ships, where it would save many shipwrecks.

In respect to another remark of Comm. Becher, about the disturbance of the needle in steamers, I may be permitted to add a fact that happened on board of the Prussian steam aviso *Nix*. The latter, under the command of Lieut. Piesemann, left at nightfall Carlscrona, in Sweden, and they steered with a southerly course for Swinemunde. Towards four o'clock in the morning they got land in sight, though this was impossible after their reckoning. When they neared it, always running with the same course, Mr. Niesemann found it to be the Swedish coast again, about sixteen miles S.E. from Carlscrona, so that they had made nearly a round turn, and the deviation of the compass while the engineers were at work and steam up, differed from that observed in the harbour about  $160^{\circ}$ .

I have the honour, Sir, to be

Your obedient servant,

WERNER, Lieut. R. Pr. N.

To the Editor of the *Nautical Magazine*.

Our acknowledgements are due to the courtesy of the Prussian Officer for the foregoing letter, printed verbatim, by which Comm. Becher has the satisfaction of seeing that his idea of the Repeating Compass Card has been anticipated by two years by a naval officer of a foreign power, with some slight difference, but in principle the same; and that it has fully answered all the purposes expected of it. He certainly will not be charged with being a copyist, for he has been immersed among charts far away from any chance of seeing the Prussian Officer's invention; and there is a simplicity about his keeping his card always adjusted to the lubber line of the Binnacle Compass before each bearing is taken, thus avoiding the necessity of correcting to obtain the indication of the latter, that at once stamps its originality. It is another among the many instances where the same idea has occurred to different persons, each one carrying it into effect according to his own views. His proposal, however, of making the Binnacle Compass find its own deviation by either method, and that of having a fixed pillar in a selected position on shore with a *graduated* compass on a brass plate upon it, seems not yet to have been anticipated; but, like the "Repeating Card," its economy and convenience for obtaining a ship's deviation will perhaps be a sufficient recommendation for its adoption some time *hereafter!*

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## SAXBY'S PATENT ECCENTRIC STOPPER BITT.

Sir,—The flattering notice of my Patent Eccentric Stopper Bitt, in your number for January, 1854, describes so accurately the principle employed that it might seem unnecessary to trouble your readers with further mention. As, however, ample experience has shown me that your pages are read not only by naval officers of every rank, the heads of the Board of Trade, the Trinity Board, and public maritime bodies in general, but also by shipowners and a vast number of respectable merchant Captains and officers, it becomes important that its records, so far as they regard the latest improvements in all appliances for the benefit of shipping, should be complete. I presume, therefore, to avail myself of your kind permission, and, after fifteen months further consideration and approval, to explain the perfected form of my Stopper Bitts.

In comparing the accompanying sketch with the one in the *Nautical Magazine* for January, 1854, it will be noticed that an immense facility has been added to the method of opening the bitt, inasmuch as in the former the friction of the chain cable round the eccentric bitt itself is entirely superseded, without in the least impairing its extreme simplicity; for, instead of having, as before, one moveable bitt round which the chain worked, there is, in its *perfected form*, a *solid* rim of iron, relieving the friction and strain upon the eccentric stopper, allowing of the more free action of the latter when a man is veering cable. This being apparent from a glance at the engraving herewith, I will not trouble you with further description; merely remarking that, from the friction rim being cast (like the riding bitt) solid with the bed-plate which secures it to the deck, and the head of the pin of the stopper cleat being thus so well supported, immense strength and facility for working are added to the apparatus, and nothing more complete can be desired.

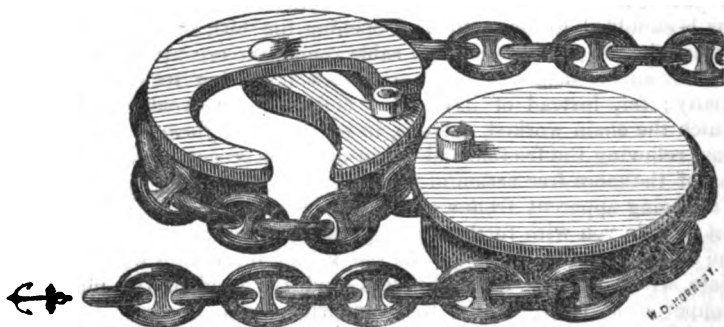
I should be sorry for your readers to suppose that the assertions I make as to my Patents are based solely on my own humble judgment. Many things, we know, appear, to "Patentees," very simple on paper and in theory, which are difficult in practice. In justice, therefore, to your valuable Magazine, and in the absence of any recognized public authority, whose duty it should be to report on palpably useful inventions for shipping, (when fairly and openly requested by patentees to do so,) I feel bound to mention that Messrs. Henry Wood and Co., of Liverpool, the extensive chain cable manufacturers, have for a long time placed at my disposal their immense facilities for testing and examining the powers of my stopper cleat, under their own superintendance, at their works at Saltney. And their highly favourable opinion is corroborated by both Messrs. Abbott and Co., of Gateshead, and Messrs. Redpath and Leigh, of London.—All well known firms of highest respectability.

If not encroaching too much on your space, may I add a remark that there seems to be a growing preference, in very large ships, for

the windlass. In most of the largest clippers, it supplants the capstan. Now, one would infer that the advantage of the windlass must be great, seeing that these clippers, from the sharpness of their lines forward have even less room for it than ships of old had; and this is felt especially in ships having top-gallant forecastles. Six months since, I was strongly advised by a very high authority in naval mechanics to send a model of my windlass to the Admiralty; but I have not done so. Should I, therefore, be presuming too much in offering to describe, with an engraving, in a future number, this new windlass, which not only combines all the advantages possessed by the eccentric bitts, without interfering with the mechanical means at present in use for weighing the anchor, but is just one half the length of the ordinary windlass, and adds very materially to the strength of the whole apparatus?

I have the honour to be, &c.,  
S. M. SAXBY.

To the Editor of the *Nautical Magazine*.



#### REPORT OF MR. J. SCOTT TUCKER, UPON THE PORT OF TABLE BAY.

Cape Town, 6th September, 1854.

Sir,—For the information of His Honour the Lieut.-Governor, and in accordance with your communications of the 4th and 29th ult, desiring my "*opinion as to the best means of improving the Port of Table Bay, and facilitating the landing and shipping of Goods,*" I beg to report that I have carefully examined the locality, in connection with various documents placed at my disposal by favour of the Chairman of the Cape Town Municipality, and other gentlemen conversant with the subject,—so that, without tediously entering into the contingent details of winds, tides, and currents, by which I have been assisted to my conclusions, I submit the following outline of works that I consider

best calculated to meet the demands of the port; bearing in mind, as I have endeavoured to do, the importance of maintaining, as far as possible, the present mercantile arrangement of the city, whose advanced and extending condition should be disarranged with considerable caution.

Great evils, requiring great measures to rectify them, may be pleaded in extenuation of the scale upon which I have dealt with the points to which His Honour the Lieut.-Governor has been pleased to call upon me to deliver an opinion; and my attention to the subject not having been trammelled by the question of *Cost*, explained to me at once that the present evils attending the exposed condition of the bay are so great, and glaringly at variance with the demands of the age, that security was to be gained at all hazards, in order that the growing trade of the colony should be effectually protected; as also that that which daily passes its threshold, from between Europe and the East, should be invited *at all seasons*, by the offer of certain security, for the purpose of receiving repairs or supplies, instead of being driven, as at present, for nearly four months in the year, by the terror and inhospitality of its coasts, to more distant and inferior ports. I have, however, endeavoured to keep *true economy* in view upon every line that I have suggested; and as material is superabundant for such works, in the immediate neighbourhood where it will be wanted, I trust my entire plan will meet with approval.

A more unembarrassed field could scarcely be found for engineering consideration than that at present presented by Table Bay,—for, although holding rank as the chief commercial port of the Cape Colony, and open to the full violence of north and N.W. seas from the Atlantic, it is wholly destitute of artificial shelter, not only for shipping, but also for the boats and small craft belonging to the port, by which all cargoes are, by compulsion, shipped or discharged, and supplies or assistance rendered to vessels in need.

The evils of this (if example were necessary) have during the last few weeks been strongly illustrated, by the stranding of three vessels, which were driven from their anchorage in the roads during one short gale, the fouling and consequent damage of others, and contemporary destruction of thirty-four shore and cargo boats, to the great inconvenience of subsequent shipping operations; and when to this by no means unfrequent destruction of property is added the loss of life which occasionally takes place through wrecks upon the quicksands bordering the bay, in the vicinity of Salt River, and the S.E. or off-shore winds, which prevail in the summer, are equally adverse to communication between the shore and the roads, and through their violence not unfrequently driving vessels direct to sea from their anchors, artificial and positive shelter seems indispensable to satisfy the growing importance of the colony; and I have consequently turned my attention to the attainment of three main points:—

1st. Protection for shipping generally from the ocean swell and uninterrupted communication with the shore.



2nd. Means of landing and shipping goods at all times, without the intervention of cargo boats. And

3rd. Independent shelter for the fishing and other small craft of the port, not in immediate attendance upon the ships in the anchorage.

The formation of the first will materially contribute to that of the second and third; and referring to the plan of Table Bay herewith submitted, peculiar advantages in their attainment seem to be offered between the Custom House and Fort Chavonne, so that the present anchorage shall be maintained as the ground for vessels putting in for either provisions or repairs, the North Wharf, where the chief part of the present landing and shipping of goods is carried on, shall be maintained as the future centre of that trade, and the Fish Market, with its contingents, remain undisturbed: the only alteration proposed being the removal of the boat-builders' yards, which now occupy the ground between the North Wharf and Amsterdam Battery; re-establishing them, however, between the latter and Fort Chavonne, where they would be handy to the shipping in the outer harbour, and where slips and other arrangements might be made with great security and advantage, for the construction, hauling up, or careening of ships, to the opening and encouragement of an essential branch of industry in all maritime places of importance.

The chief of these propositions, viz., that of securing protection for shipping generally from the ocean swell, involves the main outlay; and to effect it, I suggest that a breakwater should be thrown out from the land, as shown upon the plan, commencing from the reef under Fort Chavonne, in an E.b.S. direction, for 1800 feet in length; thence continued, in a S.E.b.E. direction, for 1800 feet additional; and completed by a third arm, or kant, of 1800 feet, pointing S.E.b.S. with a curved head, as shown, round and against which the sea may scour and be dispelled with impunity. Upon the head I would suggest a tower being erected, for the exhibition of a red fixed light, for the guidance of ships taking the harbour at night; when that now shown to the eastward of Green Point may be discontinued; but I am not prepared to recommend the construction of any battery upon this breakwater, as might by some be, at first sight, thought desirable, owing to the run of sea to which the lowness of such a work in that position would at times be inevitably exposed.

The S.E., or off-shore, winds, which prevail in the summer months, and blow with considerable violence, are as detrimental to the present boating process of shipping and landing goods as those from seaward, and protection has to be secured against them; consequently, an inner or counter guard from the land side becomes necessary, in opposition to the usual demands of Harbours of Refuge, and to the corresponding additional expense of its construction: yet in this instance I apprehend it to be indispensable, as without it this harbour would not be complete; for, though rendered safe by the main breakwater from north and N.W. gales, should a vessel to its southward be blown from her anchors (as is frequently the case) by a strong south-easter, she would

without fail strike upon this projected work, and receive material injury; to frustrate which, I have laid down the S.E. inner-guard, or causeway, by which three desirable ends will be attained, viz.: perfect security to the outer harbour, or roadstead, which would be chiefly occupied by steamers and vessels putting in for repairs or provisions, to their uninterrupted communication with the shore; a second or more inland protected anchorage, south of the S.E. causeway, for coasters, in the vicinity of Mud-hole, and the S.E. defence of that portion of the port which I propose to convert into an inner harbour, for the separate reception of merchantmen connected with the colony, and which will be protected by the addition of the two cross-moles, or quays, marked on the plan, with an opening not exceeding 80 feet in width, left in the Mole, dividing it from the outer harbour, through which all vessels for the discharge or reception of cargo would enter and depart; and from the rocky and shelving nature of the fore-shore of this enclosure, and there not being any necessity for encountering the heavy expense that would attend its being quarried out, so as to float vessels on its site, to the enlargement of its area, I would recommend its being made the receptacle for rubbish from the quarries, to the line shown, by which that material will be advantageously disposed of, and ground made to the extent of upwards of thirty acres, in the precise place where it would be most desirable and valuable for the erection of a Custom House, Bonding Stores, or such other buildings as may be wanted; which in this position may be erected without chance of opposition from the military authorities, as the ships in the port will be concentrated under the immediate protection of the guns of the forts,—Amsterdam Battery and Fort Chavonne being in no wise masked by the Moles that are proposed, they forming on the contrary breastworks, aiding in their defence, and which can at any time be swept by them at pleasure.

The space thus enclosed as an inner harbour must be dredged to the depth marked in red figures upon the Plan; all the soundings there being expressed in feet at low water spring tides, and provides ample accommodation for between three and four hundred vessels, of the average class trading to the colony, being equal in area to the united outer and inner harbours of Ramsgate, in the mother country, which is a port much admired on all points, excepting the *cost* of its construction; and by the future addition of landing jetties, cranes, and other appliances, as called for by the growth of the trade, every facility to the speedy, safe, and economical landing and shipping of goods will be secured, without fear of either damage by salt water, or vexatious delay, through bad or doubtful weather.

It may be advanced, in opposition to my entire plan, that the Moles, or Cross-Walls, north and south of the inner harbour, are unnecessary, it being protected from the direct and heaviest actions of the two most prevalent evils by the main Breakwater and the S.E. Inner Guard, or Causeway; but they will tend most materially to tranquillize its waters; and indeed, without them, I should not deem it suited to the purposes for which it is laid out; and so far am I impressed with this opinion,

that from the abundance of material that can be had in the immediate vicinity, I consider it judicious to propose that, although the South Cross-Wall, or Mole, and South-Eastern Inner-Guard, or Causeway, may be made of the slightest section, yet great solidity should be given to the North Cross-Wall, as without such precaution, should a breach be ever made in the main Breakwater, the effect would be disastrous to the shipping within; and its gradually sloping front, aided by that of the natural fore-shore, between Amsterdam Battery and Fort Chavonne, and minor inner slopes of the opposite faces, will tend effectually to tranquillize the waters enclosed, notwithstanding the reaction of that portion of the ocean swell which will, of necessity, enter, after rounding the Breakwater heads.

The erection of the South Cross-Wall will answer the additional purposes of separation and shelter for the fishing boats and other small craft of the Port, not in immediate attendance upon the ships at their anchorage,—the third point to be attained, and which I have planned to occur opposite the present Fish Market, as will be seen upon reference to the drawing; but to check the run of sea that will at times take place along the outer face of the South-Eastern Causeway, to its prejudice, I have added the spur shown as running nearly due south, as its land extremity, which will effectually prevent any disturbance in that direction, as also give additional defence to it from the spread and run of swells setting into the Bay; which arrangement, I apprehend, will keep the three classes of vessels desired to be provided for wholly distinct,—so that the shore boats will not clash with shipping engaged in taking or discharging cargo, which, in their turn, will be separated from those whose stay will be more transient; of which, those under repair afloat will be moored off the builders' yards: whereas, ships-of-war, steam-packets, and occasional merchantmen, will be anchored at option, either in the outer harbour, or space eastward of the S.E. Inner-Guard, or Causeway.

From the inexhaustible hill in the rear of the proposed works, stone, of excellent quality, can be obtained; and by the employment of steam, and judiciously arranged labour, could be run down to the three land-ends of the works at once, with the united advantage of *economy* and *dispatch*: for I propose the whole of the works, excepting the superstructure of their heads, to be constructed of rough rubble, as raised in the quarries, thrown promiscuously into the sea, according to prescribed sections; the best and most regular blocks being reserved for facing above the low water line,—that of the outer slopes of the main Breakwater, North Cross-Wall, or Mole, and S.E. Inner-Guard, or Causeway, for the diminution of resistance to the run and drawback of seas,—and that of inner slopes generally, to reduce, as far as possible, recoil and agitation, as well as sanitary objections, which would otherwise arise in basins frequented so largely as these will be, and subject to so little change of water, from the smallness of the rise and fall of tides in this particular locality,  $4\frac{1}{2}$  feet. For the heads where greater strength will be required, dressed masonry must be partially called into requisition,

A question may perhaps be raised as to the probability of silting taking place in the harbour, through the works that I have proposed to throw out in opposition to the direction of the current that occasionally exists on the fore-shore of the Bay, between Fort Chavonne and the Hospital.

All persons of whose experience I have been able to avail myself, agree in the conclusion that the force of this current greatly depends upon the winds, it being strongest during breezes from the south or S.E.; and I consequently chiefly ascribe it to the water being driven by them out of the Bay at its eastern or exposed side; whereas, the water-level having to be maintained, a flood takes place from the ocean, at its western side, which is there comparatively sheltered by Table Mountain, transporting, in its passage, sand and other loose material, which is caught and banked up against the north or north-western sides of projecting masses on the fore-shore, as clearly exemplified by the stone work of the Central Jetty, which, on its north-western face, has happily caused an advantageous accumulation; whereas the sand and other loose material, on its opposite face, is being washed or drawn away to the eastward: consequently, I am of opinion that all travelling material on the fore-shore, north of Fort Chavonne, will be effectually arrested by the outer or main Breakwater, to its increased solidity, and the consequent security of the whole, by the banking up of sand, &c. against its sea-face,—none rounding the head, owing to the depth of water in which it is laid, excepting that quantity which may be held in actual suspension, and which, with the waves, will be chiefly dispersed over the space outside of the proposed works, to be drawn away by the desirable process before described; but such as will enter the outer harbour, by the tranquillity that will there reign, must of necessity be deposited, but can be removed, by dredging, at any time, when found inconvenient.

I feel that I need not remark upon that which must be apparent to all interested, viz., the vast number of labourers that this or other similar works now in contemplation will call into requisition, and the advantage that the colony generally will derive from their importation, together with the trivial proportion of the money expended that will depart from its shores; neither need I enter upon the almost *necessity* that exists for a harbour, both of refuge and commerce, off the city of Cape Town. The works that I have laid out might be undertaken piecemeal, with proportionate advantage to every stone deposited; and when, with reference to a single Breakwater proposed in 1846, to be thrown out from Fort Chavonne, it was remarked in a letter from their Lordships of the Admiralty to the then Under-Secretary of State for the Colonies, that “such a work, in ensuring shelter to all vessels at all seasons, and especially during the furious N.W. gales of winter, would be an obvious advantage to all mariners, and of prodigious importance to the commercial interests of the colony,” it is considered that the Plan I submit ensures the addition of protection from S.E. gales also, which are equally detrimental to the operations of commerce, I trust that it will meet with the approbation and support of

His Honour the Lieut.-Gouvernor and the Parliament of the Colony, amongst whose first proceedings its promotion has the high distinction of standing prominently enumerated.

I have, &c.,

J. SCOTT TUCKER.

To Rawson W. Rawson, Esq.,  
Colonial Secretary, &c., &c., &c.

*Further Letter from Mr. J. Scott Tucker, relative to his Plan for the Improvement of the Port of Table Bay.*

Cape Town, 13th September, 1854.

Sir,—According to your request of ye-terday, that I should state the grounds upon which I calculated the cost of a cubic yard of rubble in my estimate for the various works I have proposed, and at different rates;

2.—The reasons which, in my opinion, enhance the present cost of stone at the Cape Town quarries;

3.—The cost of convict labour at Bermuda, and the arrangements under which it is supplied by the Home Department of the British Government;

4.—The cost of stone used for the harbour of refuge now constructing at Portland; and

5.—The time which, with a fixed number of men, I estimate for the completion of my proposition;

I beg to state, in reply to the first item, that besides the length of "lead" from the quarries to the different portions of the works where the stone will have to be deposited, and by which the rates will be influenced, "*the sections*" must be taken into strict account, as they will affect the cost of deposit very materially: and to the various estimates of 3s. 6d., 3s., 2s. 6d., and 2s. per cubic yard, I would draw your especial attention to "*10 per cent.*" additional for contingencies having been in all cases provided by me, besides a proportion of full two-thirds of the £30,000 for "*tools*" and superintendence; so that, virtually, my estimate of 3s. 6d. per cubic yard for the rubble of the main breakwater is raised to very nearly 4s. 1d., and the rest in proportion; rates, in my firm opinion, amply sufficient when the leads, quantities, and vertical stratification of the rock to be quarried are, with other contingents, taken into full consideration.

Regarding the second item upon which you require explanation, viz. "*the reasons which enhance the present cost of stone at the Cape Town quarries,*" I would only invite an inspection of them, for they are wholly without crab, capstan, cranes, screw-jack, or tramway, and excepting wedges, with an occasional crowbar, perfectly destitute of all mechanical appliances, either for "*getting*" the stone out of the hill-side or placing it on wheels for removal; all stones being either lifted or rolled by manual labour only, into the carts or bullock wagons which are to bear them away, at an enormous sacrifice of both time and money,—facts which, considering the generally clear-sighted character of the inhabitants of the colony, are to me wholly unaccountable: yet such is the condition of the quarries from which the whole of the stone for Cape Town works, both *public* and *private*, is at this date supplied, and hence its greatness of price; besides which, in comparing it with my rates, it must be borne in mind that stone for house-building purposes requires far greater care in "*getting*" than stone blasted *en masse* for such works as these I have proposed, requiring nearly one million and a half cubic yards, without respect to either form or weight, and wholly destitute of such extravagant adjuncts as

the founding of nearly vertical ashlar walling in 40 feet water, as proposed by Col. Mitchell, quarrying 24 feet under water, as proposed by Messrs. Campbell and Woodfield, or solid granite parapets, 8 feet high, laid in cement, as proposed by Mr. Calvert, whose several plans have been so recently under consideration.

As to your third query, viz., "the cost of convicts to the public works at Bermuda, and the mode of working them," I would state that 3d. per diem only was paid by the Admiralty to the Home Department for each man, as told off for duty on shore, but when employed either in the water, setting masonry, or excavating and clearing foundations in the diving-bell, 6d. per diem *extra*, was paid for each individual so employed, which, with some 3s. a day for hulk-fees, was the whole expense paid by the Works Department for their services, whether engaged as masons, quarrymen, carpenters, painters, tailors, joiners, sailmakers, clerks, or labourers; all costs attending their hulks, officers, provisions, clothing, &c., being paid by the Home Department, by whom also they were conveyed both out and home.

The men generally sent for the service of the works, were those undergoing the punishment of transportation for slight offences, with the knowledge that if their conduct merited marked approbation, a commutation of sentence would be granted, and pardons were not unfrequently bestowed after three, four, or five years, upon certificates from their superintending officers, provision always being made for their due return to England before the expiration of sentence, in order that no instance of liberation should occur out of the mother country. Amsterdam Battery could, with facility, be converted into admirable quarters for full 1,000 men, and from its isolation regarding the town and proximity to the proposed works, offers great advantages.

Respecting your fourth requirement, viz., "the cost of stonework at Portland Harbour," I regret not being able positively to answer it; but believe that 1s. 6d. is the cost per yard of stone deposited, with a lead equal on the average to that of the works under consideration, but with far greater geological difficulties to be overcome in the quarries themselves.

As to "time," which is your fifth and last question, I am of opinion that three and a half or four years should complete the entire work with the employment of 1,000 free labourers, but I foresee, in the present state of the colony, great difficulty in keeping so large a body of free labourers together even if once obtained; but recommend that if the work is done at all, it should be pushed with vigour, as 1,000 men in four years would do more real service than 500 in ten years, not to name the expenditure under the head of "superintendence," as the same would nearly answer for both numbers; and if done quickly, increased rates of harbour dues might be levied with less dissatisfaction and greater apparent benefit to the payer than would be expressed should the shelter be long in showing itself, besides the additional advantage, in all marine works, of celerity in finishing off as the work proceeds; always, however, allowing due time for settlement and permanent consolidation.

I have the honour, &c.,

J. SCOTT TUCKER,

To Rawson W. Rawson, Esq., Colonial Secretary.

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#### *Additional Report of the Committee.*

That the Report of Mr. Scott Tucker as to "The best means of improving the Port of Table Bay and facilitating the landing and shipping of goods," addressed to Rawson W. Rawson, Esq., Colonial Secretary, and dated Cape

Town, 6th September, 1854, has been submitted to them; and that they are of opinion that this plan for improving the Port of Table Bay, suggested by Mr. Scott Tucker, after a careful examination of the locality, appears to the Committee to be well calculated to secure the safety of vessels in the Port, and to facilitate the landing and shipping of goods.

The Committee are further of opinion, that the works thus recommended would save to the commerce of the Colony a much larger sum annually than the interest of the money required to complete and maintain them would come to.

The Committee therefore recommend that Government be requested to obtain, as early as convenient, the opinion of the most eminent professional authorities on Mr. Scott Tucker's plan, and if that opinion be favourable, to prepare a scheme for accomplishing the work, for the consideration of Parliament next Session.

19th September, 1854.

### THE EXPLORATION OF WESTERN AFRICA.

Sir,—As I promised to give you what information I could as to the approaches to the Great Lake 'Ngami from the West Coast, over the route followed by Charles John Anderson, I must premise that at the time I was surveying the West Coast, in 1846-48, the existence of the lake was unknown, and although I travelled inland from Walwich Bay as far as Onania, yet I heard nothing from the chief (Junkers) people to lead me to suppose it existed. Visiting Little Fish Bay, the first intimation I had of a lake, or rather a supposed chain of lakes, was from a Portuguese Major, who had travelled overland from Mozambique to Benguela: he places the northern part of the lake in lat. about 18° N., and says he travelled along its northern extreme about sixty miles. The water was difficult to get to, as the reeds were so thick. The lake was full of hippopotami. The natives told him it was joined to another sheet of water to the south or S.E. The west and south side was shallow and sandy. He could not tell the distance from where he was, as the southern land was too far off to be seen. He met natives who had come from the West Coast, about Port Alexander, and had been sixty-three days *en route*, and stranger, from a calculation we made together, the northern situation, where he was, would be about 800 miles, as the crow flies, from Port Alexander—not far from the position laid down by Mr. Anderson. As to production, they (the Portuguese) are particularly jealous of the English knowing what is produced. I could learn that ivory was plentiful, had we had the right description of trade. Gum copal was also in abundance; but slaves were not to be purchased for the conveyance of these commodities, and many of their ride oxen had died. To the north of the lake the whole country rises to a table-land considerably elevated, a genial climate, vegetation beautiful. Here he recruited himself after having had the fever.

On returning to the south, at Walwich Bay, I mentioned these circumstances to Mr. Scheipmann, the Rhenish missionary, who told me that John Swartboys, a Namaquez Captain, had met some Bittianuas, who had come from the Orange River, far to the east; had been on the borders of a great sea, where they had got ivory. But they represented the people as being monsters, with only one eye in the centre of the forehead, and feeding on human flesh, as the giants of old used to take their breakfast; a baby was nothing—they swallowed them whole. Mr. Scheipman contemplated a trip, to put the information beyond a doubt,—in which I should have joined him,

but circumstances prevented me; and death cut off one of the best and most indefatigable men that was ever sent to preach the glad tidings of joy.

The nearest seaboard to the lake is the West Coast, but it is a question if Walwich Bay be the best place of departure. The advantage of that route is, travelling up the dry bed of the Swakup River, where water is obtainable, and the natives, to a certain extent, inoffensive; but, from observations, I think farther north the best place. This conclusion I draw from the following observations made on my trip from Walwich Bay to Benguela:—

Fifty miles north of Walwich Bay are the mouths of two rivers, or, as I expect, two outlets of the same river. There was an immense quantity of large trees in various stages of decomposition, brought down most likely by its periodical swellings—I say periodical from the fact that you could plainly trace each separate deposit. Its course must be considerable, as it seldom or never rains within 150 miles of the coast, and the trees—some of which were large—do not grow within that distance. There was good pasture within 100 yards of the sea beach, and plenty of water. The mountain range, about 30 miles inland, dips and does not reappear until abreast of Cape Cross: in this gap I suppose the river to run. Following the coast, north of these rivers, is a flat table sand, with deep water close to, without any remarkable point until you come to Cape Cross, under which vessels may anchor. The Cape is a bare rocky headland, and has on it a cross erected by Diez, the first discoverer; it is still in good preservation—only part of one of the arms gone. Ten miles inland, we met a tribe of the Bug Damaras, living in a valley at the foot of a high mountain; they had water, and plenty of goats, but no cattle. Passing north from Cape Cross, and about lat. 21°, commence some indentations, fronted by reefs of rocks. About here a harbour is said to exist, called by the Portuguese Angra de St. Ambrosia; and the American Captain Morrell lays down a harbour near this locality, called Hayden Harbour, but, after fifteen days' fruitless search, both with the vessel and boats, we could not find it. There are three places answering the description, but all blocked up with sand. I imagine it has filled up, as we know other places on the coast to have done. The wind being almost always one way (S.S.W.), mosses, immense quantities of sand, and places I knew well that were mountains of sand, have become a level plain in a few months.

The next place I have to mention is the entrance of the Nourse River. I regret, in passing, it was blowing so hard, it was madness to attempt landing; but we plainly saw the river full of water, probably accessible to boats. The beach to the north was covered with large timber trees. Any quantity of firewood could be got on the Tiger Peninsula, which forms the western side of Great Fish Bay. A palm tree was quite green, and could not have been many days in the water.

Great Fish Bay is of considerable extent,—about eighteen miles from north to south, and six or seven in breadth, gradually decreasing up to its head. It is formed by a narrow sandy peninsula, about half a mile broad. Towards the point it is much broader—perhaps two miles. Here was a quantity of bones of the whale (humpback).

In the survey (I think made by Captain Owen), the bay is represented as free from danger; but about ten miles south from the point is a shoal, on which we struck, and knocked off thirty feet of our false keel. From the head of this bay we made an excursion into the interior. Although we did not penetrate above fifty miles in a direct line, yet I am led to believe it is farther than any white man has gone in this direction.

Starting from the head of the bay, we travelled about ten miles E.S.E., over immense sand hills and curiously formed ravines. Here we found a native village, consisting of about fifty families. They were the finest-looking negroes I ever saw; scarcely one under six feet, with fine open countenances.



The women were particularly good-looking, for blacks, remarkably plump and well fed. We saw neither cattle nor goats. They appear to live by hunting, as there was the remains of numerous genus bucks, and zebra, besides piles of large mussel shells and fish bones. While we remained with them, a tall athletic negro brought in a spring buck. The arm they appear to use is a very powerful bow, rather higher than themselves; their arrows were beautifully made, barbed with iron; their assagais were similar to those of the Kaffirs, but longer. The chief woman wore in her hair some buttons, and round her neck a Portuguese coin (half millreis) and some beads. They all had copper rings on the arms and ankles, very pure, and had so much the appearance and weight of gold, that, until tried with aquafortis, I believed it to be so. I was surprised to see the place they got their water from, which was out of a solid granite rock, and, although small in quantity, it was exquisitely pure. They received us very timidly, and must have been watching us for some time, as the women and children were all hid somewhere, and the men continually drew their finger across their throats, as if they wanted to know whether we were going to cut them. They were particularly frightened at the guns, and would not touch any part of one. We were compelled to pile arms under a rock, when the women and children gradually made their appearance. The younger children never would allow us to touch them, but the former soon gained confidence, and began to examine our skin with the greatest curiosity. I do not know to what lengths they might have gone had we allowed them.

After remaining about four hours at the village, we proceeded still E.S.E., in the direction of a rocky mountain, for four or five miles. Although at the village there was not the slightest vegetation, yet now we gradually got among stunted brushwood, and the footmarks of game were abundant. There we lit a fire and lay down for the night, but had to keep a watch, for in all my travels, before or since, I never heard such an awful noise from hyenas or wolves, and they kept round us all night, dispersing only just before daylight broke. The next day we inclined our course rather more to the south, as I was anxious to get on the bank of the Nourse River. The bushes got thicker, and we saw in the distance numerous herds of spring bucks and black buck, but very shy; we could not get near them. The evening of this day we reached the foot of a moderately elevated range of rocky mountains, running N.E. and S.W., on the other side of which we hoped to get a sight of the river. By calculation we were about thirty-five miles from the bay. Here we found water, but brackish. Travelled on next day, making a good day's journey, but without seeing so much game as we had, and no water. The heat was intense. On the previous days we had experienced a fine refreshing breeze, but this day it was calm, and the sand was so hot it burnt the feet. The sailors began to give out (I had four of them with me). The next day we travelled on and, towards the evening, from an eminence, saw the river in the distance;—it appeared a considerable stream. We had found no water; our cans were nearly exhausted. The men refused to proceed further, and the next day we retraced our steps. We did not see a human being from the time we left the village until we returned.

I tried to prevail on some of the natives to come on board with me, but they refused. One young man was willing, but was held back by his father and mother,—in fact, the whole village; so I suppose they have heard or know something of the Portuguese system of slave trade. We had been ten days absent from the vessel, and, I calculate, during that period had walked considerably above one hundred miles. We found the same description of gum tree as at Ichaboe, with Naras description in abundance. We saw amongst the natives a small seed like canary seed; they ground it between stones, and made a paste, mixed with honey, of it. They had also a vege-

table like a small cucumber, but not in taste. Their baskets, in which they carried their water, &c., were made exactly like the Bulus of Natal make theirs, but of much finer workmanship.

We saw baskets full of honeycomb, and the quantity of bees was great. We did not see a single tree—not a bush above three or four feet high; and this leads me to suppose the Nourse River, which brings down the large trees we saw on the beach, must have a considerable course;—probably has its origin from one of the chain of lakes that I think will be found in the interior of this part of Africa. It is also possible that a boat may ascend the river for a considerable distance, and would, possibly, be the best mode, and most accessible place to Lake 'Ngami. The river is in about lat.  $17^{\circ} 30' N.$ , and from the sea it must incline to the E.N.E., from our seeing it from our position. The lake the Portuguese told me of he places in lat.  $18^{\circ} N.$  We know in about the parallel of  $14^{\circ}$  the land is high, and, from the luxuriance of vegetation, must be supplied with considerable moisture. The drainage of this runs south, and finds its level in a chain of lakes.

The language of the natives sounded much like the Kafir spoken at Natal. They understood "Manzi" for water, and used the U M for many of their proper names. I do not think those we saw at Great Fish Bay were of the same tribe as those at Port Alexander.

Leaving Great Fish Bay, we proceeded north to Port Alexander, and penetrated inland here as far as circumstances would permit. The following is a brief account:—

Having anchored late in the afternoon, it was the following morning before we landed. There had evidently been numerous natives about the vessel during the night, from the footmarks in the sand. Travelling north about two miles, we came upon a party of fishermen, and here were the first signs of navigation by the natives I had seen on the coast from Port Natal completely round Southern Africa. It consisted of catamarans,—pieces of wood fastened together, about six feet broad and twelve long; they were used for fishing. After giving some of them a blow-out of snuff, and a smoke of the pipe, we got two young fellows to act as guides. Passing over the bluff which forms the eastern head of the port, we arrived at the dry bed of the River Flamingos, and, ascending it about five miles, came to a native village. Here I was delighted, for the first time for many months since leaving the Cape, at finding something like vegetation, for the natives, had to some considerable extent, cultivated gardens of maize, calavances, pumpkins, &c. We saw numerous herds of cattle, looking in excellent condition; and the further we ascended the river, or rather valley, the villages increased in number. The huts of these people seemed permanently built, and very comfortable dwellings they were. It was a treat, after so much sand, to sit under the shade of a palm. We were three days examining all we could in this locality. The natives are possessed of numerous herds of cattle and goats. They had also elephant and sea-cow ivory,—whether obtained far or near I could not ascertain. I saw knob kerries, made from rhinoceros horn, and a great deal of honey and bees-wax.

It was evident we had not the confidence of the natives: they were timid in approaching us, and sent away their women and children. I went towards some cattle, to examine them, when they were driven away in great haste. They would not let us sleep in their huts; we had to bunk it out on the sand, and they watched us all night, but gave us all we wanted, without asking for payment. We feasted sumptuously on some milk, maize, and balls of an unknown compound, with honey. One advantage was, we gained the confidence of our guides, and they returned on board with us. Great was their surprise at seeing their images reflected in the cabin looking-glass, and the

cat coming into the cabin frightened them on deck. They asked for "aqua denti," but when I gave them some, after tasting it, they would not drink. They often made motions inquiring if we were going to cut their throats and eat them, and the knives laid for dinner on the table made them tremble so much that I had them removed. They would not sleep below, but remained awake on deck all night. In the morning they were sent away, rigged in shirt and trousers, with presents—to them of incalculable value—and some penny pieces with the name of the vessel and date of our visit. I imagine they had never before been so courteously treated by white men.

On the northern side of the Flamingos is a high table-land, about 500 or 600 feet above the sea, on the top of which I got some beautiful fossils of clams, lying in beds, in the same state and in the same mud as when submerged—so natural was the whole, it seemed as if just risen from the sea; fossils of seaweed, coral, and every description of marine production. A beautiful collection was lost with the vessel, but Mr. Wilson, of Cape Town, is still in possession of some which I gave him.

Port Alexander would be a good place to form a factory to trade with this part of the coast, and be a blessing to the natives. From many circumstances, I am led to suppose the Portuguese have tried the Slave Trade, although at Mossamodes, Little Fish Bay, they scarcely knew of the existence of such a place. Making inquiries of the Governor relative to such an undertaking as a factory, he said he should consider it his duty to prevent anything of the kind without the sanction of his government. The southern limit of the Portuguese settlements on this coast is Cape Negro, the northern side of the River Flamingos.

It was from here the natives came seen by Major G—, near the interior lake. The country is very accessible; plenty of water, ride and pack-oxen; the natives docile, and a little kindness would gain their confidence.

Leaving Port Alexander, we next visited Mossamodes, a Portuguese town in the S.E. corner of Little Fish Bay. A considerable trade is done with the interior in ivory, both elephant and sea-cow, rhinoceros horns, hides, and skins, beeswax, and honey, and, I do not doubt, slaves; at all events, the whites are considerable slave-owners,—I cannot say if for exportation. Cattle are abundant and very cheap; oxen are used for all purposes, both for saddle and pack. Excellent water can be obtained from the river about three miles north of the town; and here are some nice gardens, from which we were supplied by the soldiers with vegetables, yams, manioc, cassava, peas, beans, tomatas, &c. Here the country producing orchilla weed commences, and extends north of Benguela.

There are no regular established merchants, merely traders under the direction of merchants either at Loando or Benguela. The consequence is you can neither buy nor sell to any extent. Independent of which, the Customs' duties are excessive, and every official, from the Governor downwards, requires presents,—no matter what it is, they refuse nothing.

Passing north to Benguela, I visited numerous little bays, in each of which were trading establishments, principally for orchilla weed, which is sent to Benguela, and shipped, under the surveillance of Government to Portugal. The Government are the sole purchasers, and it is not allowed to be sold to foreigners or shipped in foreign bottoms. I had even a difficulty to get a sample of about 10lbs.; it is of the best quality.

There is no question but that all these establishments are connected with the Slave Trade. Behind a rock, at the bottom of one of the bays, were moorings for a vessel close to the shore, and so snug that the rock prevented any ship in the offing from seeing the vessel moored inside. A pathway led up the hill, which, from the numerous footmarks must have been recently

used by a great number of people. Water in the neighbourhood was abundant. Taking it altogether, I never saw a more convenient place for the purpose.

I am not going now to write about Benguela. I had thus examined almost every inch of coast, every islet, every corner, from Walwich Bay to Benguela, without finding what I was in search of—guano or nitrate of soda. Pelican Point seems to be the northern limit of the penguin, the principal depositor of guano. The gannets and shags were very few. Their principal rookery north appeared to be Hollem's Bird Island. Round the bays there were numerous flamingoes, pelicans, and sand-birds, but we know these never congregate in sufficient numbers to form large deposits.

As to nitrate of soda, I do not say it does not exist. I know I did not find it; but I passed over extensive salt plains, of very many miles in extent. Words cannot describe the pain of such travelling, every footstep going through the crust several inches; added to which, a tropical sun, without a cloud, blazing on the white surface of the salt, is most painful to the eyes; broiling hot, the thermometer standing at 100 to 110, and even 120; 40 or 50lbs. weight on your back,—for each had to carry his water, provisions, and gun; and this was the pleasure of travelling in Africa. It requires the endurance of a camel and the courage of a lion.

There are numerous productions in this part of Africa, both on land and sea, which I have not mentioned, but have still the whole of my diary, which minutely describes everything I found and saw. The whole of this part is almost a blank on our charts, and is little known and frequented.

Should the foregoing observations be of any value, you can make use of them, with my name for the authority.

I remain yours faithfully,

London, January, 1855.

WILLIAM MESSEM.

*Shipping and Mercantile Gazette.*

#### MAGNETIC VARIATION.—*Communicated by the Astronomer Royal.*

Table showing the mean monthly westerly declination, or westerly variation of the magnet, and the mean monthly dip, at the Royal Observatory, Greenwich, in the six months ending December, 1853.

	Variation.			Dip.	
July . . . . .	22°	10'	21" W.	68°	42'
August . . . . .	22	9	34	68	42
September . . . . .	22	12	16	68	42
October . . . . .	22	7	36	68	44
November . . . . .	22	4	22	68	47
December . . . . .	22	5	26	68	46

The mean variation has been found by the application of corrections (deduced by Mr. Glaisher from two-hourly observations taken during the seven years 1841-7) to the mean of readings taken at 9h. a.m.; 1h.; 3h.; and 9h. p.m. daily.

The mean dip by taking the mean of observations at 9h. a.m.; 3h. and 9h. p.m. on one day in each week.

On September 6th the mean west declination was 22° 21'; on the 25th it was 22° 24'; and on the 30th it was 22° 22'. It is owing to the prevalence of these large numbers that the mean for September is so large.

G. B. AIRY.

## NAUTICAL NOTICES.

## ERRONEOUS CHARTS.

We have received the following communication from Messrs. Imray in reference to their chart of the Pacific alluded to in our last number, and to which, as far as concerns the subject of Hydrography, we readily give room. We beg to assure these gentlemen that we have but one object before us. The establishment of this Journal, so long ago as 1832, was for the benefit of navigation in the improvement of charts, an object we have reason (in its own pages) for knowing has been in a great measure effected. And therefore we consider that as incorrect charts, or those showing coasts or rocks out of place, are as bad as those which do not show them at all, it would be departing from our purpose not to point both out when means have been provided for their correction. We are wedded to no charts but those which we have the best reason for believing to be correct, and we well know that there are no charts so good, nor any directions so perfect, as not to afford frequent occasion for revision and amendment. That revision and amendment we believe also will be best secured by pointing out their faults, and thus navigation must be benefitted, and the risk of life and property thereby reduced.

Minorics, March 13th, 1855.

Sir,—Our attention has been directed to an article reflecting upon the character of our publications, which appeared in your Magazine for this month.

With regard to the Elizabeth Reef, we think it could scarcely be expected that its correct position would be on a chart of 1849, when such was not known in this country till the autumn of 1852, and was then first given in your own columns. Its position was that assigned to it by Capt. Horsburgh, usually considered a very good authority; but it has since been more correctly placed in the position determined by the Officers of H.M.S. *Acheron*.

The "Colonial Skipper" has referred to Tahiti being placed erroneously on our chart as compared with the Admiralty chart of the same island, and has besides drawn attention to the work of Capt. Wilkes, of the U.S. Exploring Expedition. Had he compared the chart of Capt. Wilkes with that of the Admiralty, he would have seen that there was a difference of five miles in the latitude of Point Venus. Capt. Wilkes placing its extremity in lat.  $17^{\circ} 24'$ , while the Admiralty chart placed it in  $17^{\circ} 29' 16''$ . The true position of the island may now however be considered as determined, the French Government having recently surveyed it, and published a chart of a portion of its coast, in which the latitude and longitude of its principal points have been determined with the greatest possible accuracy, so that Tahiti may now be considered as the best known, and its position the best ascertained of any in the Pacific. It has consequently been correctly placed in the last edition of our chart.

Our chart has also been corrected in other respects. The results of the various French explorations of the Pacific have been recently published in France and we have made use of the publications to improve our own. In them many of the errors and omissions of Capt. Wilkes have been rectified and inserted.

But, Sir, you know well that of no part of the world is our knowledge so imperfect, and our information so uncertain, as the Pacific; and this arises from a variety of causes, among which may be mentioned the long voyage from England, in the course of which chronometers are apt to get out of order or alter their rates considerably, and the absence of well determined points as prime meridians. As a consequence of this, the most able navigators fre-

quently mistake one island for another, or from an inaccuracy in their position report it as a new discovery. Among instances we may mention that Capt. Wilkes is known to have taken Hunter Island, in the vicinity of New Caledonia, for Matthew Island; and that although the position of Turtle Island, Feejee, was determined by him as lat.  $19^{\circ} 50' S.$ , and long.  $178^{\circ} 37' W.$ , yet Capt. Worth, of H.M.S. *Calypso*, made it, in 1849, as lat.  $19^{\circ} 47' S.$ ; and long.  $178^{\circ} 8' W.$ , being a difference in longitude of not less than twenty-nine miles; an error greater, you will observe, than the "Colonial Skipper" states us to have made in reference to Tahiti.

In your introductory remarks you have referred to an inaccuracy in our chart of the West Indies, in which we place a fixed light at Santa Marta, when no such light existed, the lighthouse being only in course of erection. This was in 1852\*. The light was placed on the chart mainly on the authority of the Admiralty Book of Lighthouses in the West Indies, published in 1848; and we admit that we were in error in so placing it; but still we think that the error was excusable, as we might naturally suppose that a lighthouse which was building in 1847 or 1848 would be finished and lighted in 1852. The error did not however appear in the book of instructions accompanying the chart.

Now, however, let us turn to the Admiralty Chart of the West Indies, in four sheets, and see if that publication is entirely free from error. The chart is stated to have been corrected to 1832, but has many corrections subsequent to that; amongst others, Lieut. Lawrence's survey of the Virgin Islands of 1848 to 1851 has been introduced; the new survey of the Bahama Islands, and various new lighthouses, Barbados, for instance, so that we may conclude it to have been really corrected up to the present time,—it is moreover on sale at the present time,—and yet in this chart no mention whatever is made of the dangerous shoals extending from and lying off Cape Canaveral in the Florida Channel, although they have been surveyed and a chart of them was published by the American Government in 1850; besides which, that Government took every pains to bring them to the knowledge of seamen by publishing an account of them in the principal American and English newspapers. No light is placed on the Cedar Cays, Florida, although an official notice of its existence has been published by the American Government. No light is placed on Manzanilla Island, Panama, although established in 1852. The Island of Barbuda, Caribbees, is placed seven miles to the westward of its true position, as given by Capt. Barnett, R.N. in 1848; and Port Royal, Martinique, is also six to the westward of its position as determined by M. Monier, of the French Navy, in 1825. The lighthouse is also marked as still remaining off Sand Cay, Florida, although an iron screw lighthouse was built on the cay in 1853, and public notice of its existence given in all the principal newspapers. It is necessary for us to remark that these errors and omissions do not appear in our chart of the West Indies.

You have also referred to our chart of Newfoundland; but are the Admiralty charts of that island free from error? St. Pierre Island was surveyed by the French in 1841, and a beautiful chart of it was published in 1843. The island was most carefully surveyed, and its position determined with all the accuracy possible, in order that it might be considered as a meridian from which to determine other positions in Newfoundland. In the Admiralty charts now on sale, no reference whatever is made to the French determination of longitude, but Galantry Head, St. Pierre, still retains its old position, namely,  $56^{\circ} 14'$  or six miles too far to the westward. Cape Spear is represented in lat.  $47^{\circ} 31'$ , and long.  $52^{\circ} 40'$ , while the Admiralty Book of Lights states its position to be, lat.  $47^{\circ} 30' 20''$ , and long.  $52^{\circ} 37' 5''$ . The South Bill of Cape Frels is represented in sheet 293 as in long.  $53^{\circ} 30'$ , while in the next, the joining sheet, it is stated to be in long.  $53^{\circ} 24'$ . Surely some attempt ought to have been made

\* The Lighthouse Book stated it was building.—Ed.

to reconcile these discrepancies, that seamen might not be at a loss to know in which to place confidence; or is an error of five or six miles in longitude in so important an island as Newfoundland (the land which is first made by most of the St. Lawrence traders) so unimportant a thing that it is to remain for years uncorrected.

One more remark and we have done. In the chart of Halifax Harbour, recently issued, the bearing to clear the Rock Head and Portuguese Shoals, has been given as Sambro' Lighthouse S.W.  $\frac{1}{2}$  S. If the compass on the chart is correct, it should be S.W.  $\frac{1}{2}$  W. or S.W.  $\frac{3}{4}$  W.

You having specially alluded to our charts of the West Indies and Newfoundland, we have confined our remarks to the official publications of the same parts. We might have spoken of other matters that have come under our notice, but forbear, as our wish is not to bring discredit on the Admiralty publications, or weaken the confidence of seamen in them, for they are worthy of the office that issues them, and of the talented gentlemen under whose care they are produced; but our sole object has been to show, that notwithstanding all the care that may be exercised, errors will creep in; and that although a chart may bear an official stamp, it does not establish its claim to greater accuracy than is possessed by those issued by private publishers.

In conclusion, we cannot help thinking that he who finds fault with another should himself be without blame. The *Nautical Magazine* is an useful work, but would be much more valued if its information were certainly free from error. We should have thought that in the article in which you complain of us, you would have been particularly careful to avoid any error on your own part, but in this very article, the east extreme of the Elizabeth Shoal is stated to be in lat.  $20^{\circ} 53'$  instead of  $29^{\circ} 53'$ .

Yours respectfully,

JAMES IMRAY AND SON.

Our correspondents' remarks are welcome, although, here and there, somewhat magnified! They need be under no apprehension of bringing the Admiralty Charts into disrepute, for navigation must benefit by such errors being pointed out when they can be substantiated on good authority.

It is a remarkable coincidence and a realization of our observations above, that they are scarcely in the hands of our printer when the following reaches us from Amsterdam. This again has no doubt arisen from some oversight in an early impression.—ED.

#### POSITION OF COCOS ISLAND: *Indian Ocean.*

Amsterdam, 19th March, 1855.

Sir,—As a subscriber to your valuable periodical I take the liberty to address you a few lines.

During my last passage from Java to the Texel, the ship under my command had a narrow escape through a fault in the chart in use. That chart is one of the Indian and Pacific Oceans from Calcutta to China, Australia, &c., by John Walker, Geographer to the H.E.I.C., W. H. Allen & Co., London, 1846.

The eastern limit of the Keeling Islands is there laid down in long.  $95^{\circ} 47'$  E., and the Southern in lat.  $12^{\circ} 3'$  S. The true position, according to Raper, is respectively.  $96^{\circ} 56'$  and  $12^{\circ} 13'$ . I always take the precaution to ascertain the position of dangers in our way; passing them however at such a distance, seventy miles, I could not suppose that necessary and such a great fault possible; and but for a vigilant look out, the consequences might have been dreadful.

In behalf of those who have that chart in their possession, to expose the

carelessness and negligence which caused that mistake, and to show the great responsibility compilers of charts load upon them, you would oblige me by inserting this in your next number.

I am, &c.,

A. P. KLEIN,

Commander of the Dutch barque *Magdalena*.

To the Editor of the *Nautical Magazine*.

M'DONALD ISLANDS: *South Indian Ocean*.—*Claim to priority of Discovery*.

The present system of making passages on the arc of a Great Circle, for we cannot call it by that made up name of "composite," practised by our grandfathers of old, (as old Davis tells us in his "Seaman's Secrets," when he left his name on the high road to Baffin Bay,) has brought new ground under seamen's observation, and therefore brought to light whatever lay in the way. This appears to have been completely verified in the discovery of two islands of considerable size occupying about thirty miles in extent S.E. of Kerguelen Land, lying in the route between the Cape and Bass Strait, both of which had previously eluded the vigilance of navigators. There are doubtless many more of such discoveries in store for us, when new ground shall be frequented, and which the new Mail routes in the Pacific will bring out.

The question before us, however, is the priority of discovery of these two islands, and thereby the right of naming them, which priority appears to be claimed by no less than four distinct Commanders. There will be no difficulty in deciding on this, but first we will place on record the letters which we have received from the different claimants, and they are as follows:—

Ship *Earl of Eglinton*, at Sea, 1st Dec., 1854.

Sir,—I have the honour to acquaint you, for the information of underwriters, that on my voyage from Greenock, which port I left on the 24th Sept. last, in the new ship *Earl of Eglinton*, of 1274 tons O.M., under my command, bound to Port Phillip, Australia, that in Lat. 52° 53' 36" S., Long. 73° 40' E., Variation, 42° W., ship steering S.E. southerly, at 2h. a.m. of the 1st Dec. a large tract of land was descried right ahead. All hands were immediately called, the studding-sails hauled in, and we steered under the N.W. point, till within four miles of the shore. It did not appear to have a scrub or vestige of verdure on it, and was the habitation of numerous wild fowl, which quite shaded us over head. After steering out for about seven miles, the N.W. point bore N.W.  $\frac{1}{4}$  W.; [the extreme southern point, S.W.; the latter point seemed lost in the distance and capped with snow. In its N.W. and S.W. direction it appeared from fifteen to twenty miles.

A large conical mountain, resembling the Peak of Pico in the Western Isles, was on its south end, and a flat table land, about the height and appearance of Table Mountain in the Cape Colony, and as seen from Table Bay. I enclose a sketch of it.

The position calculated from former and subsequent observations, places the N.W. point in lat. 52° 53' S., long. 73° 50' E.

I may add that two small rocks lie off the west end, with a clear passage, as well as I could see, between the main land and the isle.

I intend forwarding remarks by the same [conveyance to the Editor of the *Mercantile Marine Magazine* on Composite Sailing in high latitudes,



wherein as in the present case 415 souls, with a valuable cargo, and the most expensive ship of her tonnage built in our country may be risked from contingencies not applicable on the common route, leaving others to judge, but having satisfied myself for after times. I also enclose a report of shipping signalized or spoken during this voyage.

I have, &c.,

JAMES S. HUTTON.

To the Secretary of Underwriters, Lloyds.

P.S.—I have named the group Sands Group, and the large island Hutton Island.

Royal Mail Steam Ship, *Argo*, 15th March, 1855.

Sir,—I have the honour to inform you of the discovery of two islands in the Southern Indian Ocean by Capt. Rees of the ship *Lincluden Castle*, and reported as seen by Capt. Hutton of the ship *Earl of Eglinton*, also by Capt. John Attwaye of the ship *Herald of the Morning*, who states as follows:

On the 3rd inst. (December) I discovered an island and sounded in 73 fathoms, on black sand. A harbour about ten miles distant, good to view, but exposed to westerly winds. On the next day, the 4th, a small island distant from the larger one about ten miles, and a steep rock about a mile from it; the large island about forty miles and the small about nine miles long. I had good observations when close to and sailing along two sides of the island. I give the middle of the large island lat.  $53^{\circ} 10' S.$ , long.  $74^{\circ} 36' E.$  Longitudes deduced from chronometers, which leaving the Cape of Good Hope on 18th December were found to be correct.

The name given by Capt. Rees of the *Lincluden Castle* to the easternmost and largest of the two islands, is Gray Island, and the other Dunn Island, and position as follows:—

South-west end of Gray Island . . . . .	Lat.	$53^{\circ} 12' S.$
Do . . . . .	Long.	$73^{\circ} 50' E.$
North-west end . . . . .	Lat.	$53^{\circ} 2' S.$
Do . . . . .	Long.	$73^{\circ} 20' E.$
Dunn Island . . . . .	Lat.	$53^{\circ} 2' S.$
	Long.	$72^{\circ} 50' E.$

As these islands lie directly in the track of outward bound ships, which run their easting down in a high southern latitude, I consider it my duty to give you the earliest information of their existence.

I am, &c.,

G. HYDE, Commanding.

To Capt. Halsted, &c., &c.

Liverpool, 10, St. James Street, March 20th, 1855.

Gentlemen,—By inserting in the *Nautical Magazine* the following extract from a letter received by me from Capt. Rees, of the ship *Lincluden Castle*, dated Melbourne, 8th Jan. 1855, you will perhaps confer a benefit upon the numerous Captains now frequenting that port.

On the 4th Dec., 1854, at 8h. a.m., fine clear morning but very cold, ther.  $28^{\circ}$ , to my great astonishment we discovered something very like an island. On the chart there is no land marked near the place. It bore about S.b.W.; we were steering at the time S.E.;  $48^{\circ}$  variation. I hauled up immediately S.b.E. At 10h. a.m. we passed within three miles of a rocky island, appa-

rently about four or five miles in circumference, and 400 to 500 feet high. Detached from the island about a mile to the westward, stood a high rock, in the shape of a sugar-loaf, higher than the island. I could see it plain from the poop eighteen miles distant. The position of the island by good observations is lat.  $53^{\circ} 2' S.$ , long.  $72^{\circ} 50' E.$  I named it Gray Island, after the man who first observed it.

When abreast of this island high land was discovered to the S.E., covered with snow, the highest peak capped with clouds. At noon we were within seven or eight miles of the N.W. point; from this point the land trended to the S.W. as far as I could see; the land high and bold. We sailed along the north side two hours and a half at the rate of ten knots, when the S.E. point bore S.W.  $\frac{1}{4}$  S. In passing along the north side, I saw an opening between two high hills, very like a fine harbour; there appeared a good bay outside, only open to N.W. winds. We passed two rocky islands about six or seven miles from the large one, apparently quite barren. The large island presented a magnificent spectacle; the sun shone brilliantly on its snow covering, and its highest peak seemed lost in the clouds. I could see the high land plain at sun down fifty miles distant. Lat. of N.W. end,  $53^{\circ} 2' S.$  long.  $73^{\circ} 20'$  Lat. of S.E. end,  $53^{\circ} 12'$ , long.  $73^{\circ} 50'$ . I named this Dunu Island.

I am, &c.,

W. RODGERSON.

To the Editor of the *Nautical Magazine*.

There can be no doubt that the above three reports refer to the same islands. The latitude assigned to them ranges to eighteen miles, and the longitude to  $2^{\circ}$ , which would be seventy-two miles of extent in the latitude they are in, and which, allowing for the extent of these islands themselves, and the different rating and going of chronometers, may be considered fair limits. We may safely then consider them as one group. And as priority of discovery entitles the discoverer to name them, if our correspondents will refer to the volume of this work for last year, in the July number (page 396) they will find the following.

NEW ISLANDS: Melbourne, Feb. 5.—Capt. M'Donald, of the ship *Samarang*, just arrived at Sydney, reports the discovery of two islands, apparently of volcanic origin, one in lat.  $53^{\circ} S.$ , and  $72^{\circ} 35' E.$ ; and the other in lat.  $58^{\circ} 3' S.$ , and  $73^{\circ} 31' E.$  He has named the first M'Donald, and the second Young Island.—*Shipping Gazette*, 17th May. [Cook, in 1773, passed about ten miles from the position of these islands.—Ed. *N.M.*] Cook, however, was not so near to them and seems not to have been within sixty miles of them.

Now in the month of December last we are bound to say that Captain M'Donnell submitted a chart of his track for our inspection, with these islands placed on it by him, along with a sketch of the islands, accompanied by his log, and therefore beyond all doubt as such discovery was about twelvemonths prior to these, he has established his right to it, and we have therefore called them the M'Donald Islands. At the same time we have to thank all these gentlemen for their communications, by which they will at once perceive the importance of making them public immediately for the benefit of navigation in the pages of the *Nautical Magazine*.

**ADMISSION OF OFFICERS INTO THE ROYAL NAVY FROM THE MERCHANTS MARINE.**

The following notice has been forwarded to the principal shipowners and great steam packet companies from the Board of Admiralty:—

Admiralty, March 14th, 1855.

The Lords Commissioners of the Admiralty, being desirous to encourage gentlemen from the Merchant Service to enter the Royal Navy in the rank of Second-Master, are pleased to invite such officers as can comply with the requirements of the Queen's regulations (copy of which is subjoined) to offer themselves for such appointments.

The Admiralty are also pleased to invite officers who may not be able fully to comply with these requirements, to offer themselves for the appointment of Acting Second-Master, provided they shall have completed four years' service at sea, have filled some of the ratings required by the Queen's regulations before mentioned, shall have completed the full age of eighteen years, and shall produce satisfactory proof of diligence, sobriety, and good conduct. The Board of Admiralty are willing to guarantee to them on their completing the necessary period of service in the Royal Navy, and on their conforming in all respects to the requirements at such time existing, their confirmation to the rank of Second-Master in her Majesty's service, with all the further advantages to be derived from such rank, both as regards half-pay and the prospect of future advancement to the rank of Master, &c.

Officers making application must state distinctly their age, the ships in which they have served, length of service, ratings, &c., addressing such application to "The Secretary of the Admiralty," when their claims will receive immediate attention.

*Extract from the New Regulations respecting Second-Masters in the Navy, 1844.*

To qualify an officer to receive a commission as Second-Master, he must have served at least six years at sea, three of which in her Majesty's Navy as Midshipman or Master's Assistant; or having served six years at sea, shall have actually been one year or more Master, or two years chief Mate, or three years inferior Mate of a merchant vessel; or shall have served in the two former capacities in a merchant vessel for a period, when combined, of eighteen months; or in the two latter, or in the three capacities, for a period combined of two years and a half. He shall produce certificates of diligence, sobriety and good conduct, as required in the case of Masters; and shall pass such examination as the Admiralty may from time to time direct: but no candidate shall be examined before he shall have attained the age of 19 years, nor after the age of 35.

**SCALE OF PILOTAGE ALLOWED TO MASTERS, R.N.**

The following memorandum has lately been issued by the Admiralty containing a scale for remunerating the Masters lately employed, and for the future to be employed in the Baltic and White Sea.

My Lords Commissioners of the Admiralty having had under their consideration the peculiar duties of the Master of the Fleet, and of the Masters and Second-Masters in charge of her Majesty's ships and vessels employed in the Baltic and White Sea during the season of 1854, have laid down the following rules for the payment of pilotage to those officers:—

Master of the Fleet to be paid 10s. a day for the whole time he was borne on the ship's books, from the date of leaving England until his return to Spithead.

Masters or Second-Masters in Charge, where no pilot was on board, to be paid full pilotage according to the regulated scale and rate (in accordance with the Admiralty instructions, chap. 5, sec. 4, par. 7,) for the days their ships were under way,

When one pilot was on board the Masters to be paid half pilotage for the days their ship was under way. When two pilots were on board the Master to be allowed no pilotage unless under some special circumstances, in which each case must be submitted for their Lordships' decision.

Whenever a Master shall have been employed as pilot of another ship (whether French or English), to conduct her from Ledsund to Bomarsund, or on any other such special service, he shall be paid such pilotage as is usually awarded for similar services.

*Scale of Pilotage Allowance.*—For ships drawing 25 feet water and upwards, 15s. a day; 23 feet, 13s.; 21 feet, 10s.; 19 feet, 9s.; under 19 feet water, 8s.

**SCUTARI AND BALACLAVA.**—Nothing can be more gratifying than to see the air of comfort and content which prevails. Very few deaths now take place,—on the day I was there thirteen, instead of seventy, as was the case a month ago,—and the wards are healthy and free from taint. Balaclava Harbour is beginning to be well arranged and nothing can exceed the regularity in which the shipping are placed.—Extract of a letter from an officer at Sebastopol.

**TURNING TO WINDWARD WITHOUT A RUDDER!**—One of the cleverest nautical feats we have heard of for many years is recorded in a late issue of the *Dublin Express*. It appears that the steamer *Anglia*, plying between Dublin and Holyhead, under the command of Captain Warren, a few minutes after leaving the latter place in a fresh gale of wind, and during a dark night, broke her tiller. To ship another was impossible, for an alteration had been made in the rudder head which prevented the spare tiller from shipping. The rocks were only a few cables length to leeward. To anchor was impossible, and to attempt to put back was certain destruction, and all that was left for it was to "go ahead." Under steam power, and steered by the canvas, the ship crossed the Channel in the teeth of a gale of wind, and safely entered the harbour of Kingstown. A substantial testimonial is about to be presented to Captain Warren by those who know how to appreciate his presence of mind and seamanlike conduct.

#### THE ARCTIC BLUE BOOK.

One of the most complete of the many "Blue Books" which have been presented to Parliament, connected with the Arctic Seas, has recently been published. It contains the whole of the proceedings of the several ships engaged on this branch of service, to their final release,—or, rather, those of their crews,—together with the journals of all the officers engaged in the sledge operations, which are illustrated with charts. The proceedings, too, of Dr. Rae are included, together with the orders issued by the Hudson Bay Company, at the request of the Admiralty, to equip an expedition to the

mouth of the Great Fish River, the supposed scene of the catastrophe which has happened to our unfortunate countrymen.

A slight account is also given by Captain Collinson of his proceedings; the details of which, during his three years' absence, will no doubt appear on his arrival in England; which may be expected in May next, as he was in the Straits of Balli on the 15th December last, on his way to the Cape, where he would probably remain a short time to refit.

#### AMERICAN ARCTIC EXPEDITION.

Our readers will remember that in the summer of 1853 Dr. Kane proceeded in the *Rescue* up to Smith Sound at the head of Baffin Bay, intending, if possible, to reach the pole of the earth, and with the laudable hope of learning some tidings of our unfortunate countrymen, who, at that time, it was thought, might, possibly, have gone up Smith Sound, after leaving their winter quarters at Cape Riley in 1846.

Dr. Kane not having returned last year, it has become necessary, as a precaution, to send out to his relief; and we are glad to find that the good and philanthropic Grinnell—a name that ought to be revered by every Englishman—has urged upon the Government of the United States to equip forthwith an expedition for his relief.

A screw steamer and store ship are now, we believe, fitting out for this service, and will sail early in June direct for the entrance of the Polar Sea through Smith Sound.

From Dr. Kane's expedition, and from this now equipping, we may expect deeply interesting results. It is altogether a new field of discovery, which may lead to most important results, and, in all probability, open out new ground for commercial enterprise.

Heartily do we wish that the main object of this expedition may be attended with success, and that in the autumn we may be enabled to announce the safe return of the gallant Kane and his noble followers.

#### VEGETABLE AND ANTI-SCORBUTIC DIET.—*Edwards' Patent Preserved Potato.*

We have frequently recorded our favourable opinion of this preservative of health under exposure and salt diet, and with pleasure we add the following letter from Miss Nightengale at Scutari.

Scutari, 10th March, 1855.

I beg to acknowledge the receipt of your valuable present of preserved potato. As there are some scorbutic cases, it will be very useful, and I have apprised the medical men of it.

Yours obediently, C. H. BRACEBRIDGE,  
for F. NIGHTENGALE.

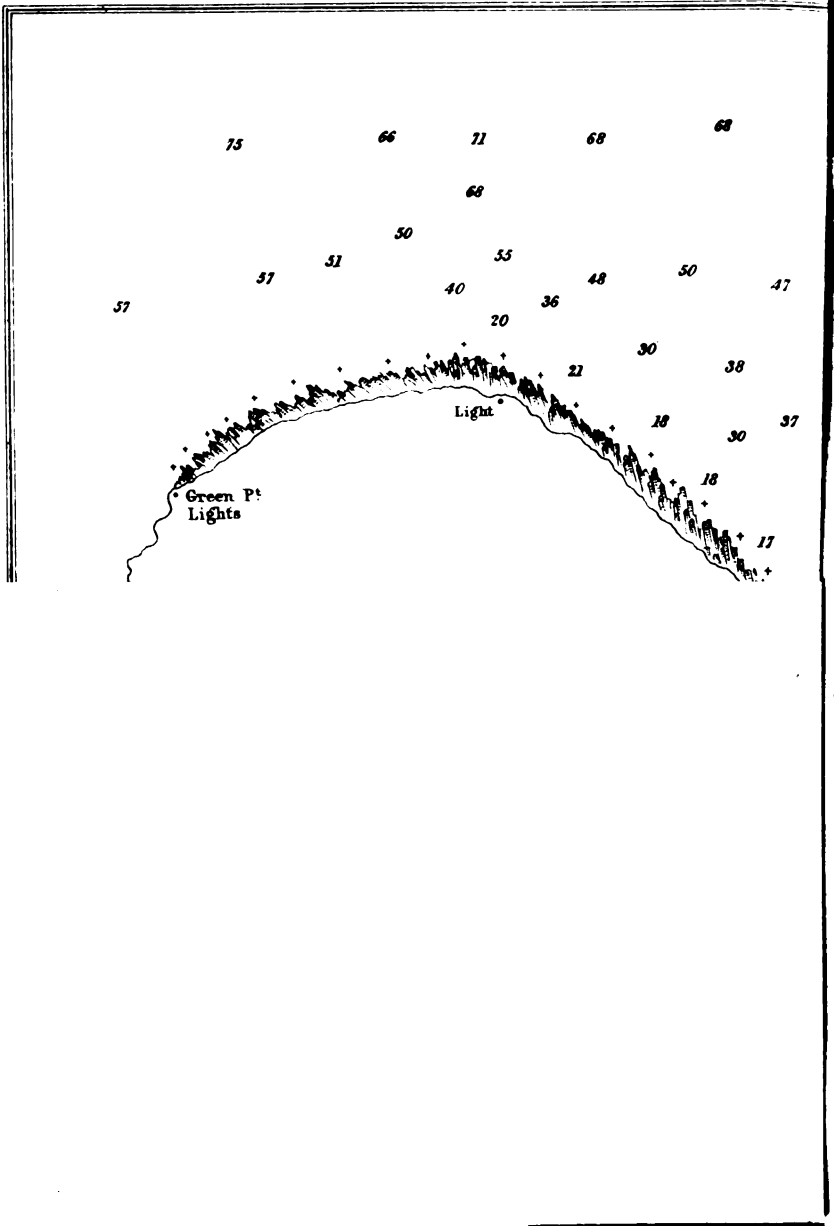
To Messrs. Edwards & Co.

#### TO CORRESPONDENTS.

NORTH. By all means, the sooner the better. We shall be glad to see you follow it up heartily, as good must ensue.

The SHIPMASTER'S letter in our next.





THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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MAY, 1855.

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THE SEA OF ASOV.

What a gloomy picture has been drawn of the numerous dangers of Black Sea navigation! Sand-banks, violent and continuous tempests, and dense fogs, were said to threaten with inevitable wreck the rash mariner who should venture on it after the fine season.

Far from enlightening the rest of Europe as to the true value of these reports, Russian policy has exaggerated them. Without any desire to underrate the serious difficulties against which the navigator has to contend in that sea,—were these difficulties insurmountable? Our gallant seamen have given noble proofs to the contrary; they have triumphed over every obstacle, and, thanks to their skill and indomitable courage, the flags of France and England, even in the depth of winter, wave proudly over those dreaded waters.

Even beyond the immense political results that must follow this, the present campaign will also prove a prolific source of valuable information to the Mariner. The Black Sea is already ploughed in every sense by the ships of the two navies, already as familiar to us as any lake or river of France or England, and doubtless, ere long, we shall be able to say as much of the Sea of Asov. Yes! soon shall we behold our noble vessels, having barely allowed themselves time to repair their damages, pursuing unremittingly their hydrographical researches on the Sea of Asov, (for among our sailors courage does not exclude science,) and our colours waving before the astonished gaze of



the semi-savage population dwelling on the coasts of this sea. Awaiting these much desired discoveries, we will now in a few lines sum up the knowledge already acquired respecting these inhospitable shores. The notices thus collected are very limited at present, but, as above said, we anticipate shortly more satisfactory accounts of them.

The Sea of Asov, notwithstanding its vast extent, (about 9,700 square miles,) which has obtained for it an individual name, is, in fact, but a portion of the Euxine, with which it communicates by the Strait of Yenikale.

The Sea of Asov is situated between  $45^{\circ} 15'$  and  $47^{\circ} 15'$  N. lat., and  $34^{\circ} 50'$  and  $39^{\circ} 20'$  E. long. It is about 90 miles in length from the Straits of Kertch to the point of Bielosarai, situated at the entrance to the mouth of the Don, called more appropriately by the French the *gulf*, for from Bielosarai to Asov, the real mouth of the river, measures 76 miles, giving a total of 166 miles. Its width, from the end of the Isle of Touka on the west, to the Limane Beislitska on the east, is 142 miles.

Taitbout de Marigny, from whom we have obtained these limits, tells us that the northern coast of the Sea of Asov, which is 85 to 131 feet in height, and in some parts hilly, is surmounted by rocks of ferruginous marl. An extent of shingly beach, bordered by sands, surrounds all the promontories except where submitting to the powerful current of the River Don it has disappeared towards the west.

The eastern shore lies very low from Temruk, frequently sandy, interspersed by swamps: here also there is some appearance of beach and sands, especially near the mouth of the Don.

The Touka, a long narrow low kind of island, called also "Langue et flèche d' Abate" (the Tongue of Abate), forms the western boundary of this sea, separating it from the Sivash or Muddy Sea, which receives several rivers of the Krimea. The Krimea and the Island of Tamane offer several heights, which serve to navigators as points of observation, from the Cape of Kazandibi as far as Temruk.

The greatest depth of the Sea of Asov is 44 feet, between the Straits of Kertch and the Point Bielosarai: it is 26 deep at the entrance of the Don, only from 8 to 10 in the roadstead of Taganrog. The waters of the Don contribute in a great measure to the supply of this sea. Having just spoken of its extent, now arises an important question:—Has this Sea of Asov been always confined within the same bounds as we now find it? The majority of modern authors answer this question negatively: their opinions, in which we also coincide, and which are based on the accounts of ancient writers, Herodotus in particular, appear to us to derive fresh confirmation from the very nature of the mighty rivers which contribute their waters to this sea: in fact, these waters are charged with the sand and mud that they have washed from their shores in their impetuous course, and these matters being deposited, tend gradually to raise the bed of the sea, especially on its coasts, forming first marshes, and in course of time fertile plains. The situation of the entire eastern coast towards the

point where the Sea of Asov receives the Don and the Manitch, confirms this opinion; and this last named river appears itself to be but the remains of a strait, which must originally have united the Euxine to the Caspian in the same manner as the latter sea is connected with that of Aral. Perhaps even all the countries along which these waters roll were but a few centuries back submerged by them; and, if it be so, and the same order of phenomena continue, our descendants may some day behold the Black Sea converted into a vast plain, whereon the plough may trace its prolific furrows.

Far from being disproved by the great difference known to exist between the respective levels of the Caspian and the Sea of Asov, our conjectures appear on the contrary to gain, from this difference, a greater degree of probability; for the very manner in which the shores of the Asov are formed by deposits of sand, must assist continually in raising the level of this sea, which now surpasses that of the Caspian by about 150 feet.

We have dwelt too long upon conjectures, the truth of which succeeding ages can alone decide; we will now state the amount of our present information.

The Sea of Asov is formed principally by the Don and the Kouban, and its waters flow brackish rather than salt in consequence of the muddy nature of their influx: it is agitated by more frequent storms than its neighbour the Euxine; its sand-banks, its shallows, and its icebergs, offer the greatest difficulties to navigation. Without alluding to the fields of ice which the Don occasionally contributes, this sea freezes generally from December to March, and is also remarkable for natural phenomena to be found perhaps in no other part of Europe.

We allude to submarine eruptions of mud, the existence of which has been authenticated by the learned Pallas, and which produced an island in September, 1799; the same phenomenon was observed in 1814, and we believe it has not recurred since that period on any large scale. In spite of the dangers of this kind menacing the navigator, the Sea of Asov is to the Russians the field of an important commerce. It carries into the Black Sea, by the Straits of Yenikale, the numerous products of its shores, together with those brought to its ports from the interior, at the same time sends back, by means of the communicating rivers, the commodities coming from the shores of the Black Sea as well as from its own coasts.

The principal Russian port in these latitudes is Taganrog, placed at the extremity of a cape towards the eastern boundary of the Sea of Asov. Situated in a salubrious position, Taganrog welcomes annually to her port upwards of 2,000 merchantmen, of inferior tonnage it is true, but the sum total of the import amounts to no less than £400,000, and the exports even to £1,000,000. The trade alone in the skins and furs of Southern Russia gives this place a considerable mercantile importance. Taganrog has also a certain standing as being an arsenal; here are kept the swords and timber destined for Odessa and Sebastopol. The town is defended by fortifications, formerly badly garri-

soned, but since the beginning of the present war kept in better order. There are still monuments to be seen showing the regard in which Taganrog was held by the Czar Peter I.

Opposite Taganrog rises the town of Asov, the primitive fortifications of which have fallen into decay, and given place to smiling gardens. Rostof, with its numerous churches, is encircled by a rampart and a moat, a liquid zone, which defends it and at the same time fertilizes the skilfully cultivated gardens. Their women have a great reputation for their beauty.

On the same side as Taganrog, in descending towards the west, is Mariopol, with a population of Greek origin, who trade largely in red morocco leather, which is there manufactured.

Descending the coast still further towards the west, the Isthmus of Perekop is soon reached, which joins the Krimea to the other part of Europe.

When the wind blows from the east, the sea penetrates a kind of strait close to Perekop and forms the Putrid Sea, which name sufficiently indicates the insalubrity of the country adjacent. When, on the contrary, the wind is westerly, the waters leave the ground uncovered some considerable distance, forming vast salt marshes, whence the impure exhalations infect the surrounding country. The entrance to the Sea of Asov is defended by the forts of Kertch and Yenikale: these are of tolerable importance, and have probably been recently augmented.

Before laying aside our pen, we cannot resist the desire to narrate a legend at once simple and touching, and a great favourite on the shores of the Sea of Asov.

We have already stated, that on some parts of these coasts the women are remarkable for their beauty. There also has Love found many fervent worshippers; but with love comes often sorrow, even despair. The legend runs, that the souls of those young girls, who, unable to support grief and disappointment of the heart, are prematurely mowed down by the pitying hand of Death, take refuge in the chalice of a little blue flower, similar to our forget-me-not (*myosotis*). This flower, if gathered by a young maiden on a certain day of the year, informs her, by retaining its freshness, or by quickly fading, whether the heart of him who addresses her is sincere or false.

Whence originates this legend? Does it come from the poetic feeling frequently found among primitive and half-civilized colonies? Is it, on the contrary, the trace of a former more enlightened people, whose traditions have survived their own existence? Our readers must decide—For ourselves we are content to enjoy the infinite charm of an old legend, touching from its very simplicity; and we leave to others the task of seeking its origin in the arid fields of science.—

*Translated from the "Moniteur," and adapted to the "Nautical."*

## OUR BRITISH SHIPMASTERS.

Sir,—The low standard of the Captains of our Mercantile Navy has been frequently brought to notice in the *Nautical Magazine*. Belonging to that class, I have been, for many years, wroth with you for the share you took in what I thought traducing the character of an honourable class of men; which, to tell the truth, I was rather proud of being one of. I still took in the *Magazine*, however, and sometimes sent you a paper for publication, consoling myself for your unfavourable opinions by the reflection that you are a naval officer and know no better, and that the Merchant Service could spare your opinion, good or bad, and not be much gainers or losers thereby. But I was wrong, and now beg to make the *amende* and confess that you have been lenient rather than severe.

“’Tis an ill bird that fouls its own nest,” but as evil cannot come of speaking the truth, I say it with sorrow that the experience of the last ten years has convinced me that the Masters of our Mercantile Marine are, in the great majority, men totally unfit for any situation of trust. Although one of the class, I have not been among the *every day* sort for many years, and, judging of the whole by those of the better sort, I was misled in my judgment of them, and put you down as a prejudiced person;—but I repeat again that I was wrong.

So as nothing in nature is all bad, so with our Merchant Captains. There is a number, small indeed, who are men fit for any honourable station in life, combining the education and manners of gentlemen with those of thorough seamen. These are oftenest found in command of large ships and ocean steamers. Those less known, are also to be found in less prominent commands, say a Liverpool or North Country trader. Another class, and perhaps the more numerous one, consists of men who are the victims of a bad system and bad example: men of an easy temper, who have not energy enough to correct in themselves what they well know to be amiss; with just sufficient self-respect to keep them out of glaringly vicious practices, but their standard of morality is far below that which should entitle them to the responsible situation which they hold. The third, and by far the greatest division of the class, are men who are so untrustworthy as to be unfit for any post removed from the eye of a master; dissipated and dishonest beyond belief, and often of habits that would disgrace Jack himself. I have seen such men dragged out of a brothel, through mud and dirt, pitched into a boat, and taken on board of their ship, which had been ready, waiting to sail, for days. I have seen and known—but I will not proceed with a tale that is beyond belief. Dickens asserts that he softened rather than exaggerated the scenes at the Yorkshire schools; if he had to deal with the Merchant Service, (and it is sincerely to be wished that he would have a slap at this enormous evil,) he would have to keep his pen under greater restraint. Still, the picture would be such that none would believe it, excepting, perhaps, the Police Magistrates at our large shipping ports.

I had occasion lately to make a voyage in a ship commanded by a man of the middle class, described above, and what I there witnessed induced me to bring the subject under notice even again and again, in the hope of arousing shipowners, and Masters too, to a sense of the evil. I don't blame owners so much as the Masters themselves. They have fallen from their high estate and gone down, down, into the filthy pool of a lower degradation than owners know anything about. It is usual to say when these men are seen exhibiting themselves in an unseemly way, that owners deserve it for employing such men because they are cheap. I believe this opinion to be more general than correct, and that owners would not employ such men if they knew them. But how are they to know what their Captains do abroad, say on a long voyage to Australia or India. I grant that owners of a number of ships in one trade can readily satisfy themselves of the conduct of their Captains by comparing one ship's doings with another's; but an owner of a single vessel is all in the dark whenever he sends her on a voyage of which he has no former experience; he may inquire of a neighbour, but it is not improbable that he is also a sufferer; besides, people are not over communicative on such matters. Agents abroad are silent, except in extreme cases, for they very frequently know nothing of a ship but through the broker who charts her; the Captain is assumed to be the confidential servant of the owner and no one wishes to interfere between them. The Captain knows this very well; he makes use of the credit entrusted to him, and draws money and spends it in any way he likes,—the agent seldom knows or cares how,—and a Captain's disbursement account is truly a by word for fraud: "two pence worth of greens a sixpence," is an old saying and has lost nothing of its truth. The owner is thrown upon the veracity of his Captain to account for a long voyage by calms and contrary winds in seas he has no experience or knowledge of, mishaps and consequent expense unavoidable owing to the "rascally natives," &c., &c. He may suspect all is not right, but can only suspect; hence he has nothing for it but to withdraw from a trade that would pay his ship handsomely, if honestly conducted.

Such I believe to be a truer state of the case than the cupidity of owners inducing them to employ any body that offers cheap. Few owners but can see that a voyage prolonged say only a month beyond the usual time is more out of his pocket than a large addition to his Captain's pay would be. These statements have been made over and over again, Mr. Editor, but they do not seem to have taken much effect. There is no question about the profitable results of the shipping trade when conducted with skill and prudence; we have bright examples of it before us; but it is my belief that no trade whatever is so shamefully mismanaged, and I lament to say that the burthen of mismanagement rests with the Captains. Our British ships and British tars are still the foremost in the world beyond all comparison, but the Captains are not, and I again invoke Dickens to apply the lash to them as unsparingly as he did on Squeers, and effect another great public good.

I will now give some particulars of my experience on a late voyage in the *Smasher*, Captain Closereef, in which another seafaring person and myself were passengers, from some place to another. The *Smasher* is a large ship of about 1,000 tons, belongs to a wealthy owner, was well equipped, and had an excellent crew. Captain Closereef was a man of the middle class, mentioned above, whose character might be described by negatives, a good seed cast among thorns. He was a "good sort of a man," with nothing vicious about him, but no education, no information, no energy, a giant in bulk and a pigmy in all mental qualities; he prided himself a little on his seamanship, but that was in the "hand reef and steer way," had a great contempt for a Captain who dressed well or wore gloves; he was no officer, had no nerve to carry on sail,—a squall or black-looking sky brought the *Smasher* under close-reefs and main-sail furled for twenty-four hours or until the weather looked better, and so the voyage was prolonged in the proportion of five days to four. I remember one night a squall coming on after we had been for several days in light winds and smooth water in the tropics; the squall came right aft, and the Mate on watch did not shorten sail, and the *Smasher* walked along in fine style for a little while, but the noise roused the Captain who happened to be *asleep* this night, which he seldom was by his account, and really believed it. It looked black and the rain came down heavy, as it usually does in a tropical squall. Captain Closereef was taken by surprise and completely unnerved.

The hands were turned up, and "yo hoy" at down studding sails and all the upper sails until she was put under double reefs. Long before this was accomplished the squall had passed over, and all the advantage of it lost. Captain Closereef could not reason that it would have been better to carry on as long as the booms would stand,—and they will stand a long time in a running squall, with smooth water,—and to get out of these calms and light winds, even at the expense of a studding boom or two. But, oh! the lamentations of this night, and oh! that stupid Mate! Captain Closereef got wet and such a business the Steward had in coddling him all to rights again, with hot drinks at night and cooling drinks during the day. I suppose I must have *looked* as if I would have carried on, but *said* nothing, for Captain Closereef often reverted to the danger and uncertainty of these "tropical squalls," and said a prudent man would put no faith in them, with other remarks all tending to cover his own want of pluck. And yet this man is not at all an unfavourable specimen of his class; he had commanded under the same owners for many years, and I happen to know was considered by them a steady, good man; and he was steady, and I have not the least hesitation in saying would have been good too, had he been brought up under better training. "A bull dog of the true British breed that under a better master would have been a better man."

To go a little more into particulars of the routine on board the *Smasher*, I was a little startled at first at his frequent application to the bottle; but, notwithstanding his frequent refreshments, I am free

to say that I never saw the least symptoms of excitement in him, let alone intoxication: in fact, Captain Closereef, although swallowing daily a quantity of liquor that would affect a very hard head, was in truth a sober man. He was also a gross feeder; took four regular meals a day, and several snacks between. No stomach could hold out long under such eating and drinking, and the inevitable upshot was that he became not exactly sick but out of sorts, and commenced doctoring himself. I fancy he must have been long in this habit, for he seemed to know the virtues of all the medicines in the chest: one created appetite, another promoted digestion, and a third made him sleep sound. These, as far as I recollect, were principally in demand, but there were essences and extracts and cordials for every intermediate symptom, and Captain Closereef's whole business soon became the care of his bodily health, or rather the destruction of it. The result of all this was that he fell really ill at last, and, being much alarmed, put up helm and ran into some place for medical advice.

And here I could not but observe that when the Doctor came on board several of the crew were said to be sick likewise, and had a dose of physic;—this, doubtless, with the view of making out a case of general sickness as the cause of his putting into port. We remained ten days, the Captain became better, and we proceeded on the voyage. The same practice was continued, and the same results followed, viz., Captain Closereef ill, and getting worse every day, that is from sheer stupidity in not taking exercise, but keeping the stomach in a perpetual state of irritation in digesting an unreasonable quantity of food and drugs. But he could not be made to understand this,—no, it was the hot climate and the anxieties of a long voyage, &c. He shaved and changed his linen twice a week, and continued to wear clothing fit for the Arctic regions in the tropics, got up about seven bells, steaming in flannel shirt and drawers, from a cabin without a breath of air, and complained of having no sleep.

Captain Closereef had been brought up in the North American trade, and, for good conduct, was selected to command this large ship on more extended voyages, and I have said before that she was equipped in excellent order; three good chronometers, barometer, sympiesometer, excellent charts, and a good collection of highly useful books, such as *Horsburgh's* and *Purdy's Directories*, *Reid and Piddington on Storms*, *McCulloch's Dictionary*, &c. But Captain Closereef had a great contempt for books; he had learned to work a sight for chronometer, had no faith in lunars, and as for "running away from a storm, as he had been told could be done," "why you may tell that to the marines," he would say. I calculate that if Captain Closereef, with his present opinions, meets with a cyclone in an awkward position, he will catch a tartar. Yet, with all these means at command for navigation, he evidently had no confidence in them or himself. The chronometers agreed very closely, not exceeding seven miles, yet when we were approaching a channel of more than eighty miles width, and not seeing the land in the evening, he hove to at sunset, and, subsequently, kept as much out of sight of land as possible, although it was proper

to keep in with it for taking advantage of the land and sea breezes. He did not like running any risks, he had commanded ships successfully and hoped to do so to the last; in reality he was too lazy to keep on the alert, as would have been required close to land, and he was afraid.

Discipline there was none on board of the *Smasher*. The crew were in watch and watch day and night, and did their work well, but slowly. Captain Closereef never spoke to them, but it was easy to see that all this ease and quiet allowed to the men did not proceed from any principle of good feeling towards them, but from fear of disturbance and being "hauled up" before a Magistrate. "Seamen, now a days, were dangerous characters;" in fact, Jack was better than his master in this ship, and, to do him justice, did not abuse his position. This absence of all order or supervision of the ship told heavily on wear and tear,—studding sails lying wet on the booms rotting, rigging chafing, no repairs of sails; in fact, none of the constant splicing, knotting, and stitching that is required to keep a ship in order at sea. The jib stay, fore stay, and maintopmast stay, all came down at several times, *chafed through*. Captain Closereef growled at the Mate as usual; when *he* was Mate such things never happened, but now a days sailors knew nothing of their duty, and so forth, but no attempt to make things better. The Mate took the growl in all humility, and the thing passed over.

The Mates, however, were very differently off: from the crew they had to submit to language and treatment that was disgusting to witness. I pitied them at first, but they seemed to think nothing of it; such seems to be the custom, and they will, in all probability, follow it up when, in time, they become Masters. By Captain Closereef's account, his Mate was the personification of all evil, and "not worth his salt," but he was put in by the owners and he dared not discharge him. Will it be believed by any one who has not witnessed it that the Chief Mate, who is second in command and would in case of accident to the Captain take command of the ship, is kept ignorant of her place on the chart, never sees the chronometer, (Captain Closereef took an altitude of the sun and then went himself and noticed the time,) and, in fact, is treated, aye, and even hinted at, as having no capacity for such things. He messes at the cabin table it is true, but is only helped to anything fresh or good with the look and manner of feeding a dog. Wine or beer for him is out of the question, the rum bottle is placed beside him, to which he may and does help himself with a stiff glass, and leaves the table directly he has finished soup and his usual salt meat.

Such conduct is positively revolting, but it is the general system on board of these ships, and no one seems to think it anything amiss. Surely owners do not know of this. I should suppose the Chief Mate entitled, for the safety of the ship, to have access to the chronometers and charts, and surely the good things supplied for cabin use are intended for all who sit at the table, and not for the Captain alone. I repeat again that the Captain coolly ate and drank of the best at the



same table with the Mate, who ate salt meat and biscuit and drank rum and water. It was disgusting to see it.

The Steward of the *Smasher* was far in Captain Closereef's confidence. He was his all in all. He fed him, physicked him, and condoled with him by turns, and had his reward in feeling his position above any one else in the ship, and the Captain at his finger's end. But he was a sensible fellow and did not abuse the care of him, and although Captain Closereef often complained to him about the Mate, I don't think the man took any part betwixt them. This man even felt himself so familiar with the Captain as to hint in pretty plain terms that too much eating and drinking was the cause of his continued illness. I have heard him do so more than once, and the Captain understood his meaning, but had no relish for the advice, and not enough of self-respect to check such remarks from a subordinate.

Now, Mr. Editor, what can be done for a system that brings up men like this, for Captain Closereef is really a well meaning man who is not aware of the figure he cuts in the world, and I have no doubt but, under under different training, would have been a very worthy character. Examination of Masters is a step in the right way, but only a step. Owners might do much if convinced of the extent to which their pockets suffer by such men. (I cannot estimate the actual loss on the voyage of the *Smasher*, from sheer neglect, laziness, or whatever else it may be called, of Captain Closereef, at less than £500 to £800.) They might order a proper record of wind and weather and the quantity of sail set to be kept, signed by the initials of the Mate and Second Mate, every watch, and let it be known that to the Mates as well as the Captain. This is especially for ascertaining at the end of the voyage if the ship has been navigated with skill and energy, and for judging of the fitness of the Mates for command. This might be examined by some competent person in office, who might give a written opinion of it to the owner that he might show to the Captain and Mates. Owners might also reward extraordinary exertions when successful in shortening the voyage and coupled with general good management. Say that an ordinary India voyage occupies twelve months; both owner and Captain would gain by giving the Captain £100 if he made it in eleven months, or £300 if in ten months; but until a new spirit springs up in the Masters themselves little, I fear, will be done.

There is nothing in seamanship calling for a high standard of abilities. A cabman driving through London requires as much or more skill and nerve than a shipmaster. But the men are victims of a vicious system of their own creating, and this requires to be broken up. There are many such as Captain Closereef, who only require to be roused up from the sloth into which they have allowed themselves to sink to become totally different men; and if these lines, written by one of themselves, and in no ill feeling towards them, should come under the eye of even one and set him thinking how he could amend himself, the trouble of writing them will not have been in vain.

I was struck with much surprise at the anomalies in Captain Close-

reef's character which came under my observation. He was a man of mild temper, of a serious and rather religious turn, with a heart ready to sympathize with all good, thought well and spoke well of mankind generally,—which no evil minded man does,—kept himself apart from the drunken riotous class described first, and had dignity enough to treat their gross remarks on his better behaviour with scorn, which I can aver from my own knowledge, and yet his habits and ideas were of a standard far below such as are essential to the management of lives and property on his own responsibility. It struck me that he was just below the capacity of emancipating himself by reading, observation, or reflection, from this state; but if he had had the advantage of good example in early life would have profited by it and become a very different man.

The same remarks apply to men in every walk of life, but the evil is more felt in the position of the commander of a ship on a long voyage, where he is left entirely to himself; and men of this standard don't improve, but become worse, and many, it is to be feared, ultimately sink to the lowest of the low. I know of two instances of this kind in men who were at one time passable enough, that in less than ten years had become drunkards, and abandoned to every vice. One went mad, and the other threw himself overboard and was drowned, in a fit of delirium tremens, after embezzling and squandering upwards of £1,000 of their owners' money.

These are all facts, Mr. Editor, and whoever sets himself to work on the task of redemption of this class of people, deserves well of the world. I can think of none so able to do so as Mr. Dickens or *Punch*. Captain Closereef is a living individual and what I have stated here are actual occurrences, but he is intended to represent a class of Captains who, I firmly believe, only want to be roused up "to see themselves as others see them," and commence that work of reform, to turn over a new leaf of the book.

Yours faithfully,  
NORTH.

To the Editor of the *Nautical Magazine*.

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NARRATIVE OF THE STRANDING AND RECOVERY OF H.M.S. "NORTH STAR," IN EREBUS BAY, BEECHY ISLAND, ARCTIC REGIONS.

(Concluded from p. 178.)

Entering on this second part of the narrative, I cannot omit mentioning the efficient help those few men sent from H.M.S. *Resolute* for passage to England rendered in releasing the ship from her long duration in such an unusual position, thereby enabling me to commence my last journey in the Wellington Channel earlier than I could have done had I only had the crew to work for her release, for I could not

possibly leave her until afloat, or spare hands for any officer to perform the journey.

Other circumstances too were against the speedy accomplishment of work requiring all the strength and energy of those concerned in it. Many of the men proved totally unfit for arctic service, being repeatedly reported by the medical officers unable to stand the fatigue of travel or work on the ice; although apparently well and out of the sick list.

Commencing the travelling so early was entirely in consequence of the position of the ship; for so much was to be done in preparing for her release that it was requisite to perform all the journeying with no more hands than were actually necessary; and had I waited for the time to which my attention was directed for beginning that essential duty, the 18th April, Sir Edward Belcher would probably not have known our position or accident until he reached Beechey Island: moreover no accounts would have reached England of his proceedings until 1854.

Early in the year 1853, arrangements were made for an early commencement of the travelling duties, so that we might have all hands to work for the release of the ship when the time arrived that we could fairly commence. The dock was marked out and gravelling begun in February; and as I meant to lead the first party myself, visit Points Philip and Becher, I purposed starting on the 10th of March. Heavy breezes and a low temperature,  $-46^{\circ}$ , prevailing about this time and some days after, I could not get away until the 21st.

Orders were left with Mr. Pullen, the Master, to proceed with the work in hand as fast as possible; such as finishing the house, clearing away the heavy piled ice, which would occupy considerable time. However, on my return, 24th April, I found all things in as advanced a state as could be expected; and the huge mound that had been forced up under the bows nearly to the bowsprit, for the third time dug down to the level floe. Also the hard packed snow ahead cleared off the solid ice. Here ashes were spread, but no visible penetration was apparent. The ship appeared to have slightly altered her position, her head lying more to the northward, and her whole body considerably raised, as if off the ground, with about one degree of heel to starboard.

The temperature at this time was too low, and weather such that we could not hope to make any impression on the ice, nor keep any water clear that we might open out. Other jobs were therefore proceeded with; such as refitting rigging, getting lower yards and topmasts up, in a few fine days which offered; after which there came on, and continued so long, such disagreeable weather, that it was most fortunate we had finished that necessary work.

The line of dock for 260 feet was directly ahead, and the greatest obstruction was the heavy floe piece touching the stem, now extending the whole breadth of the dock, (60 feet,) and as much more along its length. It was on the ground at all tides; in fact so was the ice for some distance beyond that we had weighted ourselves last autumn.

And that to starboard lying over where the small bower was, so heavy that neither it and about 20 fathoms of chain did I ever expect to recover.

The purchases were greater than those before used. In the first place, instead of the chain necklace, one of the 6-inch whale lines was passed three times round the ship, and rove on it two 16-inch double blocks. The best bower anchor was buried in the ice at the head of the dock with just sufficient of the chain to reach the ship, pass through the hawse hole, and round the windlass. The remaining cables were taken out and placed on the ice close to, together with a quantity of provisions, &c., and spare rudder, which had been put together in the winter. A little to the left of the best bower, and sixty feet further to the N.E., was the stream anchor, backed with our largest kedge; and a long chain strop so as to lay a little within the first swivel of the best bower chain. To this strop was lashed a 15-inch treble block. To the first shackle of the best bower chain another 15-inch treble block was lashed. Two whale lines were then rove a 5-inch for the starboard, and a 4-inch for the port purchases, standing parts fast to large toggles in the spare hawse holes, falls through the working ones thence to the windlass and capstan.

The parbuckles first used were rope; but from the constant chafe and cutting by ice, chain was substituted, and answered much better. On the parbuckle was the fish tackle and a single luff, receiving the ice as it fell on two rough spars (ways) and launched to the rear.

It was not until the 23rd of May that we could commence with the saws, and even then from deficiency of strength for working both it and the parbuckle together, lowness of temperature glueing the pieces cut so firmly fast again, our progress was so very slow, that I discontinued the operation for a time, and commenced digging down the banking, &c., we had raised last year for keeping the ship upright. We commenced aft on the starboard side, when, on getting nearly as far forward as the main chains, and down to the bilge, found that no water came in as the tide rose. However, I still went on, when getting about halfway between gangway and fore-chains, leaving a sufficient quantity on either side for support in the event of no ice being under the ship, not the slightest symptom of water having penetrated was apparent. And on a further examination the ice was found close down to the keel. We also for some time appeared to me as if raised bodily off the ground.

Close in under the port counter a small hole was discerned, through which the gravel was to be seen. About this spot last autumn there was less water than at the stern post. Now, however, it is the contrary, for there is a difference of at least 18 inches, the soundings in the former being 13 ft. 8 in. and the latter 12 ft. 2 in. at high water; the tide completely barred from going any further forward by the ice. It was therefore evident that the ship was lying bound in a cradle of ice, and some that was chipped off with the chisels showing every mark and indentation as if put on by one anxious to get the mould of her bottom. All this I did not think so much of, considering

that the heat thrown off, together with her weight, would soon work through to the ground. The water forward had found its way up over the ice at high water to as far aft as the fore-chains; so to assist the quicker wasting of that abaft, a trench was dug close to the bilge, into which the tide might flow; and acting with spread ashes, a visible change was soon apparent, for the ship gradually went over to 3° of heel to starboard. Sail too was set when the breeze was fresh: in fact, recourse was had to every means for loosening her from her icy bed, and getting her down on her beam ends.

On the 30th of May the party arrived from the *Resolute*; and as soon as the men recovered from the fatigues of their journey, they were set to work with our own, when the canal soon began to make a good show of open water.

Towards the middle of June, the sun getting good power, we had some heavy thaws, which greatly assisted us in our work, and wasted away the ice. That about the stern was dropping off at low water, the 8 feet mark constantly showing; and I feared much from my own as well as the master's observations, together with the carpenter's opinion, that the ship was beginning to strain, symptoms visibly showing both at the port gangway and bows. The work, too, as we advanced became not only slow and laborious, but very wet; and the heavy pieces, at least 17 feet in thickness, would not rise with the tide, consequently the saws would work with difficulty; and the tide rising, flowed through the cracks and over the ice, so that the men were a great part of the time standing in water while at the triangles. At length our advance was so slow, that I brought the powder to bear, beginning with a 20lb. cylinder, which was placed within 3 feet of the outer edge of the heavy mass. As it lay on the ground, we could not get the charge underneath; however, it was well jammed in and fired; but it certainly had not that effect on the ice which I hoped for; in fact, it was too heavy, yet with a little more sawing and chisselling we got some pieces off, another hole nearer the outer edge, and a charge fired with better effect: finally it took 140 lbs. of powder to break up the piece.

The ice was now all sawn and broken up to the stern, and the dock on either side was completely crowded with large pieces which had been parbuckled out, showing very visibly the effect the sun had on it while so exposed. A remaining quantity still in the water, loose, was rapidly decreasing; and when floated close up to the head of the dock, a good space of open water was left ahead of the ship, so that could we only get that portion of ice away, which appeared to lock across her forefoot, we had purchase enough to drag her out of her frozen bed.

On the ice so close about the stem we could only work at the last quarter ebb and first quarter flood, so I determined on trying a few four pound charges, which, after cutting and chipping to lighten the ice, that the tide might float it up, were placed close on either bow, and four fired so successfully, that the portion across the forefoot rose; much was shook off the bottom, and many cracks were opened some distance aft.

It was then about the 23rd of June, three days after the full of the moon, and the tides were taking off; I did not expect therefore to be able to move until the next springs.

I had observed lately that the highest tide mark on the stern post was never above 11 ft. 10 in., indicating a considerable decrease in the depth of water; whereas in the hole under the counter it was still the same, 13 ft. 8 in. This I was rather at a loss to account for, hardly thinking that the ice so close to the ship had been sufficiently reduced as to cause it to crack from the main body by the force of the flowing tide and lift her with it. To ascertain this, a hole was dug close abaft the stern-post through to the gravel, and a tide pole placed in it at low water. A spirit level was adjusted in the cabin, and both closely watched. When the tide rose to the usual mark on the stern-post, a like depth was exhibited on the tide pole, where it went on increasing until high water, then showed the same depth as in the small hole under the port counter, whereas at the stern-post there was only 11 ft. 10 in. covered. The level in the cabin, too, after the tide had reached this 11 ft. 10 in. mark, began to move gradually to the other end, where the bubble at high water became half hid; thus clearly indicating that the ship was fairly lifted off the ground, the ice acting on her like an immense camel.

The remaining banking left at the gangways was now removed, and could it have been possible to have cleared the ragged crack which had opened fore and aft on the starboard side of the ship two or three fathoms off, and enlarged it considerably, we might have hauled all bodily out together and shook the mass clear in the deep water. But the list to starboard was jamming this crack home, and the time, too, an attempt would take, could hardly be spared. I took therefore what proved to be a more expeditious measure.

Two saws were manned, one to commence from forward the other from aft and cut through the ice inside this crack, crossing also two others lately made at right angles from the ship's side. Holes were then dug on the line of cutting through to the ground; when, as the mass floated up, three 4-lb. charges were blown off; and as far as the gangway we had by the evening of the 25th cleared the ice close to the ship, or between her and the cracks, completely out; had every reason to suppose that none so far aft was sticking to her bottom.

I now had to consider how far prudent it would be to remove any of the remaining ice, for it was some time before the next spring tides would come on. However, as the present ones were still good at night, although taking off, and there being yet four holes on the cut through to the ground, I determined on trying with the next high water whether the charges, if placed so as to blow off in quick succession, might not only loosen the remaining ice from the ship's bottom, but move her in the bed she had been so long held powerless. It would be a great point gained, and I had no other hope. It was perhaps a desperate remedy, but ours was a desperate case, and there was no saying when we should move her to any time like certainty; for the work had become discouragingly slow and tedious, and we might not

possibly get her off, while such masses stuck to the bottom, until the whole body of ice moved out of the bay and took her with it,—a circumstance most decidedly to be avoided, for from last year's experience I had no reason to think that it would be otherwise.

I could not say that I felt very sanguine about moving the ship by these means in the present state of the tides; and I was doubtful, too, whether the proximity of so many charges exploding so quickly after each other, might not injure her. However, there would be nearly 18 inches of water under her at the first shock, as well as a great deal about her, which would all tend to deaden the effect; and it was well worth the trial, if only to get the ship the more speedily on her beam ends. Another circumstance too was, that the men were beginning to feel the effects of the constant working in the water, and standing about with wet feet in so low a temperature, for the sea boots supplied were miserably unfit for what they were intended, and many men were unfit to work on the ice.

It was high water at 2.35 on the morning of the 26th of June; every hand was therefore on deck at two o'clock. Sail immediately set to a light breeze from E.S.E. Purchases manned and hove taut. When abreast of the starboard gangway close to the ship in No. 1 hole a 4-lb. charge was placed, while others were held in readiness.

At this time there was 14 ft. 6 in. water at the stem, but only the 11 ft. 10 in. mark covered on the stern-post, the ship nearly upright and very much by the head, showing that she was raised off the ground abaft. The fuze of the charge placed No. 1 was ignited, and its explosion most anxiously watched for, which was followed by such a good result, no other than breaking up a large portion of the ice, and so causing the ship to tremble that I had the remaining canisters in directly, keeping the purchases up the whole time, to as taut a strain as they would bear.

No. 2 charge was in the hole half way along the main chains; No. 3, the mizen chains, and No. 4, abaft and close up to the stern post, with their fuzes ignited, being so cut that their explosion might follow each other so quickly that the commotion or wave created might be kept up as long as possible. The bursting of the charges was followed by most gratifying results, in the rending asunder the icy grasp by which the ship had so long been held, that she appeared to rise as if relieved, then settle down, and with a sally to starboard, crushing with her own weight the smaller ice; forcing huge slab-like pieces on end out of the water, as if mounting up her side, and with so taut a strain on the purchases by the men kept jogging at them, that she sprung ahead; and the slack so quickly hove in, with hurraing, and shouting she is going, that by four o'clock we had got the ship forty-two feet on end. The ice was now the obstruction, jammed close up to the N.E. part of the dock, which long before we could in any way remove, the ship was on the ground. However, she had been afloat for nearly half an hour as far aft as the gangways, and with the pleasant assurance of knowing that release was in our power; that she had sufficient support on the starboard side, the way she was heeling, to pre-

vent her falling on her beam ends as the tide fell; and it being Sunday I let all remain quiet for a time.

On examining those huge pieces that had been broken and forced out by the explosion and ship's weight, they showed convincing signs of where they had been so long adhering, by bearing on their inner portions a perfect smooth and moulded form, showing the black marks and seam-like impressions they had taken from her bottom.

With the afternoon's tide of the same day, after getting a few pieces of ice out of the dock, we made another effort to get the ship ahead; but there was not water sufficient to float her. In fact, it was only with the night tides, after the removal of the floe pieces, that we could complete what we had so successfully begun.

Monday morning, the 27th. at high water the ship was hove ahead 21 feet; when the ice (loose) again stopping her, it had to be cleared out and some passed astern before another move could be made. However, on the afternoon of the 30th, her stem fairly butted the head of the dock, and she could lay afloat at all times of tide, there being  $3\frac{1}{2}$  fathoms under her at low water.

Thus, after lying nine long months on the ground, and the greater part of that time held powerless in what you may call a complete ice berg, did we get the ship free. It was a subject of rejoicing and to be thankful for; for it was indeed a time of uncertainty and wearying anxiety. How all have got over it, God only knows; and it is to Him that all praise and thanks are due for bringing us safely through such a time of trial. I trust never to be subjected to such again.

Frequently as the winter advanced and we were getting her to the upright position, with comfortable assurances of the stability of our work on her holding up for some time at three or four degrees, after the tide had fully ebbed, when all of a sudden would be felt a tremulous motion, and down the ship would go with a heavy crash, upsetting all that had taken so much time and trouble to build up, and it had all to be done over again. This, too, happening sometimes in the night, when lying in bed after a hard day's toil, with anxiety preventing the much coveted slumber, a fancied security lulls you off into a troubled dream, from which you are suddenly roused by the feeling that she is falling down. How convulsively have I grasped the lee board of my bed, in unutterable anguish, and doubt as to whether we should get the ship up again; for if she had only bilged, and the water got in, she would soon have become a mountain of ice, and there is no saying what we should have done. The walls of the house then as they stood would have been our only refuge, where we might have got through the winter, but it would have been a fearful trial for all.

Such an event as is here recorded is a circumstance unparalleled in Arctic Navigation; and when it is considered that the *North Star* was the largest ship that has ever wintered in Arctic Regions, and with so small a crew, forty-one in all, none can say that either officers or men had an easy or idle time of it. And, in fact, it was the chief cause of so many of the men leaving to go home in the *Phoenix* on her return in the autumn of 1853.



The ship's draught of water afloat was found to be 14 ft. 8 in. forward, and 14 ft. 2 in. abaft; so if we had not kept the strain on the purchases we did, and up to it as she moved on the explosions, I doubt if she would have got off so soon, for 13 ft. 10 in. was the greatest depth we ever had at the stern-post and as far forward as her gangway, when it began to deepen.

My first object, after getting the stores on board, which were lying on the ice alongside, besides shipping the spare rudder, which had been put together during the winter, was to ascertain what damage she had sustained in her bottom. This could only be done by sweeping; and the hawser meeting no obstruction in many passes fore and aft along the keel, more than from a few pieces of ice still sticking to her, soon worked off, and her making so little water that I concluded she had received no material injury. It was indeed most satisfactory, for from the time she got on shore up to January, the crashing which took place when she fell, the splitting and grinding noises heard in every part of the vessel going on under her bottom, was sometimes alarming.

Our losses were very little; and after getting the ship off there was one article I never expected to recover again, which was the small bower and 20 fathoms of chain; the anchor and part of the cable we were riding by when the gale came on,—all lying under heavy ice of at least five feet in thickness, and in five fathoms of water. However, on my return from the second journey in the Wellington Channel, commenced after the ship was afloat, on the 11th July, and when I was so fortunate as to meet the *Assistance* and *Pioneer* off Cape Becher on their return to Beechey Island, and obtained those despatches relating to their movements which the *Phœnix* brought home in 1853,—I found that Mr. Pullen had been successful in his endeavour to get that anchor and part of chain, so that it was safely at the bows; and we could fairly say we had lost nothing of any consequence as far as stores were concerned. And the ship was in an efficient state for any service she might have been required; the greatest number of her crew only having suffered so severely from the unceasing labours they had undergone. They were, however, exchanged for an equal number from the *Phœnix*.

W. J. S. PULLEN, Commander of H.M.S. *North Star*.



*Appearance of ship on recovering her upright position.*

**SAILING DIRECTIONS FOR THE ISTHMUS OF DARIEN.—PUERTO ESCOCES TO SASARDI.—By John Parsons, Master Commanding H.M.S. "Scorpion."**

(Concluded from page 191.)

*Boca Chica and Bay of Cartagena.*

Masters of vessels making the land about Cartagena intending to proceed there, should recollect that in general a stream will be found in the offing setting to the N.N.E., being a portion of the Caribbean current making the circuit of the Gulf of Darien, and of sufficient force to set his vessel out of position twenty miles in the night, so that ships often make Galera Zamba instead of Tierra Bomba; but under some circumstances this will be reversed. North winds in the Gulf of Mexico and northern part of the Caribbean Sea, will cause the current to diverge at Sta. Marta, and run precisely in a contrary direction. Therefore this set ought always to be well guarded against by night observations; and, in fact, the Gulf of Darien is a receptacle for the detached portions of the great westerly stream, generally performing all sorts of vagaries in this bight.

A lighthouse on Tierra Bomba (the highest hill) would be of great assistance to the navigator, as it would allow vessels to come close up at night. They are now kept so far off as often to miss the port on the ensuing day, and of course loss of time and expense are the necessary results.

Having made the hill of La Popa, which may be known from its wedge-like form sloping off to the north, and the convent which stands on its south highest part, you have only to guard against the Salmedina Shoal, which lies four miles west of Tierra Bomba, passing either inside or out according as you make the land, until you arrive at the Boca Chica entrance, at the south end of Tierra Bomba, when to enter you have only to attend to the following directions, recollecting it must be taken with a fair wind.

Bring the vessel in a position at the distance of half a mile, with the sandy point, south end of Tierra Bomba, midway between the Forts of San Fernando and San José (inside), and also in one with the centre part of a long ridge on the opposite shore. Proceed on this course to the sandy point, which you may shave as close as you like, viz., half a ship's length; then haul up a little, keeping in the middle of the deep lane of water, which may easily be distinguished from the shallows on either side. You will before this have observed a double post in the water: make a circuit round this to the north at one cable distant, and continue that curved course until the same posts are in line with the right extreme of the high wall of San Fernando. Continue on this until the S.E. hill of Tierra Bomba comes on with La Popa, then haul up for the north Sta Cruz Bank post, which may be made out with a glass, passing this post at about one third the distance from it to Tierra Bomba. Then haul up for the town, taking care not to fall to leeward on the Manzanilla Bank and the shoals off the East Magazine Point.

You can then enter either of the channels into the upper harbour, the posts planted on the edges of the middle shoals being the best guides. These channels being so narrow, require no marks for working through, but a quick eye and ready judgment.

You can anchor in any part of the upper harbour, in 8 or 9 fathoms, on mud, and may go up to within a cable of Fort Pastelillo, with a depth of 6 fathoms.

These remarks are intended for a vessel entering and sailing up with a fair wind; generally speaking, however, with the sea breeze you will have to work after passing the Sta Cruz Banks, when a good estimate of space, and a close examination of the chart will be the best guide, as every different position of the vessel would involve a new set of directions, and as also there are no available marks, the coast being lined with mangroves, precisely alike, and the hills not being in favourable positions for cross marks.

The channel between Sta Cruz Bank and Brujas Island is more open than the other; but as the wind will generally allow vessels to fetch the other, that is taken in preference.

Pilots are in attendance at the village of Boca Chica. The charge is four dollars each way.

After leaving the double post at the entrance of Boca Chica, small vessels may pass close south of the next post, about half a mile farther up, and close south of that off the village of Cano Loro, (Grey-headed Parrot,) thus making a more direct course.

This channel was formerly the principal entrance to Cartagena; but in consequence of the inroads of the buccaneers, it was closed up with an artificial barrier, consisting of limestone blocks from a half to one ton, twenty feet in width, and ten in depth, as yet not consolidated, being merely joined by coral formation, shells, &c., so that there would be no difficulty in opening a portion of it for navigation.

No streams empty themselves into this bay. Well water is slightly brackish; the inhabitants all have tanks to their houses, using rain water. Men-of-war may obtain water out of the Government tanks with an order from the local Government; otherwise, they will have to purchase it at one dollar per ton.

Plenty of firewood can be obtained along the coast. The trees are of small growth, and not of any particular value in the immediate neighbourhood.

The roads in the vicinity of Cartagena are bad; being in the wet season a mass of mud, and in the dry full of ruts and fissures. There is but one road, that from Cartagena leading to Calamar, and a path along the east shore of the bay.

Cartagena is a fortified town; being enclosed with a thick wall, of exceeding durability, formerly mounted with about two hundred guns, mostly on the sea face. The greater part of these are now dismantled, except the saluting battery of thirty brass guns, at the S.W., and a few iron guns at the N.E. The forts, &c., of this place are said to have cost the Spaniards thirty millions of dollars,—a sum that would now buy Cartagena a dozen times over.

The forts of San Fernando and San José were originally very strong, and might be quickly made so again. The guns are now nearly all dismantled, and the rest too much shaken for use. The whole number, in both forts is, sixty. A small guard of militia is kept in San Fernando.

Very little cultivation is carried on in the immediate vicinity of Cartagena. The products are principally brought in canoes through Pasa Caballos from the south, and from the interior of the country. They export Indian corn, rice, cocoa, a little coffee, oil, caoutchouc; and receive, in return, English cottons, hardware, &c. The trade of the place is chiefly British.

Beef is 5d. per lb.; vegetables, 2d.; poultry, &c., is now very dear. Formerly, this was the cheapest place in the West Indies for stock, but the Panama railway has drawn away the labouring population; and, there also, a ready market for the produce is found.

The seasons are the same as in most other places on the coast: divided into two, wet and dry. The dry being from January to June, in the time of the strong winds, and the wet the remaining part of the year, with calms, hot weather, and land squalls. In the rainy season, towards 3h. or 4h. p.m., the clouds will generally form over the land, and soon after the land wind comes off, preceded by a squall of wind and rain. Sometimes these squalls blow furiously, but seldom last long, generally clearing up afterwards with a brilliant starry sky.

In the windy months, January to June, the sea breeze generally commences at west, but soon comes round to N.W. and north,—sometimes remaining steady there throughout the night,—falling calm as daylight appears, to recommence, about 9h. a.m., to the west.

In the wet season, June to December, the winds are very light, calms prevalent, the weather exceedingly oppressive, thermometer at 90°, and altogether not a desirable place to stop at during these months.

The military force consisted of seventy soldiers, acting as police for the town. These left to join some of the troops under General Malo, the Dictator, at Bogotá. They possess no naval force of any description.

The Governor of Cartagena is elected by the inhabitants. They have also a council for performing the ordinary duties. The late revolution has thrown them into great disorder in this respect; but the politics of New Granada are of too complicated a nature to offer any remarks on the subject.

Small vessels drawing six feet water may proceed to the town and unload. Other vessels will have to do so by their boats or canoes. There are no ships built here. A good wharf for heaving down exists at the top of the harbour.

A look-out is kept on the hill of La Popa for vessels in the offing, and signals are made to the town; steamers are generally distinguished at twenty-five miles.

The colour of the water is a sort of green or olive hue, deriving the tint from the mud bottom, some part of which is held in suspension.

The shoals of three and four fathoms depth are difficult to distinguish, but those of one and two fathoms can be easily seen.

Sta Cruz bank in the old charts is marked as having  $1\frac{1}{2}$  fathoms on it; it is now dry and occasionally six inches out of water. The coral at the surface is living; so that a difference of nine feet has taken place in about two hundred years. This must have been produced by the insect, or by the elevation of the main bed. Other shoals in the bay appear to be rising in like manner. The whole of the ground around Fort San José appears shoaler than formerly.

The Government is not particular with regard to quarantine, unless a vessel should come from a place where sickness is raging to a great extent, or have malignant disease on board.

The population of Cartagena is about 3,000, of every gradation of colour between the black and white races.

Salutes to the Government are customary; they have the means of returning them. An English Consul, is resident here; at present, June, 1854, it is C. Kortwright, Esq.

Scarcely any tide stream is felt in the Bay of Cartagena. It runs in and out of the Boca Chica at one mile per hour, and over the barrier of Boca Grande at about half that rate. High water full and change, 11h. Rise and fall, 1ft. 6in., springs; 0ft. 6in. at neaps.

The land and small hills in the neighbourhood of Cartagena are formed of a hard durable limestone. The shores are of a loose coral formation, sand and shell accumulation. The whole of the bay and adjacent coast has a deposit of olive mud, through which the shoals emerge.

The Convent of La Popa, erected on the hill of that name, was commenced with the town of Cartagena, and was very strongly built, to answer the purpose of defence as well as worship. A large tank is still perfect, in which frogs may be seen one foot in length. This hill has served as a stronghold for parties attacking the town on several occasions. They, however, generally fired over the town, instead of into it. The hill is of limestone on its surface.

St. Lazarus Castle was originally a strong fort, but is in ruins now. It is commanded by the hill of La Popa, and might soon be destroyed by a few guns up there. But the Spanish colonists, although they possessed splendid metal, did not know how to use it to the best advantage.

The villages of Cano Loro, Tierra Bomba, Boca Chica, and Pasa Caballos, are merely a collection of a few huts. These are principally fishing stations to supply the town.

The boats used here are long canoes or bongos, propelled with one square sail. They always choose a fair wind for their voyages, anchoring as soon as it turns against them.

Fort Pastelillo, Cartagena, is in lat.  $10^{\circ} 24' 57''$  N., long.  $75^{\circ} 32' 54''$  W., relative to Fort Charles, Port Royal, Jamaica, assumed to be in 5h. 7m. 23s., or  $76^{\circ} 50' 45''$  W. Variation  $7^{\circ} 15'$  E. in 1854.

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EXTRACTS FROM A JOURNAL OF CAPTAIN CRACROFT, H.M.S.  
 "GORGON," IN THE BALTIC, 1854.

(Continued from page 185.)

July 29th.—Operations against Bomarsund have begun in earnest. Capt. Hall, under whose orders Admiral Plumridge has placed the advanced ships, succeeded, on Wednesday, in getting the *Hecla* almost within shot of the fort on the north side; and, for our mutual support, in the event of being attacked by the gunboats, supposed to be in the neighbourhood, desired me to shift my berth nearer to him. This a fresh breeze prevented my accomplishing till this evening. The distance still between us is, however, not easy to navigate for a vessel of this draught; even the *Locust*, with the Rear-Admiral on board, drawing only ten feet, and piloted by the Master of the *Leopard*, could not get through without taking the ground. Our boats, therefore, in addition to scouring the neighbourhood during the four hours' darkness, to prevent surprise, are occupied all day in sounding the narrow and intricate channel; and, with the assistance of the *Alban*, under Capt. Otter's directions, a passage, having not less than twenty-one feet, was discovered and buoyed off. In carrying out this duty, it ought to be noted that, in accordance with the instructions of Capt. Sullivan, the Senior Surveying Officer, all the buoys on the port hand (in entering the channel) were coloured red, and those on the starboard hand red and white, checquered.

We remained a week at this anchorage, the little islets in the neighbourhood being well explored to ascertain that no enemy was lurking on them. The few inhabitants we found appeared always glad to see us in their miserable cottages, and readily disposed of the milk, eggs, and sheep they could spare, in exchange for our biscuit and tobacco; English money they were generally afraid to take. Our sportsmen, also, were not unsuccessful, and bagged several brace of hares and grey hens; for the Island of Odo was alive with game, and a good dog would have been invaluable.

The description I have given in this Journal of the Skar-gard, on the coast of Sweden, will apply equally well to these Aland Islands; the scenery is precisely of the same character. The geological structure consists of primary granite,—the felspar, quartz, and mica being equally disseminated; syenite is found in small blocks. As usual in similar formations, the rocks are fantastically shaped, heaped up one upon another, a perfect chaos of confusion. The clefts are filled with accumulations of micaceous sand,—the result of disintegration,—and the soil thus formed, mingled with the decayed vegetable matter of centuries, produces an infinite variety of shrubs and plants, from the lichen to the tall fir sixty feet high. My two Medical Officers, Messrs. Groves and Llewellyn, being fond of botany, availed themselves of the opportunity of pursuing the study. Among the plants they found may be enumerated: the tripe de roche or reindeer moss; the cup lichen; that called cudbear, producing a beautiful lilac dye; the oak-

wort, thrush, and dog lichens. Of *vacciniacæ*: the cranberry, and red and common whortleberry were most abundant. *Encacææ*: the whole surface of some of the islands was covered with every variety of the heath tribe. In a beautiful glade on the Island of Ago, numerous specimens of the lily of the valley were found. The poisonous bitter-sweet was very abundant; the twigs and stalks of this plant are used by the peasants to bind round their wooden water cans. Bluebells, violets, roses, meadowsweet, &c., reminded me of our "home" woodlands. A specimen of the pink tribe of *caryophyllacæa* was found in the cleft of a granite rock; and one of *ranunculacæa*, with a stem eight feet long, and large shield-like floats under the flowers, was discovered. Strawberries, raspberries, good sized black currants, with excellent taste and most fragrant smell, and red currants, beautiful to look at but quite devoid of flavour, were constantly met with. The hazel exists in great abundance on the Island of Idolhm, and, together with the birch, alder, juniper, and common pine, appears to be indigenous to the soil.

Good water is scarce, for there are no springs on these islands, at least we found none; our only supply was little better than stagnant rain water, obtained from holes in the rocks.

Sunday, August 6th.—This afternoon our signal was made to join the *Hecla*. 'Wayed and got through the passage safely as far as it was buoyed off; the remainder of the distance was supposed to be a clear channel, in the opinion of those who examined it. Not feeling confident on that point, in these treacherous waters, I sent the Master ahead; but, in spite of this precaution,\* in less than ten minutes the ship ran up two feet on a rock that had escaped notice. It was more than four hours before we succeeded in heaving her off by one of the bowers, after lightening her of anchors and cables, bringing all the weights that could be moved aft, blowing the boilers out, &c. We were hard at work all night replacing things, and at 5h. a.m. 'wayed again and proceeded, with Mr. Haines, the Master of the *Lightning*, to pilot us, to the *Hecla*; alongside of which ship we anchored at seven o'clock. The Rear-Admiral (Plumridge), in the *Leopard*, with the *Odin*, *Porcupine*, *Locust*, and *Basilisk*, the latter having the *Julia*, transport, in tow, anchored near us soon after.

We are now about three miles from the Presto Tower, and can see the fleet through the narrow passage that leads into Lumpar Bay. Close to us, on the Island of Utta Holm, is a snug cove, with a good landing place out of sight of the Forts, where the troops intended to operate on this side are to be landed. The *Julia* has a hundred sappers and miners, with the siege implements, on board. At 8h. p.m., the *Driver*, *Pigmy*, *Cuckoo*, and two French steamers, all crammed with French and English marines, made their appearance, and anchored close to the beach, in readiness for the morning.

8th.—At 3h. a.m. the disembarkation commenced. Brigadier-

\* Besides the boat ahead, we had a lead going from a grating slung under the jibboom.

General Jones, R.E., commanded. No opposition was made by the enemy, who, probably, were not aware of what was taking place, although so near them. In three hours, 2,500 men, together with four 24-pounder howitzers and two rocket tubes,—in charge of seamen belonging to the *Edinburgh* and *Driver*,—were safely landed, and on their way towards the fortress, the investment of which may now be said to be complete.

\* \* \* \* \*

9th.—Last evening we were moved up, by order of the Commander-in-Chief, to a position commanding the passage between Tofto and Presto, within range of the nearest tower, and about 500 yards from the Island of Presto; which is wooded to the water's edge, and occupied by the enemy's riflemen. The tower did not attempt to molest us, but, during the night, our guard boats were fired on by the riflemen, and one man was wounded.

This morning I noticed boats with troops crossing and recrossing the passage, and received orders from Captain Giffard to stop all communication. This could only be done by seizing everything that would float. Accordingly, leaving the paddle-box boats, under the command of the First Lieut., to follow as a reserve in case of need, I started with the pinnace and cutter, in charge of Lieut. Mitchell and Mr. Royse, Mid., to make a "razzia." We met with no resistance on the Tofto side; but from Presto a fire was opened on us, the first shot grazing Mr. Llewellyn, the Assistant-Surgeon, who accompanied me in the gig. This was returned smartly with our 12-pounder howitzer and small arms, and, in spite of opposition, we succeeded in bringing out eight boats, destroying six others (all that were left) which were too heavy to tow off. The firing having attracted the Admiral's attention, the *Bulldog* and *Gladiator* were ordered into the passage from Lumpar Bay, to render assistance, and the *Pigmy* was sent by Admiral Plumridge; but they all came too late for the fray, and it was no small satisfaction to have accomplished our object unaided and without loss, although there were some narrow escapes. Laid down my last Trinity buoy on the edge of the shoal that projects from the Point of Presto, this evening.

10th.—The *Penelope*, in entering the Presto Passage this forenoon, took the ground in a very awkward position, exposed to the guns of the large fort; which soon opened fire upon her with red hot shot. I lost no time in moving to her assistance, but was ordered by signal to "keep out of range," while the *Hecla*, *Gladiator*, and *Pigmy* got her off, with loss of guns (except the after pivot), shot, anchors, and cables,—thrown overboard. The casualties were not so great as might have been expected, considering the enemy had the range exactly, and almost every shot told. Anchored for the night in the passage.

\* \* \* \* \*

11th.—At daylight shifted to my old berth; and at five my signal was made to pass within hail of the *Leopard*. Before six, the Rear-Admiral was on board, and we stood to the northward;—the *Hecla*,



*Gladiator*, and *Pigmy* following. Our movement is occasioned by a report that the Russians are landing re-inforcements in that quarter, where the *Odin*, *Locust*, *Porcupine*, and *Zephyr* are stationed. At nine, the Admiral went on board the *Hecla*, and I took my station astern of *Gladiator*. Shortly after, an accident occurred which brought us to a stand-still for the rest of the day. We had a paddle-box boat, belonging to the *Leopard*, and our pinnace, both with guns mounted and armed for service, towing astern. The man steering the pinnace gave her a sheer into the swell caused by the paddles, and, although the engines were only going at half speed, in an instant she filled, carried away her painter, and went down in twenty-one fathoms water; the man was fortunately picked up by the *Pigmy*. Let go the anchor immediately, and commenced sweeping for the boat, which I was sanguine enough to expect to get again, although it seemed almost a hopeless case for some time, as the hawsers kept catching detached rocks; however, we got hold of her at last, and succeeded in raising her none the worse for the immersion, and with the loss only of the contents of four shot boxes. Even the carpenters' tools were all saved.

At 4h. p.m. the Admiral passed us, in the *Hecla*, on his return, and was not a little surprised to see the boat ready for service again.

\* \* \* \* \*

The Russian landing turned out to be a false alarm, and the *Odin's* people have had their march to Castelholm, to intercept them, for nothing. By the way, this is almost the only place of interest in the Aland group. Here is situated the ancient castle in which Eric the Fourteenth, the son and successor of Gustavus Vasa, was imprisoned in 1571, and which was the residence of the Governor of Aland until 1634. A narrow passage separates it from Ekeröe, the most westerly of the group, where a convent was founded before the Reformation.

\* \* \* \* \*

12th.—Symptoms to-day of summer being over. Wind fresh from S.E., with rain, the first we have had for nearly six weeks. At noon, the *Odin's* party made their appearance, and called alongside on being off. I was glad to see Mould and Fellowes safe back; they had a narrow escape of being taken for Russians by the French advanced posts. At 5h. p.m. the *Alban* arrived with orders from the Admiral for us to proceed with her to watch Kumblinge. 'Wayed, and steered for the "Gorgon" Passage. Found two of our beacon buoys gone, and ran ashore in consequence. It was three hours before we got off, and too dark then to proceed further. Started again at daylight, and stirred the mud up before we got clear of this intricate passage. At 8h. a.m. anchored about three miles east of Prestkobb. This island has "Pres," in large white letters on it, to enable the Surveyors to distinguish it from the numerous islets in the neighbourhood. About noon, the *Hecla*, with the Admiral's flag, and *Stromboli* were observed coming round the northern point of Odo, and soon after they

were joined by a French steamer. I expected my signal to 'way every moment, when the *Hecla* ran ashore, and did not succeed in getting afloat till nightfall.

14th.—At daylight the squadron made a move, but in less than a quarter of an hour the *Hecla* and *Stromboli* were both hard and fast again,—one forward, the other aft,—and the French steamer *Goeland*, an iron vessel drawing only eight feet, ran in between them and helped them both off. Absurd enough it was to look at, and would have been amusing, but for the labour it entailed on the respective ship's companies. The lead appears really to be of little use here! \* \* \*

Having ascertained that no Russian troops had landed on Kumblinge,—although two small steamers had been at that island the day before,—the Admiral put the *Stromboli* and *Goeland* under my orders, and returned to Bomarsund; where it is evident, from the almost continuous roar of the heavy guns, some serious work is going on.

15th.—This is the Fête Napoleon, and all the ships are dressed with mast-head flags. The steamers and block ships were hammering away all day at the long fort; which they ought to have demolished in honour of our Allies. At 11.35 the upper round tower blew up, and it is evident the *finale* is not far distant. It is very tantalizing to be kept so inactive within sight of the operations; M. Le Roy, the Commander of the *Goeland*, is *au désespoir*, although, as his vessel has no heavy guns, she would be of little use.

16th.—The "general recall" was made at daylight, and all the outlying steamers were summoned for a grand attack to-day. But before noon the long fort hung out a white flag, the firing ceased, and Bomarsund, with its 2,500 men and all its munitions of war surrendered at discretion!

\* \* \* \* \*

18th.—We are still in a state of great excitement. The prisoners have been sent to Ledsund. The unfortunate women and children, for whose distress, in the uncertainty of their fate, it is impossible not to feel deep sympathy, followed to-day, in the *Stromboli*. The *Leopard* starts immediately for Nargen, Admiral Plumridge being appointed to command the sailing division of the fleet, and I was put under Captain Scott's orders for some secret expedition. At 2h. p.m. the *Odin* made the signal to 'way, and for me to lead; but I had to hail her to ascertain in which direction, "north or south," so little did I know our destination. Stood down Ango Sound; after clearing which the *Alban* took the lead, and I dropped into the *Odin's* wake, the *Driver*, which is the last of our little squadron, bringing up the rear. In this order we proceeded off Dagerby, where the anchor was dropped for the night, and Captain Scott informed us that the object of the expedition was to reconnoitre Abo, the capital of Finland, if practicable, and ascertain its defences. Pulled ashore to the village to procure pilots, but all the male population who, from their avocation as fishermen, know something of the navigation of the group, have, long ago, been sent away by the Russian officials; and we considered ourselves fortunate to obtain the services of a man whose pretensions

to act as a pilot may be imagined, from the fact of his afterwards running the *Odin* ashore in sight of his own house.

19th.—Our squadron started at 4h. a.m., in the same order as before, and entered the narrow channel that leads to Dagerby (the scene of the *Valourous's* mishap). We felt our way very cautiously. Notwithstanding every care, however, the *Odin* ran on a rock before she was well past the village; and it was a full hour before the *Alban* succeeded in pulling her off. Started again, but it was now my turn, and, although I had the native on the paddle-box assuring me there was nothing in the way, I struck twice upon another steep rock, which the *Odin* must have shaved,—the last time so heavily that some of the forefoot floated up; backed off, and succeeded in getting clear at last. We now entered a wider channel, but an utter “terra incognita;” our chart was guiltless of many of the islets in it. Many rocks just awash were passed, and a few fishermen’s beacons, but, as no vessel drawing more than eight feet water had ever been here before, they were unheeded. About noon we arrived off the Island of Stor Sattunga; and the *Alban* obtained another man to act as pilot from a little islet with a few houses on it, called Rodgrund. From hence our course was nearly north, past Seglunge and Kumblinge. The latter has a large village and nice looking church on it. We now entered the Straits of Baro,—at least the *Alban* and *Odin* did,—but, in rounding the point, I ran on a sixteen feet patch which they must have passed over; and the *Driver*, following close at our heels, fouled us before she could be stopped, smashing her starboard quarter-boat and carrying away our fore-top-gallant mast. Lucky it was no worse! As soon as she was clear, I set the head sails and, the bottom being soft mud, the ship’s head payed off into deep water. Anchored for the night in seven fathoms.

20th.—At daylight we were off again, through the narrow passage, which appears studded with rocks, the *Odin* having tailed on one after anchoring last night; kept close in each other’s wake, through a most intricate channel, with sharp turnings. After passing Bockholm, we were in open water comparatively, and held on a straight course, skirting the Islands of Biorke and Korso, to the southward of which latter we brought up at 8h. a.m., the senior officer having determined to go no further to day. \* \* \* The islands about here, especially Korso and Baro, on which I landed last night, are alive with game, black game and hares; and on Monday morning Comdr. F. Warren, R.N., (an amateur in the squadron,) with two other guns, succeeded in bagging seven brace and a half before eight o’clock. The seine was hauled also, on a small sandy beach, about a mile from the ship, but only a few perch were caught. \* \* \* \* \*

The squadron has encountered difficulties enough already, but it seems the worst part of the navigation is still before us.

At daylight this morning the *Alban* started with all the Masters on board to examine the channel to the eastward and buoy it off. At 2h. p.m. she was seen returning, having also procured a pilot for the rest of the way at Berghamn, a small island on the outskirts of Russian

Finland, about fifteen miles from this. Shortly after, the signal was made to 'way; but we had not gone half a mile before the ship ran up a steep rock, which the *Alban* must have passed over just before, and remained firmly fixed, with her bows three feet and a half out of water. Shifted every thing aft, hung the bower anchors to the stern-ports, bringing the cabin-windows down to the water's edge;\* blew the boilers out, and the *Driver* having anchored astern, and taken our stream cable in, the ship was hove off at 7h. p.m., not much the worse, with the exception of five bolts in the keel started, and driven up by the shock. Before 11h. p.m. everything was in its place again, the men working right well.

(*To be continued.*)

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#### THE ORIGIN, PROGRESS, AND REASONS FOR THE WAR.—*From the Moniteur.*

[The importance of seeing in its true light the origin and progress of the present war against Russia, (the reckless disturber of the peace of Europe,) induces us to preserve the following valuable documents in the pages of the *Nautical*. The subject, it is true, is not nautical; but we are much mistaken if it be not one that concerns as much our nautical readers as any one else: indeed, who is there amongst us that it does not concern. Under this impression, we believe the clear view here taken of the origin, progress, and the reasons for the war, will be everywhere acceptable and appreciated by all.]

To know the truth, when it concerns the honour, security, and power of the state, is the incontestable right of a great country like France. To speak it, when silence is not imposed by patriotism for the public weal, is the sacred duty of a strong government like that of the Emperor. The eastern expedition, its causes, its object, the military operations prepared for sustaining it, the diplomatic negotiations entered upon for obviating or terminating it, are now facts that are matters of discussion pending their transition to the page of history. In order that these facts may be usefully discussed and seriously judged, we are now about to state them in their most scrupulous exactitude. Such a course appears to us to be both frank and useful. Public opinion is prompt to take alarm and prone to error in the midst of emotions and events such as those of which it now feels every day the reaction. The best mode of reassuring it is by enlightening it.

In what manner was the Eastern expedition conceived? What are the expectations and the data that dictated its plan? What are the causes that modified it? Why was the Anglo-French army landed in the Crimea instead of acting on the Danube and making a campaign in Bessarabia? How must we explain the long resistance of the besieged in presence of the ardour and heroism of the besiegers! Such

\* The idea of hanging the bower anchors abaft I borrowed from Capt. W. K. Hall. He found it to answer in the *Bulldog*, when ashore under similar circumstances in Lumpar Bay.

are the points we wish to examine in the first part of this work. We shall bring to this examination only some certain facts, authentic documents, and truths of military science and military history.

The imperious and decisive circumstances that commanded France to draw the sword after a peace of forty years, are present to the minds of all persons. Russia, unable to obtain the admission of her supremacy over Turkey by the terror of her protocols, had endeavoured to impose it by force. She had violated treaties, invaded a territory, disdained and threatened Europe. Her armies were occupying the principalities, were advancing on the Danube, and had even marked out the halting places of a victorious march on the Balkans. The admirable spirit of the Turkish nation was not sufficient to thwart this plan. Russia found an unexpected obstacle, it is true, in the heroic devotion of a people which she had thought fallen, and whose resistance made her remember that it had conquered Peter the Great. But the struggle was an unequal one. The whole world, breathless and excited, awaited the issue with anxiety. Germany, uncertain between her habits, engendered by the Holy Alliance and the counsels tendered by her own dignity, did not know yet whether she ought to submit any longer to the arrogance of that domination which weighed upon her, or finally reject it. It was from the West that the signal of resistance went forth. France and England, loyally united, did not hesitate to send their fleets and armies to the East to defend there the integrity of the Ottoman empire, the respect due to treaties, the equilibrium of Europe, and the cause of civilization.

The exalted will which presides over the government of our country, and which had resolved on this war as essential to its honour, after having vainly endeavoured to prevent it by honourable conciliation, then traced out instructions for the illustrious Marshall, in whose hands the sword of France was about to be placed. In those instructions, bearing the date of April 12th, 1854, we read the following passages :—

“ In placing you, Marshall, at the head of a French army, about to fight at more than 600 leagues from its native land, my first recommendation to you is to bestow the greatest care on the health of the troops, to spare them as much as possible, and not to come to an engagement unless you have made sure of two thirds at least of the favourable chances.

“ The peninsula of Gallipoli has been selected as the chief place of debarkation, because it is intended to be, as a strategical point, the basis of our operations; that is to say, the ‘*place d’armes*,’ where we can place our depots, ambulances, and provisions, and whence we can easily advance or reembark. That will not prevent you on your arrival from stationing, if you deem it advisable, one or two divisions in the barracks either to the west of Constantinople or else at Scutari.

“ So long as you are not in the presence of the enemy, the dislocation of your forces will be of small moment, and the presence of your troops at Constantinople may produce a good moral effect; but if, by chance, after advancing on the Balkans, you should be constrained to

beat a retreat, it would be far more advantageous to regain the coast of Gallipoli than that of Constantinople, for the Russians would never venture from Adrianople to Constantinople, leaving as they would on their right a choice army of 60,000 men. If nevertheless there should be a wish to fortify the line of Karassu in front of Constantinople, it should only be done with the intention of allowing it to be defended by the Turks alone, since, I repeat it, our position will be more independent, more formidable, by being on the flanks of the Russian army, than by being blocked up in the peninsula of Thrace.

"This first point established, and the Anglo-French army once united on the shores of the Sea of Marmora, you will have to come to an understanding with Omar Pasha, and Lord Raglan, respecting the adoption of one of the three following plans:—1. Either to march and meet the Russians on the Balkans. 2. Or to seize the Crimea. 3. Or to land, say at Odessa, or at any other spot on the Russian coast of the Black Sea.

"In the first case, Varna seems to me the important point for occupation. The infantry might go to it by sea, and the cavalry more easily perhaps by land. In no case ought the army to remove too far from the Black Sea, in order that it may have its communications constantly open with the fleet.

"In the second case, the one concerning the occupation of the Crimea, it is necessary above all things to be sure of the landing place, in order that the disembarkation may be effected at a distance from the enemy, and that this place may be capable of being fortified quickly, so that it may serve as a support in case of a retreat.

"The capture of Sebastopol ought not be attempted, unless you are provided with at least half a battering train and a great many sacks of earth. When you approach that place, do not neglect to seize Balaklava, a small port situate four leagues to the south of Sebastopol, and by means of which communication may be easily kept up with the fleet during the continuance of the siege.

"In the third case, that in which an enterprise should be resolved on in concert with the Admirals against Odessa. \* \* \*

"In every case my principal advice is, never to divide your army, but always to march with all your troops united; for a compact mass of 40,000 men is always an imposing force; broken, it is worth nothing.

"If, however, you are obliged to divide your army, make arrangements for reuniting it on some spot in twenty-four hours.

"If on the march it forms several columns, fix upon a point of reunion sufficiently distant from the enemy to prevent any column being attacked singly.

"If you repulse the Russians, proceed no farther than the Danube, unless the Austrians join in the movement.

"As a general rule, every movement ought to be concerted with the Commander-in-Chief of the English army. It is only on certain exceptional occasions, as when the safety of the army is concerned, that you should act on your own sole decision.

“ Marshall, I have full confidence in you ; I am convinced that you will remain faithful to these instructions, and that you will bring fresh glory to our Eagles.”

Thus, as we see by this extract from the Emperor's instructions to Marshall St. Arnaud, Gallipoli had been chosen as the place of debarkation of the Anglo-French army. We must urge the important considerations which led to this choice.

The first principal in a maritime war is to fix upon a point of assembling which is protected from the attacks of the enemy, easily defended, easy of access for disembarking and provisioning the troops, which will allow the army to move in advance or fall back upon its base of operations, if forced to do so, and which, in case of defeat, shall afford a shelter and refuge to the fleets.

The peninsula of Gallipoli satisfied admirably these conditions for a well-conducted naval war. Situated at the entrance of the Dardanelles, it was easily provisioned through the Sea of Marmora and the Thracian Gulf. A weighty reason, drawn from the respective situations of the Russian and Turkish armies, made it necessary to possess this place.

The Russians, by crossing the Danube at Routschouk, by advancing on Adrianople, and by leaving the Turkish forts, and even Constantinople, on their left, would be able to precede us there, and to close the retreat of our ships engaged in the Black Sea. There was in that a great danger which the foresight of the Allied Governments provided against and prevented. Another consideration prescribed the previous occupation of Gallipoli. At the period the expedition was about to leave, that is to say in April, 1854, inquiries were anxiously made whether our military forces would arrive in time to cover Constantinople. A defensive war then appeared much more likely than an offensive one. What was endangered—and indeed violated—was the integrity of the Ottoman empire, and that was what we were about to defend and reconquer. Had the Turks lost a single battle on the Danube, the Russians would have been able to reach the Balkan in three days' march, and would have had the road to Constantinople open to them. The occupation of Gallipoli entirely covered that capital. The two Allied Governments were fully alive to the fact that even had a Russian army entered Adrianople, it would not have been able to advance upon Constantinople, leaving an army of 60,000 English and French on its right flank ; and this foresight is to be found in the instructions of the Emperor.

Thus, in every respect, and in anticipation of nearly all casualties, the peninsula of Gallipoli was admirably selected as the place of debarkation, and the base of operations. From this point we were able to protect the Turkish capital, and to control the movements of our fleet ; we advanced without exposing our flanks, and we kept up our communication with Toulon and Marseilles.

But the Anglo-French army had hardly arrived at Gallipoli when the scene began to change. Although the Russian scouts had been seen in sight of Varna, the heroic defence of Silistria had broken the

onward impulse of Prince Gortschakoff. The struggle instead of being removed into the centre of the Turkish empire, was kept up on the Danube with various changes of fortune. The Generals-in-chief of the expedition were then under the impression that they should be able to arrive in time at the scene of action, perhaps in time to save Silistria, but in any case in time to join the Turkish army, and hold the Balkans against the Russians, having, as it were, the two wings of their army protected by the fortresses of Shumla and Varna. This plan was as bold as it was prudent.

The wisdom of it was, moreover, pointed out by existing circumstances, and by the imminence of the danger. In fact, if the Russians had taken Silistria, the fall of which was announced as inevitable in the reports of Omer Pasha, the fate of the Ottoman empire might have depended upon the issue of one general engagement.

The French and English armies were bound to foresee and prepare for this. There was their post, because there perhaps would be the *dénouement* of the strife, and the final decision of fate.

These apprehensions were falsified by events. The courage of the Turkish army, and the presence of the allies, sufficed to force the Russians to raise the siege, and withdraw to the other side of the Danube.

Every time that the enemy retreats there is a great temptation for the army before whom he retires; it is the temptation of pursuit. But when pursuit may endanger an army, there is more glory in halting than in advancing. The love of glory should never lead to that which wisdom forbids. What could the Anglo-French army have done by entangling itself in a country laid waste, with its communications cut off, furrowed by large water-courses, and infested by pestilent disorders? It is not victory that it would have sought, but destruction without contest, and death without compensation.

It has been said that after the retreat of the Russians we ought to have acted upon the Danube and entered into Bessarabia. Let us put the matter in the most straightforward manner possible. Without the cooperation (*concoeurs*) of Austria our army could not advance upon the Danube without incurring the risk of a most fatal catastrophe. We must not forget that our base of operations was the sea. Losing this we risked everything and compromised everything. Military science and common sense both entered their protest against undertaking operations with 60,000 Anglo-French and 60,000 Turks in an unhealthy and impracticable country, having no means of transport, without any reserves of artillery or organised parks—no depots of eatables or munitions at Shumla, Varna, or Silistria. All these resources, indispensable at the commencement of a campaign, cannot be improvised in a few days, when those who have the management of affairs are 800 leagues distant from their country. These resources might have failed us completely. We should have found ourselves in front of an army of 200,000 men waiting for us on their own ground—or else retreating before us, trying to entrap us into a still more dangerous position, giving us no other alternative than that of a most disadvan-



tageous battle or an impossible retreat. A simple reconnoissance of two days in the Dobrudscha, which cost us more than a most murderous combat, is a proof of what we have advanced. Generals-in-Chief, who, ignorant of the dangers attending such an undertaking, should have allowed themselves to be drawn into the commission of such an irreparable fault, would, we have no hesitation in saying, have endangered the responsibility of their command.

Again we repeat it, a campaign beyond the Danube and on the Pruth is not possible without the cooperation of Austria. Now, a government does not make war when it desires it, unless forced to do so by incontrovertible circumstances. It takes care to make war only when it is able so to do. Austria was not ready at the moment. Breaking with Russia she wanted to be sure of Germany with its 500,000 men in arms. Her dignity, her interest, the example of the Western Powers, excited her to action—her prudence warned her to wait and arrange the composition of her military forces and her political alliances before committing herself to the struggle.

But what could the associated Generals do at Varna after the retreat of the Russian army? Could they remain in a state of inactivity which would have brought on discouragement, and by which the prestige of our flag would have inevitably suffered? Such an attitude was forbidden to our Generals, both by military honour and political interest. Having once taken a position on the great theatre, there was no retreat; something must be done; our soldiers must have a goal to strive to reach; our enemies must have something to fear. Europe must feel the ambitious desire of following us, while it would be our duty to give her the opportunity of honouring us and admiring us. Thus then we come to the question of operating upon the Crimea.

An expedition against Sebastopol might probably hasten the catastrophe of the war. Such an expedition had a determinate end. It might possibly put into the hands of the Allies a province and a fortress, which could be used as a guarantee and a means of exchange in the event of a negotiation for peace. Deeply influenced by these considerations, the Generals in command of the forces deliberated upon the plan, but delayed for a time to put it into execution (*arretèrent l'exécution.*)

However, the expedition having been made the subject of deliberation at Paris and London, and treated at last as a fact, Marshall St. Arnaud received, not instructions which could not be transmitted through such long distances of space, but hints or advice of the following nature:—

“He will make himself thoroughly acquainted with the nature and amount of the Russian forces in the Crimea; find out whether those forces are too formidable; and land in a spot which may serve as a basis for future operations. The best place seems to be Theodosia, called Kaffa now. This spot, however, is objectionable, as being forty leagues from Sebastopol; but it offers great advantages. In the first place, the bay is large and safe. The ships of the squadron are there in perfect safety, and the same remark applies to the barques, which

bring supplies to the army. In the next place, our army, once established on the spot, may use it as a proper base of operations. If we occupy the extreme east of the Crimea, we can repel all the reinforcements coming by the way of the Sea of Asov and the Caucasus. We make our way onward towards the centre of the country, at the same time that we have its resources at our command. We take possession of Simpheropol, the strategical centre of the peninsula, and have the road open to Sebastopol, on which probably there will be a great battle. In the event of this being against us, we may retreat upon Kaffa, and nothing is compromised. If it is in our favour, we can besiege Sebastopol, and by investing it completely we shall compel it to surrender in a tolerably short interval."

Unluckily this advice was not taken. Whether the Generals-in-Chief had not sufficient troops to undertake this long journey in the Crimea, or whether they expected a speedier result from a bold and unexpected *coup de main*, they resolved, as it is now well known, to land at some few leagues distant from Sebastopol. The glorious battle of the Alma seemed to prove that they were right. But in the moment of victory they saw clearly enough that without a port they could have no base of operations. Influenced by that irresistible instinct of preservation which never deceives those who listen to it, they directed their course to Balaklava, on the south of Sebastopol. It was clear, too, that the army could not live in the enemy's country without being in direct communication with the fleet.

But the consequence of retreating towards the south was to give up the northern heights—in other words, to abandon the idea of investing the fortifications. The Anglo-French army, in fact, was not sufficiently numerous to invest the place completely. It was necessary to limit our operations to the southern portion of the town. To accomplish this, the English took possession of the harbour of Balaklava; the French, looking for a *point d'appui* for the purpose of disembarking their stores and ammunition, found very providentially the port of Kamiesch. The soldiers, who are generally right, called this "Providence Port."

Sebastopol, it is well known, is not surrounded with walls and earth-works. It is rather a great fortified camp, containing generally an army of from fifteen to twenty thousand men, protected at the commencement of the siege-works by numerous batteries, and more especially by the Russian fleet, which, skilfully stationed in the inner harbour, had its batteries directed upon every avenue by which the allies could approach the place.

At this period—that is to say, when the Anglo-French army arrived before Sebastopol—perhaps it was practicable to attempt an assault, but still such an enterprise would have been somewhat adventurous, inasmuch as the allied forces had not sufficient artillery to silence that of the enemy. Doubtless, nothing was impossible to an Anglo-French army, composed of generals and soldiers such as those who for the last six months have manifested their character in the perils, fatigues, and sufferings of this long siege, but nothing short of success could have justified a *coup* so audacious. The responsibility of command imposes

prudence before all things, and prudence prescribed to the Generals-in-Chief not to deliver the assault with an army of 50,000 men at most, placed on a rock, wanting artillery, ammunition, reserves—not having its rear secured by entrenchments in case of a check, and having no refuge but its ships. That would have been to risk the fortune and the fate of the expedition, and nothing should be hazarded at a distance of 800 leagues from one's own country.

The *coup de main*, which the Generals thought possible after the battle of the Alma, escaped them, and it only remained to proceed with the siege after the rules of the military art. At the very commencement of this difficult enterprise the Russians took two measures, very efficacious for themselves, and very regrettable for us. The first was the strategic movement of Prince Menschikoff, who, instead of shutting himself up in Sebastopol, marched towards Simpheropol, afterwards took the field, and kept up his communication with the fortress; the second was the bold resolution to sink most of the ships of war, a measure which enabled the enemy to render the port inaccessible to our fleets, and to acquire for the defence of the place from 500 to 600 guns thus set at liberty, together with their ammunition, and to employ their seamen as gunners at the batteries. Thus, although the guns of the town at the first presented a formidable aspect, new batteries were raised, as if by enchantment, and our feeble siege artillery could not extinguish the fire of the besieged.

From this moment it became apparent to all that Sebastopol would not be taken until after a long struggle, that the aid of powerful reinforcements would be required, and that possibly murderous battles might have to be fought. This situation was a serious one. The Generals-in-chief contemplated it with that calmness which exalts a character to the level of the most difficult responsibilities. This is a proper occasion for speaking of General Canrobert and Lord Raglan as history will speak of them. Their part in this great scene has been worthy of the two countries of which they wield the swords. Placed face to face with immense obstacles, they have estimated them only to triumph over them by their courage, perseverance, and devotedness. The army, sustained by their example, has borne all without complaining; exposed to all the rigours of a terrible winter, having, to preserve them from the cold, the snow, the torrents of rain, nothing but pits and small *tentes-abri*; it has refused no sacrifice for the honour of the flag and the country, or to gain the confidence of the chiefs whom it had learned on the field of battle to love and honour.

In order duly to appreciate the immense difficulty of the enterprise which the Generals-in-chief had conceived and executed, it will not, perhaps, be useless to explain to those who are ignorant of it, in what consists a siege properly so called, and how the siege of Sebastopol is placed beyond the application of those principles of which the science immortalized by Vauban is the admirable summary. Let us first say that Sebastopol, a town strongly fortified towards the sea, is not regularly fortified on the south side. Its enclosure is defended by a shallow fosse, the earth from which has been thrown up towards the place to

form a parapet. On the first plan are found abbatisses, and *trous-de-loup*, and the batteries, the fire of which crosses in front of those defences, rise gradually one above another, receding towards the centre of the town. More, the port is traversed by war steamers, which, forming so many moveable batteries, may be employed to flank and protect all the defensive works.

The operations of a siege before the assault may be divided into four principal phases—first, the investment; second, the opening of the trenches; third, the construction of parallels and batteries, and the opening of fire; and fourth, the crowning of the covered way, and the establishment of breaching and counter batteries.

First, the investment—that is to say, the surrounding of the place on all sides—so that, during the siege, it can receive no reinforcements of men nor supplies of ammunition and provisions. According to the ordinary general rules, it is calculated that the besieging army ought to number five or six times as many more as the besieged. Sebastopol, as has before been said, could not be invested at all, and the number of the besiegers was, at most, only double that of the besieged. We do not reckon the army of observation which is employed in holding the (Russian) army of succour in check.

Second, opening of the trench.—This is ordinarily performed at a distance of from 300 to 600 metres from the place; the trench is, as is generally known, a ditch dug in the ground, the earth from which is thrown towards the fortress. In this way a parapet is formed to shelter the soldiers from the fire of the enemy. At Sebastopol, the Russians having employed large guns taken from their ships, and having enormous range, the trench could not be opened nearer than 900 metres. Instead of finding a soil easily excavated our soldiers found almost everywhere rock, so that they were obliged to use petards to blast it morsel by morsel, and to employ bags of earth, which, piled one on another, formed parapets. It will be seen that this was a slow, painful, and perilous process.

Third, opening of fire.—Generally, engineers work towards the most salient points, because these are the weakest; and the trenches enveloping the attacked fortress in front take the form of several semi-circular lines, connected with one another by zigzags. These semi-circular lines are called parallels. The batteries are raised in front of these lines, which, embracing the attacked front in the form of a semi-circle, give the fire a converging direction. The besieged have not this advantage, as may be easily conceived, for a besieged town may be regarded as forming the centre of a circle, of which the besiegers occupy the circumference. At Sebastopol, on one side, the nature of the ground, broken up by rugged ravines, and on the other, the development of the enclosure, which presents but few salient points, have prevented, in great part, those favourable arrangements just explained.

Fourth, crowning the covered way.—When the besieger has reached the salient point of the covered way, which is carried round the fosse, he encloses this work by extending the trench along the crest on each

side of the angle. This is called crowning the covered way. Breaching batteries are constructed there, by means of which the wall has to be knocked into the ditch, and heaps thus made on which the besiegers are to mount to the assault. Generally by the time this critical moment is attained almost all the enemy's guns have been dismounted, the carriages broken, and the ammunition exhausted. Nevertheless, as sometimes there remain some guns on the flanks of the bastions of the attacked front, a counter battery is established either in the crown of the covered way or on the counterscarp of the ditch, to extinguish the last fire of the enemy. Thus we may assume that when the assault is attempted, the entire artillery of the place has been destroyed, and that the garrison, decimated by the enemy's fire, exhausted by excessive work, enfeebled by want of nourishment, and discouraged by the absence of news from without, will not longer oppose a serious resistance.

At Sebastopol nothing like this has taken place. As fast as one gun has been dismounted another has been set up in its stead; when one man has fallen, his place has been supplied by another; as soon as one garrison has been exhausted, another has succeeded it. Provisions have been abundant, and battering in breach could have no result, as the obstacle ordinarily opposed by the wall is replaced by palisades, *troups-de-loup*, and abbatisses, and because the epaulements being of earth the balls have done them little harm. In the case of a regular attack directed against a fortress of the first order, and this attack directed against two demi-lunes and a bastion, the front of the fortification would embrace not more than an extent of about 300 metres; and the attack in front would have a development of about 8,000 metres. At Sebastopol the extent of the attacked front is more than 3,000 metres, and that of the attack has a development of 41 kilometres. It must be added, that for the guard of this immense extent of trenches the army has had to furnish nearly 10,000 men, day and night, through a period of six months, and that during a rigorous winter, in the midst of snow and rain. This will give some slight idea of the fatigues of our soldiers and the difficulties of the siege.

The history of modern states does not present an example of a more difficult, more glorious enterprise, or one which by the very grandeur of the obstacles it presents, agrees more nearly with the importance of its object, and that of the states engaged therein. The siege of Sebastopol has scarcely any analogy with any other in our military annals. To attack a place which is not invested, when the enemy, superior in numbers, may recruit himself with more provisions and ammunition, and when he keeps the field, is an act of audacity which could be attempted only by England and France united for an object necessary for Europe.

The siege of Dantzic has been much admired as one of those in which heroism united with science triumphed over the greatest difficulties of an obstinate and formidable defence. Dantzic, protected by the Vistula, the embouchure of which in the Baltic is closed by the fort of Verihælmunde, was in a situation equally unfavourable to a

complete investment; still it was possible to take a position on the river between the fort which closed its mouth and the town, and so to intercept its communication with the sea and invest the place. This was what was done under the orders of General Lefebvre. But yet, although the place was enclosed within our lines of attack, notwithstanding the presence in the neighbourhood of the Emperor Napoleon, who covered the siege at the head of a numerous army, and paralysed the succour of Prussia and Russia, Dantzic resisted fifty-one days from the opening of the trenches. At a later period, after the retreat of Moscow, the town, occupied then by the French, did not capitulate until after a defence, which lasted a year, against a combined attack by sea and land.

We might multiply examples, but the foregoing will suffice to show that the Anglo-French army in the Crimea has performed there all that was to be expected from its courage and the ability of its chiefs. It has not only exhibited constancy and firmness in the midst of sufferings and perils; by adding the glory of Inkermann to that of Alma it has raised still higher the honour of our arms. We ought to hope that the end of its noble efforts will be attained; but unanimous opinion already acknowledges, and history will one day repeat, that it has merited the admiration and the gratitude of the world.

We have explained the military conduct of the allied governments since the commencement of the Eastern expedition. With the same precision and impartiality we shall treat of the negotiations, their various phases, their reasons, and their aims.

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### *Political Part.*

After having told the country the whole truth on the plan of the campaign and on the expedition to the East, it remains for us to state how policy understood its task, its duty, the honour of France, and the interests of Europe. What were the general causes of the war? For what interests were France and England to carry their military and naval forces so far from their own shores? On what point do the different states of Europe touch upon this question of European order? What is the object which ought to be kept in view for the interests of all? How are the four guarantees to be understood and accepted on either side as a basis for negotiation? Is it just, is it useful, to limit the power of Russia in the Black Sea? What will be the results of the Vienna Conferences, for peace or for war? That is what we wish to examine in the second part of this task, that on the eve of the decisive solution now under achievement, public opinion, completely enlightened, may accept with equal confidence peace, if it is possible—war, if it is necessary.

The commencement of this great struggle is known; it originated in a small claim brought against Turkey on the ground of concessions she had granted in favour of the Latins in the Holy Land. Russia only wanted a pretext. For her the tomb of Christ was only a step-

ping stone to power. But that sacred stone could not become a stumbling-block for the peace of the world. The government of the Emperor of the French, by regulating that question in the most equitable manner, forced the cabinet of Petersburg to unmask its real thoughts. Every one at once discovered that Russia had only originated the discussion to open the Bosphorus to her sovereignty. The forced interpretation which she drew from the treaty of Kainardji was, in fact, nothing else than the moral fall of the Sultan. The question then ceased to be a religious one—it became a political one. The whole of Europe found itself engaged in it. It became necessary to make it understand its interests, defend its rights, and show its strength.

All the efforts of the French government were directed to that result. England, deceived at first by the pretended religious character of the question, very soon understood, with her clear and straightforward common sense, its real bearing. She felt, like us, the threat and arrogance of that domination, and her hand was stretched forth to meet ours, already extended to seal the alliance between the two great countries who represent the civilization of the West.

For France, as for England, the Eastern question represented an interest superior to that of their own ambition. Russia wished to dominate at Constantinople. It was necessary to prevent it. Russia, mistress of the Black Sea, having only to extend her hand to touch the Bosphorus, placed the Mediterranean under the menace of the fleets of Sebastopol. In advancing towards the Dardanelles she brought her frontiers to the shores of the Mediterranean. Wherever her vessels could reach her preponderance was assured. From her inaccessible ports she touched all empires and all kingdoms. Not only had France and England a rival, not only did Germany bend beneath the weight of the Colossus that leant upon her, but Greece, Italy, Spain, Egypt, and all the secondary states found themselves struck by the same blow in their security and independence. Strange circumstance! Europe had shut its eyes to this invasion of the north. In 1828 France and England, burning the Turkish fleet at Navarino, destroyed the force which protected the West. At that period we sought an ally at Petersburg, instead of beholding there an adversary of our influence and of our civilization. In 1840, England, Prussia, and Austria, leaving aside the cabinet of the Tuileries, again united themselves without suspicion. Sebastopol, closed to every investigation, hiding in its inaccessible port the activity of its dockyards and arsenals, did not appear to any one as a menace. It was forgotten that as far back as 1805 a fleet left that point with 12,000 men on board, landed them in Italy, and brought the Russians and French in contact in the Mediterranean. Yet that was a warning worthy of record, for it proved that Russia, from the creeks of the Euxine, by the domination of the Straits, could reach to the entrance of the Adriatic.

Some years later, Russia having to struggle against France united to Austria, defined her invading policy much more precisely by the

object she pursued and by the means which she employed. The plan of that policy is a revelation in itself. We borrow it from an authentic document recently published in the memoirs of a statesman, Admiral Tichakoff, to whom the Emperor Alexander gave the following instructions, under date of April 19th, 1812 :—

“The astute conduct of Austria, which has just allied itself with France, obliges Russia to employ every means in its power to disconcert the hostile intentions of those two powers. The most important is to turn to our account the military genius of the Slavonic people, as Servia, Bosnia, Dalmatia, Montenegro, Croatia, and Illyria, who, once armed and under military organization, would co-operate powerfully with our operations. The Hungarians, dissatisfied with the proceedings of their actual government, offer to us also an excellent means for alarming Austria, for making a diversion to her hostile ideas, and, consequently, for weakening her resources. All these tribes united to our regular troops would form a very imposing militia, not only to provide against the hostile intentions of Austria, but to effect a marked diversion upon the right wing of the French possessions, and to give us a sure means of striking a blow in the direction of Nissa or Sophia. The object of the diversion against France must be to occupy Bosnia, Dalmatia, Croatia, and to direct their militia upon the most important points of the Adriatic, more especially on Trieste, Fiume, Bocca-di-Cat'are, so as to establish there, according to opportunity, relations with the English fleet, and to make every effort to fan into a flame the discontent in the Tyrol and Switzerland, and to act in common with those brave populations, dissatisfied with their actual government. You must employ every possible means to exalt the Slave populations, to bring them to serve our object. For example, you can promise them independence, the erection of a Slave kingdom, pecuniary rewards for the most influential men amongst them, decorations and suitable titles for the chiefs and troops. Finally, you may add to those means any other you may deem expedient to gain them over most conformable to actual circumstances.”

Such were the views of Russia as far back as 1812, not only against France, but against Austria. This incendiary plan could not have left the archives of Petersburg at a more fitting moment to show to Europe, and especially to the cabinet of Vienna, the immense interest that every one must have to put finally a barrier to a policy which completely justified by its means and objects the foresight of the Emperor Napoleon I. If the heirs of Peter the Great should ever dominate at Constantinople by the Black Sea, Austria, surrounded, embraced on all sides by the powerful arm of Russia, would be at the mercy of an enterprise such as the daring mind of the Emperor Alexander had conceived. Hungary, open to its action by the Danube, would be given up to all the excitements of its remembrances. The Adriatic, exposed to the brusque attack of a Slave coalition, would cease to be the mart and bulwark of the Austrian empire, and the key of the Gulf of Trieste would pass by a surprise from Vienna to Petersburg.



There is, therefore, nothing more legitimate, more necessary, and more just before God and universal conscience than this resistance of which the two naval governments of the West gave the signal in the month of April, 1854. England and France drew the sword in the cause of every other state. Their armies and fleets were the *avant gardes* of Europe. Having the honour of arriving first on the theatre of war they had the right to expect they would be followed there, and they confidently awaited Austria and Prussia at the rendezvous of the equilibrium and of the independence of European order.

Austria and Prussia did not hesitate to place themselves in the solidarity of the interests for the defence of which France and England were about to fight. In the protocols signed at Vienna they recognised the rights of Turkey, they rejected the advances of the Czar, who, not daring to ask their support, confined himself to propose to them resignation and neutrality; they united themselves by a treaty for the guarantee of German interests; they placed their armies on a war footing, and they invited the German Confederation to follow their example; but, while preparing themselves for action, the two great German powers hesitated to act. It was not courage which they wanted—for governments that have the responsibility of the honour and welfare of their country at heart are never deficient in that; what they wanted was confidence. Co-interested in the causes of the war, they were uncertain of its object. It was that object which it was necessary to define, so as to leave them no cause for hesitation or distrust.

The Emperor, in opening the legislative session of 1854, said in his speech:—

“Europe is aware beyond a doubt that if France draws the sword it is because she is compelled to do so. It knows that France has no idea of aggrandisement. She only wishes to resist dangerous outbursts; and I am proud openly to declare that the time of conquests is irrevocably past, for it is not by extending the limits of its territory that a nation can henceforth become honoured and powerful; it is by placing itself at the head of generous ideas, by making everywhere to prevail the empire of right and justice.”

That solemn declaration left no doubt upon the character of the war; it allowed no distrust of the intentions of the governments of France and England. Thus, when Germany had the question put to us how far we intended to go, it was easy for M. Drouyn de Lhuys, in concert with Lord Clarendon, to reply in the name of the Emperor in his memorable note to M. de Bourqueney, in formulating the general conditions upon which the Allied Powers would consent to treat for the restoration of peace. Those conditions comprise what is conventionally understood by the “four guarantees.”

Germany, however, would not come to a decision, and, while notes and counter-notes were exchanged between Vienna, Berlin, and Petersburg, war continued, and developed itself in the Crimea; France and England fought before Sebastopol for the common cause, and they lavished their blood for the independence and equilibrium of Europe.

Finally, Austria asked us if we would still consent to treat upon the basis of the four guarantees. The hesitation was long in the councils of the two Allied Powers. It appeared to them that, after such glorious efforts and such sad sacrifices, after having gained two victories, at Alma and at Inkermann, when their armies were besieging Sebastopol, and when their fleets occupied the Black Sea, they had the right to exact more. But the interest of an alliance with Austria for peace as for war overruled the inspiration of those legitimate exactions. The treaty of the 2nd December was the result of that policy.

It was, therefore, from consideration to Austria, from the desire of an offensive and defensive alliance with her, and to give to Germany an unequivocal proof of moderation, that we accepted the overture of negotiations on the basis of the four guarantees, reserving to ourselves always the right of introducing therein any other condition that might result from the chances of war.

On the part of the Allied Governments, this act of moderation cost nothing to their dignity, nor to the interests which they defend; for, had it been so, they never would have given their consent. In fact, there was but one of two things possible; those negotiations would succeed or would fail. If successful, Europe, by the four guarantees, obtained conditions which, four months previously, Count Nesselrode declared he could only accept after ten years of disastrous warfare; if a failure, Austria, whose alliance became an offensive one, entered into armed action, and the weight of her sword would soon obtain by war what her influence could not effect in the conferences.

Thus, in either case, it was well to negotiate at Vienna, while continuing all the same to fight in the Crimea.

As regards the conditions of peace, nothing can be more just, more moderate, more conformable to the rights and interests of Europe. It will be easy for us to establish this by characterising clearly the thought which dictated them and the object which they were to achieve. The first of the four conditions, in putting an end to the protectorate of Russia in the principalities of Moldavia, Wallachia, and Servia, and in placing their privileges under the collective guarantee of the Great Powers, takes away from the cabinet of Petersburg the rights which it pretended to hold from ancient treaties, and which were only the means for subjugating those populations, for dominating Turkey, for approaching Austria on her most vulnerable side, and for troubling the whole of Europe; the second, by stipulating the free navigation of the Danube, liberates the commerce of all nations—especially of Austria—from the moral and material obstacles which impede it, and throws open the mouths of that great river to the states of which it is the fortune and the defence.

The fourth, in delivering Turkey from the pretensions of Russia to a religious protectorate over the Greek subjects of the Sultan, nevertheless assures more than ever freedom of conscience, at the same time that it destroys the supremacy which the Czars arrogated to them-

selves, the political object of which, the better to impose, was concealed under a religious mask.

As regards the third of those conditions—that which has for object to limit the preponderance of Russia in the Black Sea—we have reserved it expressly as the most important and most contested, so as to explain it here, categorically. First of all, how must it be understood? Evidently anything equivocal on so grave a point cannot suit any one. The Allied Governments, who have a consciousness of the justice of their pretensions, have not feared defining them. Russia has turned the Black Sea into a Russian lake; she has gradually founded maritime establishments there of the first class; she has accumulated there, with as much perseverance as mystery, considerable naval forces, and it may be said that by that exclusive domination of the Black Sea she has placed Constantinople in a permanent state of siege.

This state of things is not possible, because it is incompatible not only with the integrity of the Ottoman empire but with the security of the whole of Europe.

France and England, in demanding Russia to limit her power in the Black Sea, or to neutralize that sea, are, therefore, completely in the right. If that result was not obtained by peace or by war, such a peace would be ephemeral, and such a war useless; and, let it be well observed, this demand for the limitation of Russian power, or for the neutralization of the Black Sea, does not respond only to Anglo-French interests, it responds also to the interests of Austria, for which the Danube, a commercial and military river, is a magnificent highway, open to her activity towards the Euxine and Asia. An argument is brought against this pretension which we do not think serious; it is said to the Allied Powers, "You ask a concession from Russia, which at most might be the price of the surrender of Sebastopol, and that place is still held by the Russian army." Our reply is this:—"The law of nations grants that a portion of what is obtained by war may be kept by peace. We have not yet taken Sebastopol, that is true; but what is Sebastopol at the present moment to Russia? It is no longer a naval port, as her fleet, sunk at the mouth of the harbour, or shut up behind that insurpassable barrier, is withdrawn from the struggle. The Black Sea is the battle field which we have won—or, if they like it, which has been abandoned to us by the enemy. The Russian flag could not show itself there. Our ships and those of England and Turkey navigate it in every sense. Its domination has changed hands. It has gone from Sebastopol to Constantinople."

Who compels us to give up this pledge? Is not such a situation the very best we could have? And not only do we occupy the Black Sea, but we besiege Sebastopol, we are fortified at Kamiesch and at Bala-klava, Omar Pasha is entrenched at Eupatoria, Odessa is menaced by our fleets. What can Russia do? Could she suffer for any length of time, without detriment to her moral strength and without ruin to her commerce, the blockade which will shut her up in every part of the Black Sea and in the Baltic? Could she live in that paralysis which

in her strikes the vital principle of nations—that is to say, movement, action, the right of exporting and exchanging her produce, and which would condemn her to isolation, sterility, impotency, in the immensity of her empire? To ask Russia to limit her naval forces, or to neutralize the Black Sea—that is to say, to exclude therefrom all vessels of war of any nation whatsoever—is, therefore, to exact from her much less than what we have acquired by war, and which we could maintain without an effort. In fact, what does it require to prevent Russia from ever entering the Black Sea again? Four men-of-war of each of the maritime powers, France, England, and Turkey. Such a cruising squadron would suffice to occupy the Black Sea and to transplant its domination from the shores of the Crimea to the entrance of the Bosphorus.

What Russia has lost, what she cannot recover by war, no matter how long, is her preponderance over the East. What she may legitimately ask is a share of influence in the affairs of the world. She would find, if needs be, a coalition of all states to restrain her ambition; but no one wishes to humiliate her. What is asked from her Europe has the right, and it is its duty to exact. If she grants it, the peace of the world is assured, the object of the Allied Powers attained. If she refuses, war will continue and decide it.

At the moment we write, these grave solutions are being prepared and discussed at the Vienna conferences, where M. Drouyn de Lhuys and Lord John Russell have taken, with the authority of their character and position, the expression of the common thought of their governments. The country must confidently await the result of that decisive trial. It may say that peace will be concluded, if it is possible, with honour to the flags of France and England and security for their influence, and that war, if it should continue, will be necessary for the object proposed by the allied governments and from which nothing can turn them aside.

But a great result is acquired already from the very fact of these negotiations. France and England have loyally negotiated with Austria to allow her policy to exhaust the last resources of conciliation. Those conferences of which Vienna is the centre are the loyal and honest act of the Emperor Francis Joseph. But the Allied Powers know that if Austria does not succeed in this noble effort of her European patriotism, she will fight resolutely with them. In limiting their demand to the very conditions accepted by the Vienna cabinet in the treaty of the 2nd of December they have gained to the common cause an important and devoted ally. The possibility of peace, like the necessity of war, must henceforth be only a fact in common to the three powers who signed that treaty. The solidarity of their interests and of their engagements would unite them in the struggle as it has united them in the conferences, and that grand European confederation will soon have triumphed over every resistance.

France and England may, therefore, congratulate themselves in having consented to negotiate while continuing to fight. In acting thus they have not only given proof of moderation—they have in-

creased their strength. Their adhesion to an honourable and possible peace, having as consequence the support of Austria in a necessary and legitimate war, is an act counselled by wisdom, and which will be approved by public opinion.

One word more, in conclusion. It is, perhaps, a novel and bold thing to speak of the military and diplomatic conduct of a war while the army is fighting and negotiations are pending. We thought that it was precisely the moment to speak the truth to the country. Truth is only a danger for the weak. With right and strength on their side, it honours those who speak it—it reassures those who hear it.

#### LETTER FROM THE BLACK SEA.

I had a whole day of entreaty and bowing to succeed in getting away from Marseilles by the boat of the 1st. Thanks, however, to the civility of the Secretary of the Messageries Imperiales, I got a berth in the crowded steamer, and am now steaming for Malta, on my road to Constantinople. The rest of the passengers being four gentlemen, and about forty others, who are going to establish a civil hospital, &c.

At Marseilles I saw numbers of the maimed and wounded French soldiers from the Crimea: three wounded weather-beaten fellows, each a cripple, were supporting one another, and pushing through a crowd without any one apparently taking the slightest notice of them. To fight alone, as a grizzled old African rifleman told me yesterday, is not the sole duty of a soldier, any one can do that,—and if to do that in war, and parade in peace, were the sole devoirs of an army, there would be no use in having standing armies. To suffer and be silent, to conquer like the soldiers of the French Revolution, without shoes, clothes, and commissariat in the midst of cold, hunger, and disease, is the true characteristic of a soldier. It is delightful to hear how every Frenchman expresses a perfect conviction that *celà s'arranger*.

We have just now run through the Straits of Bonifaccia, its bright blue waters sparkling and rippling in as pleasant an Italian manner as one could wish, and very unlike what it must have been a few days since, when the *Semillante*, 50 gun frigate, full of soldiers from Toulon, and laden with shot and shell for the Crimea, was seen by some shepherds to strike upon a reef, and almost instantaneously to founder, with every soul on board.

March 3rd.—Fair Sicily is now abreast of us, and this night we reach Malta. The Frenchmen are recovering rapidly from sickness, and becoming as sociable as they usually are. I practice French all day, and am regaining very much of what I had lost among the glaciers and Esquimaux. Their enthusiasm is contagious, and I am slowly warming under the influence of their excitability, songs, and music.

A Captain of the *Etat Major*, of most Arab-like cut barbe and contour, tells me Bouat and Lyons "*ont juré d'entrer en Sebastopol avec leur flottes*;" and to this the A.D.C. adds, it must most certainly be done, (waving his hand theatrically,) or they must perish in doing so. All very funny to a man from dear fusty old London, cabs, and mutton chops; but it is wonderful how we adapt ourselves to circumstances, and the very Medicos are talking of charges and revolvers, as if that was their calling. How you would enjoy such a trip as this after your winter of toil.

11th.—You can picture with what pleasure I hail green trees and a warmer sun than England, and ill as I think of the Greeks, their land is truly beautiful, though far, far short of that of the Turks. Imagination cannot picture any scenes of such surpassing loveliness as those I have been travelling in since our arrival on the coast of Asia Minor; and my head was fairly turned with the beauty of Stamboul and the Bosphorus.

The Black Sea has been unfairly abused people tell me, and nothing can exceed the beauty of the weather that has been experienced for the past month. The air is keen and bracing, and occasional fresh gales spring up, but they are purely local and never last long.

Scutari, Pera, Taphana, &c., are now alive with vagabonds, male and female, of every nation upon earth; and, if scandal speaks true, decency as well as morality are at a great discount. How men can take their wives to such a place, I cannot conceive, and apart from all private reasons, the public would gain much if an order of the most stringent nature were enforced, forbidding soldiers or sailors, ordnance or commissariat, &c., having wife or sister whilst employed upon service connected with the war. This is very ungentlemanly, but you may depend upon it the myth of the geese who saved the Capitol had never any reference to women, who, God bless them, should never chase men about on service.

12th.—Yesterday I reached the Crimea, and I breathe another atmosphere, that of the fleet and camp. I wish you could see the vast fields of tents and masses of armed men, the splendid ships, the forest of masts, (which denotes the storeships and transports,) and the white walls and fire-scorched earth-works of Sebastopol, and watch, as I have done this evening, the night close over the scene, and then count the flash of rockets; if you could do so, you would, I am sure, say with me, I thank God that I have seen so wonderful a sight,—contrary as I know its violence to be to your more gentle nature.

#### THE VISIT OF THE EMPEROR AND EMPRESS.

The event of the month has been the felicitous visit of the Emperor and Empress Napoleon to Her Gracious Majesty, some record of which must be preserved in the Nautical, limited nevertheless as it must be. To trace the progress of this visit, the departure from Calais at half-past nine of the morning of the 16th of April in the *Pelican*, under the charge of Admiral Chabanne, the voyage in the fog which rendered the fleet attending invisible and the cliffs of Dover first seen above it, the scenes at Dover, the landing, the welcome of the first address presented by our countrymen at that place, the journey on the rail to the London Station, the Bricklayers' Arms, the progress through London to the arrival at Windsor at seven in the evening—the fetes of the week—the review—the visit to the Lord Mayor of London and the Crystal Palace, all these have been duly chronicled and registered, and are far too lengthy for our pages. We must be contented to preserve the address of the City of London and the words of the Emperor in reply. They are each in themselves just what one could have desired, an epitome of the present aspect of affairs, the feelings which animate the French and ourselves, and of that true and cordial friendship which so happily unites us. Again we say most auspicious and well timed has been this visit. The following is the address and the Emperor's reply.

The Recorder (the Hon. James Stuart Wortley), brother of Lord Warnclyffe, with his usual admirable elocution, read the following address to their Imperial Majesties :—

“ TO HIS IMPERIAL MAJESTY THE EMPEROR OF THE FRENCH.

“ May it please your Majesty,—

“ We, the Lord Mayor, Aldermen, and Commons of the City of London, in Common Council assembled, desire to offer to your Majesty our heartfelt congratulations on the arrival of your Majesty and the Empress of the French in this country as guests of our Most Gracious Queen ; and, on behalf of our fellow-citizens and ourselves, we humbly tender to your Majesties the warmest expressions of our gratitude for the welcome visit by which you have deigned to honour our city on this memorable day.

“ The attention of Europe and the world is already fixed on the attitude of dignity and united strength displayed by France and Great Britain in the present war, and the coming of your Majesty, invited by our beloved Queen at such a time, will draw closer the bonds of mutual friendship and common interests so happily uniting the two countries.

“ The cordial alliance of two such mighty Powers cemented and sealed by intimate and frank intercourse, between their rulers, must sway the destinies of all, will abate the pride of our common enemies, increase the confidence of our allies, and give new vigour to our arms.

“ By the wise policy of your Majesty's reign all our ancient jealousies have been appeased, and the flags of France and England now mingle their colours alike in the Baltic and in the East. Ranged together in a righteous cause, braving like hardships, and shedding their blood side by side in victory, the soldiery of our united armies and the seamen of our combined fleets have learnt to regard each other with the love of brave and generous comrades, second only to the love they bear their respective countries, and while such are the feelings, we rejoice that sentiments akin to these are growing daily and sinking deeply into the breasts of the people of these great and neighbouring nations.

“ None can doubt that the allied forces thus animated, led in perfect harmony by commanders of tried skill and valour, and guided by united counsels at home, will achieve by arms the just unambitious object of the present war ; unless, as we may hope, the efforts of assembled statesmen shall yet avert the calamities of protracted warfare by the speedier negotiation of an honourable and enduring peace.

“ This cordial reception, therefore, of the chosen and puissant Emperor of the French by the illustrious Sovereign who reigns over these realms, and lives in the hearts of the British people, we regard as a type of a close and lasting friendship between the two nations, and the happiest augury of a returning time when, undisturbed in the onward course of civilization, the nations of Europe may again lay aside the sword, and resume their exalted rivalry in the works of beneficence alone.

“ We are earnestly anxious further to express to your Imperial Majesty the lively pleasure and respectful admiration with which we have seen you accompanied on this happy occasion by your illustrious Consort Her Majesty the Empress of the French. We tender to your Majesty the expression of our confident hope that you may ever find in the affections of domestic life, the best solace and support which this world can afford under the cares and weight of the high destiny you are now fulfilling with such conspicuous power and moderation, and we fervently pray that life and health may, by the blessing of Providence, be vouchsafed to your Majesties for many years to come.”

The Empress rose from her seat before the Recorder commenced reading the Address, and, with the Emperor, remained standing. When the passage alluding to the Consort of the Emperor was read, a loud and prolonged cheer rang through the Hall, and was smilingly and graciously acknowledged by the illustrious object of the compliment.

At the conclusion of the Address the Recorder advanced, with the usual

obeisances, and placed a copy of it in the hands of the Emperor, who, after a short pause, proceeded to read, in a firm and distinct voice, though with a slightly foreign accent, the following reply:—

“ My Lord Mayor,—After the cordial reception I have experienced from the Queen, nothing could affect me more deeply than the sentiments towards the Empress and myself to which you, my Lord Mayor, have given expression on the part of the city of London; for the city of London represents the available resources which a world-wide commerce affords both for civilisation and for war.

“ Flattering as are your praises, I accept them, because they are addressed much more to France than to myself; they are addressed to a nation whose interests are to-day everywhere identical with your own—(loud applause); they are addressed to an army and navy united to yours by an heroic companionship in danger and in glory—(renewed applause); they are addressed to the policy of the two Governments, which is based on truth, on moderation, and on justice.

“ For myself, I have retained on the throne the same sentiments of sympathy and esteem for the English people that I professed as an exile—(loud and prolonged cheering), while I enjoyed here the hospitality of your Queen; and if I have acted in accordance with my convictions, it is that the interest of the nation which has chosen me, no less than that of universal civilisation, has made it a duty.

“ Indeed, England and France are naturally united on all the great questions of politics and of human progress that agitate the world. From the shores of the Atlantic to those of the Mediterranean—from the Baltic to the Black Sea—from the desire to abolish slavery to our hopes for the amelioration of all the countries of Europe—I see in the moral as in the political world for our two nations but one course and one end—(applause). It is, then, only by unworthy considerations and pitiful rivalries that our union could be severed. If we follow the dictates of common sense alone, we shall be sure of the future—(loud applause).

“ You are right in interpreting my presence among you as a fresh and convincing proof of my energetic co-operation in the prosecution of the war, if we fail in obtaining an honourable peace—(applause). Should we so fail, although our difficulties may be great, we may surely count on a successful result; for not only are our soldiers and sailors of tried valour—not only do our two countries possess within themselves unrivalled resources—but above all—and here lies their superiority—it is because they are in the van of all generous and enlightened ideas. The eyes of all who suffer instinctively turn to the West. Thus our two nations are even more powerful from the opinions they represent than by the armies and fleets they have at their command—(great applause).

“ I am deeply grateful to your Queen for affording me this solemn opportunity of expressing to you my own sentiments and those of France, of which I am the interpreter. I thank you in my own name and that of the Empress, for the frank and hearty cordiality with which you have received us—(applause). We shall take back with us to France the lasting impression, made on minds thoroughly able to appreciate it, of the imposing spectacle which England presents, where virtue on the throne directs the destinies of a country under the empire of a liberty without danger to its grandeur.”

The moment the Emperor concluded his reply, a loud cheer was raised by those who were in a position to hear its purport, which was taken up and re-echoed by the occupants of the remoter parts of the Hall, to whom the proceeding had been little more than dumb show.

The return of the Emperor and Empress to France took place on the 22d, but we must yet record the says of the first magistrate of Paris, the Prefect of the Seine, on this occasion, when partaking of the hospitality of the Lord Mayor of London,



who expressed the sentiments of every Englishman towards our allies, and the cordiality with which it was returned, with the novelty of the action by which it was accompanied on the part of the Prefect, was so touching and fervent of expression that we venture to say it will never be forgotten.

The loving cup having passed round, the first toast after that of "The Queen" was the "Emperor and Empress."

In proposing it, the Lord Mayor observed that the past week was replete with events which would ever be remembered in the history of this period. The imperial visit had sealed the most important alliance ever formed—the alliance with France, our ancient foe, our dearest friend. (Loud cheers). Henceforth it would be felt, in regard to the two countries, that monarch could meet monarch, and only rival each other in good will—(cheers)—that nation could meet nation, and only rival each other in deeds of glory; that city could meet city, and only rival each other in improvement and hospitality. (Cheers). Their Majesties the Emperor and Empress had been welcomed with universal enthusiasm. And why? Because in them the empire recognised not only the sovereigns of France, but France herself. (Much cheering). The Empress—that beautiful personage—(cheers)—had won the affections of every heart, and there was no one present, he believed, who did not feel that that week would never be forgotten. He now gave "The Emperor and Empress of France."

The toast was drunk with the most lively enthusiasm, testified with several salvos of huzzas, the band playing "Partant pour la Syrie," as indeed, it did frequently in the course of the evening.

The Prefect responded well to these sentiments, as might be supposed, representing as he did, not only his own feelings, but those of his countrymen, and said:—

"In conclusion, my Lord Mayor, I beg to propose a toast, and in doing so, I place my hand in your lordship's as a mark of my sincerity. [Here the Prefect grasped the hand of his lordship; and the action, combined with the words which preceded it, elicited rapturous cheering]. The toast which I propose is "May the friendship of England and France last for ever!" (Renewed cheers, the toast being drunk with great cordiality).

Go on, we say. France and England in this happy career—may such sentiments for ever endure between us.

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#### ERRONEOUS CHARTS.

Carlisle, 10th April, 1855.

Sir,—In a number of your valuable publication a few months back, you were very ready (and most laudably so) to find fault with and expose certain imperfections in charts of the Pacific *not* published by the Admiralty; but why go so far to pull "that great beam out of your brother's eye," when charts are issued from the Admiralty press itself, purporting to be even "*corrected*" charts of places on our own coast, to which they bear as much resemblance as probably they do to any port that may chance to exist in the moon herself? In 1837 a chart was put forth of the Firth of Solway, where the sands are not only known to be constantly shifting, but most dangerous to navigation from the strength of the tides. In 1841 it was "*corrected*" and republished in fact, but with alterations only about the "Ear" and a patch some ten miles up, by which we scamen were led to believe that all the other sands remained unaltered. Perhaps it was so,—I cannot prove the contrary. But as the Bar Lightship and Buoy were moved only a few days since, owing to other changes that have taken place, why we ask, is a "Notice to

Mariners" not issued for our guidance, as surely the necessity for the alteration in their position did not suddenly arise, and their being so unceremoniously bandied about from place to place you will readily see is most dangerous both to life and property. In my opinion it would be far better *not* to publish any chart of a place at all than to issue those which are known, as this has long been, to be imperfect, and as likely to lead into a trap as any "decoy duck" that was ever put forth with injurious objects.

Trusting you will look at home before you throw more stones about you,  
I remain yours as ever,

AN OBSERVER.

[The remarks so justly made by our Correspondent, are very important, and touch a subject long since alluded to in the *Nautical*. Surveys, however carefully and elaborately made, can only be looked on as correct at the time they are made; and from the perpetual change which is going on at the mouths of large rivers or estuaries, require to be corrected periodically. Liverpool, for instance, is perpetually changing; but there the merchants, being aware of this fact, employ a surveyor of their own, and the chart of Liverpool now, and that of ten years ago, are totally different from each other. So is that of the Solway, which, it is hoped, will also one day have a surveyor of its own. But why the position of the Lightvessel and these alterations have not been made known to the Hydrographic Office, does not appear. Still the observation of our Correspondent is perfectly just. A chart from the Hydrographic Office professing to be corrected, should be correct; and the only way to keep such charts correct, is to have a small surveying force on each of our coasts, whose sole duty should be to look to these changes, and, as they take place in the course of nature, to correct the charts accordingly. Until this is done effectually, *such* charts must remain under suspicion of their accuracy.—*Ed. N.M.*]

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#### NEW BOOKS.

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NOTES ON THE MANAGEMENT OF CHRONOMETERS, and the Measurement of Meridian Distances. By Capt. Charles F. A. Shadwell, R.N., C.B. &c., Potter, Poultry, London.

This little work has just been published by Mr. Potter, the agent for the sale of the Admiralty charts, &c., from the pen of Capt. C. F. A. Shadwell, R.N., which takes a practical view of this very important subject, and is likely to become popular among seafaring men. Looking on the Chronometer as "capable of affording valuable contributions towards the gradual perfection of Maritime Geography," Capt. Shadwell considers very justly that the works on Navigation, from necessarily combining so many different subjects, have not done sufficient justice to the proper method of managing Chronometers under all circumstances,—and therefore gleaned valuable hints from all previous writers, most of whom he enumerates, and "blending the ideas derived from these various sources with the results of his own experience," he has certainly succeeded in producing a little work which will be indispensable to those who undertake the measurement of meridian distances.

The chief recommendation of this work is the practical view taken of the whole subject. The question of errors and rates is amply discussed,—com-

binning observations for rate by the method of least squares,—the formula for meridian distances and for correcting the variation of the rate according to Dr. Tiarks, is here amply explained, for the purpose of familiarizing a proper use of that invaluable machine the chronometer in the hands of our seamen. And we cordially recommend it to their study, assuring them that if they will master its precepts they will see the principles on which their deductions depend, and themselves derive the benefit of so doing in the improvement which it will thus confer on the charts in daily use.

Capt. Shadwell, our readers will remember, is the author of Tables for facilitating the approximate Prediction of Occultations and Eclipses, and also of Tables for determining the Latitude and Time at Sea by Observations of the Stars,—works which have already gone through their first editions.

## NAUTICAL NOTICES.

### PARTICULARS OF LIGHTS RECENTLY ESTABLISHED.

	Name.	Position.	F. or R.	Ht. In Feet.	Dist seen Mls.	Remarks on the Lights.
✓	7. S. Sebastian, Spain.	Mt. Igueldo.	R.	434	15	Est. 15th Mar. Flashes every 2 minutes. Present Light of La Mota discontinued, in 43° 19' N., 2° W.
✓	8. Kinsale, Ireland, S.	Old Head.	F.			Est. 16th April. Additional arc lighted from westward northerly. Red in the Bay as far as direction of the Horse Rock from the Light.
✓	9. Monterey, U. S., Pac.	Pt. Pinos.	F.	50	12	A granite dwelling, surmounted by light tower, in 36° 38' N., 121° 55' W.
✓	10. Charleston, U. S., Atl.	Rattlesnake Shoals.	F. 3.	40	12	Est. 20th Feb. Vessel has <i>two masts, each</i> surmounted by a ball. Each carries a light.
✓	11. Puenterrabia, Spain.	Cape La Higuera.	F.	290	8	Est. 1st April. On west side of Entrance. Former Light discontinued, in 43° 23' N., 1° 47' W.
✓	12. Cay West, U. States.	N.W. Channel, Florida River	F.	40	11	Est. 5th Mar. On west side of inner entrance of Channel. Lights three-fourths of the horizon.
✓	13. Bewes Rock, Ireland, W	River Shannon.	F.	40	10	Est. 14th May. Seen bearing between E. ½ N. and N.W. b.W. From the southward or westward it will be of the natural colour, but from the northward it will be a red light, in 52° 30' N., 9° 1-3' W.
✓	14. Nore, England.	Mouth of Thames.	R.			Est. 21st June. Intervals of revolution half a minute. At present <i>fixed</i> .
✓	15. Dundalk, Ireland, E.	Harb. Chan.	Ff.	33	0	Est. 18th June. A continuous fixed light will be seen, varied by flashes at intervals of 15 seconds, 4 appearing in a minute. Bearing from N ½ W. to N.E. b. E. ½ E., it will be invisible; and in western part of Dundalk Bay it will appear red, in 43° 58-7' N., 0° 18' W.
✓	16. Broadhaven, Ireland N.E.	Gubacashel Point.	F.	87	13	Est. 1st June. In the harbour. When seen bearing between N.N.E. ½ E. and N.E. b. E. will appear red, in 54° 16' N., 0° 58' W.
✓	17. St. Paul, Brazil.	Morro.	I.	276	30	Est. 3rd May. Duration of light 15 seconds, appears once every minute, in 13° 21-7' N., 38° 54-8' W. See further directions relating to Baía Falsa.

F. Fixed. Ff. Fixed and Flashing. R. Revolving. I. Intermitting. Est. Established.

**THE BARRA FALSA OF ITAPARICA AND THE HARBOUR OF  
MORRO SAN PAOLO, BRAZIL.**

The Provincial Government of Bahia has announced the completion of the Light of the Morro San Paolo, on the coast of Brazil, and accompanied it by the following Directions concerning the Barra Falsa to the northward as well as the Harbour of the Morro.\*

To the northward of the Morro, terminated on the north by Point Garcia, between which and the south point of the Island of Itaparica is an opening improperly called the Barra Falsa in the charts.

Barra Falsa is a small inlet of the Island of Itaparica, further east formed by the point of Aratabu and another to the northward of it, and which, at a distance of fourteen miles, has a similar appearance to Point S. Antonio, and, like it, looks as if detached from the land to the westward of it. Even in daylight these points should not be approached to less than 11 fathoms by vessels without a pilot.

Vessels making the Light on the Morro of S. Paolo, and desiring to remain in sight of Bahia while they are southward of Itaparica, should not pass to the westward of the above line of bearing of S. Antonio from the Morro Light, viz., N. 46° E., (N.E.  $\frac{1}{2}$  N. mag.), or should never bring the Morro Light farther south than S. 46° W. (S.W.  $\frac{1}{2}$  S. mag.) A good precaution will also be, never to stand into a less depth than 11 fathoms, by which they will avoid nearing the dangers off Caixa-fuegos Point, Barra Falsa, and others on the east shore of the island, which at night become more dangerous from the in-draft into the bay after the fresh sea breezes of the day. Besides, after 10 fathoms the depth decreases rapidly.

Should a vessel find herself in less than 11 fathoms and yet by her compasses not within the line bearing above-mentioned of the Morro Light, that is, should it be still not to the southward of S. 46° W., (S.W.  $\frac{1}{2}$  S. mag.) and she in less than 11 fathoms, her compasses must be defective, and no time should be lost in tacking to the southward.

The Light of S. Antonio of Bahia is visible at the distance of thirteen to fourteen miles, and the faint light between its intermitting glances of red and bright lights is visible at the distance of six miles.

Vessels of all sizes may take the entrance of the Port of the Morro, observing that at a mile to the westward of the Fort a shoal extends up the River Una, shoaling gradually to the shore, and extending out to seaward nearly two cables in a ridge of rocks called the Cortas, with 8 fathoms close to them. These should be carefully avoided at night by vessels working into the anchorage. By day the ridge is plainly visible by the breakers.

At two miles southward from the Morro Light is a passage fit for all vessels; and those desirous of entering the port by it, may approach the Morro by the northward, and anchor from the Fort to a mile within it; but vessels intending to proceed up the river, should take a pilot, and they will find a spacious well sheltered anchorage.

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**HARBOUR AT THE CAPE.—Table Bay.**

Sir,—I have read with great satisfaction the Report of Mr. Scott Tucker upon the long talked of Breakwater in Table Bay in your last interesting number. But where is the plan to which it alludes? for without the plan, those who do not know the place as well as I unfortunately do, the proposition

\* It would have been very acceptable if these directions had been accompanied by a plan of both these places.

can scarcely be fully understood. However, I know the place intimately, and it is with great satisfaction that I see the inclination towards the construction of a "commercial dock" in connection with the harbour of refuge, as without that appendage, we, who trade with the place, would be almost as badly off as we are at present: *worse* we could not possibly be, as, excepting our three miserable fine-weather landing jetties, the place seems to have scouted the aid of art in every shape. People doubted the propriety of granting a Legislative Parliament to the Cape Colony; but this, one of their first acts, must prove, I think, beyond a doubt not only its utility, but even absolute necessity towards enabling it to derive the full benefit of its peculiarly advantageous position. Pray do your best to favour us with a plan of Mr. Tucker's invaluable scheme, as it is not every body interested in the matter who knows the ground so well as,

Yours odiently,

A CAPE TRADER.

[The Cape Trader will find the plan he wants in the present number, and we shall be glad to learn that the harbour proposed by Mr. Tucker, so much wanted by ships, will be speedily undertaken.—ED.]

**BREAKERS ON THE SOUTHERN SIDE OF THE CAROLINE ARCHIPELAGO.**  
(*Caution to Shipmasters.*)

Barque *Lady Elgin*, 18th February, 1855.

Sirs,—I beg to transmit to you the following information respecting a shoal seen in the Pacific (not laid down in the charts) on board the barque *Lady Elgin*, under my command, on the passage from Sydney, New South Wales, to Moulmein.

I am, &c.,

Messrs. John Haly & Co.

D. IRONS.

Wednesday, 22nd November, 1854.—At 2.5 p.m., running five miles per hour, the ship suddenly came on shoal water, the bottom was distinctly seen, (sand and coral,) sounded, and found 10 fathoms. Altered the course to S.S.W., and found the water shoaled to 7½: then hauled to N.N.W. and carried 7½ fathoms about a mile or a mile and a half; when broken water was seen bearing north, and clear water bearing west. Altered the course to W.b.N., and deepened the water to 8½ fathoms. All this time the bottom was so clearly seen as to discover the fish close to the sand, and sharks in great numbers. At about 2.45 the water deepened to 10 fathoms; at 3h. p.m. no bottom.

At noon the latitude, by good observations, 6° 19' N., longitude, by two chronometers, 149° 38' 30" E., two hours' run from noon at five miles per hour. Course W.b.S. 4° easterly variation by azimuth and amplitude, places that part of the shoal in lat. 6° 18' N., long. 149° 28' 30" E.

D. IRONS, Master.

[This is an important addition to the chart, and should serve as another warning to seamen to be on their guard when *near* this dangerous archipelago.—ED.]

**APPROACH TO NEW HARBOUR, SINGAPORE.—Shoal off Point Bantam.**

Ship *Tippoo Saib* of Liverpool, Singapore, Feb. 19th, 1855.

Sir,—It is not generally known, I believe, to shipowners and masters of vessels, that since the depot built by the Peninsular and Oriental Steam Com-

pany in the New Harbour here has been finished, coal slips, intending to discharge here, will save three or four days, or even more, (when coming by the Straits of Malacca or Durian,) by taking the Western Channel, commonly called the Sinkie Channel. When they get above the Sultan Tripod, and make the usual signal for a pilot, it will be answered at the Flagstaff; and Mr. J. Cluniss, the Company's pilot, will come off, and take the vessel in, mooring her alongside one of their splendid wharfs.

The Tripod on the Sultan is painted white, not red as heretofore. Also the first beacon on the starboard hand in coming in is red, with a double basket one over the other, and all the other beacons on the same side are red. On the port hand coming in the beacons are all painted white.

At the same time I beg to inform you, for the guidance of shipmasters in the Straits of Malacca, that there is not so much water on the sand-bank in lat.  $2^{\circ} 10' N.$ , and long.  $101^{\circ} 54' E.$ , as  $3\frac{1}{2}$  fathoms, for the barque *Restitution* struck on this bank, and knocked away her false keel, only drawing 16½ feet water.

The Peninsular and Oriental Company's depot in the New Harbour here, is unquestionably one of the finest in the world, and very great credit is due to Capt. Marshall, their agent here, for the attention and despatch vessels meet with. The ship *Tippoo Saib*, under my command, with nearly 1400 tons of coal on board, was discharged, and 450 tons of ballast on board, in twelve days; and my coals, owing to the coal departments being all full, had to be carried beyond the sheds, otherwise we should have saved a day. All the beacons (twenty-one in number) and the wharfs are cleaned and painted every spring tides, for the purpose of preventing decay. The Company's stores, for the use of their steamers, and crews belonging to them, are plentiful, and of the very best description. There are separate store rooms for every description of stores requisite on board their steamers, and baths for the use of their officers when sick. The regularity and cleanliness which is kept up in every department, is admirable, and great praise is due to Capt. Marshall, who superintends the whole. The fire-engine department is most effective, and is regularly exercised once a week. Throughout the whole of the buildings and store-rooms the maxim, "A place for everything and everything in its place," is beautifully carried out and strictly adhered to.

If you consider that the foregoing remarks will be of any service to vessels bound to this port, I will feel greatly obliged by their insertion in your valuable Magazine, being myself an old subscriber.

J. CORNFORTH, Commander.

To the Editor of the *Nautical Magazine*.

[With pleasure we record our acknowledgments to Capt. Cornforth, from whom we are always glad to hear. Will he send us a plan showing the beacons to which he refers.]

#### ARCTIC DISCOVERY.

Mr. Richard Sainthill of Topsham, Devon, in an interesting memoir, entitled "*Numismatic Crumbs*," makes the following appropriate remarks on this subject, which, in justice to these enterprising mariners, shall have the circulation of our pages. He says,—This reference to honorary medals, conferred for meritorious services, brings forcibly to my thoughts one class of our gallant countrymen, who, as yet, have not in this manner been ennobled by the favour of the Crown. I refer to the officers and seamen who have so distinguished themselves in our expeditions to discover "the passage by the North Pole," at length successfully achieved. While the question was in

doubt, there may have also been a doubt as to its propriety. But now that the "discovery" has been made, and all further expeditions are at an end, I venture humbly to trust that every surviving individual of all the attempts, from Sir Edward Parry and Franklin to the last, may receive this mark of their Sovereign's approbation of the service which they have rendered to our geographical knowledge; as also the combined ability, science, perseverance, and almost super-human endurance, by which this secret of centuries has been worked out. No one can value more highly than I do the glorious deeds of our naval and military warriors on the sea and on the land, the hearts of oak, and the minds of iron; which can lay ship by ship, and blow in an enemy's port holes, or advance against a field, or a crested battery, with an unflinching, unflinching precision, as if on parade, and spike its gunners with the bayonet. These are deeds by which the sailors and soldiers of Queen Victoria have rivalled those of the Edwards and the Henries, and proved that they are "the true chips of the old blocks." But is there less of the true British pluck in those who have so resolutely encountered no less fearful dangers, but without the excitement of a living, taunting opponent, sword to sword, gun to gun? The northern navigator has had northern gigantic nature to contend with, and happily to overcome. Icebergs and their avalanches, floes and their crushing resistlessness, unseen rocks, and iron-bound shores, the monotonous and continuous *now* of danger and endurance, resting unshaken on internal self-support. Alone in a frozen world! and cheered only by a consciousness of duty, and, should they not be consigned to a watery or an unknown grave, the possible distant hope that Providence might guide their safe return once more to dear old England, and the then certainty of a joyful welcome from their country. Merit, however varied, is yet equally merit, and we are not on this occasion called upon to weigh circumstances or calculate differences. Of the glory and renown that our northern navigators have shed upon the British empire, and the fame they have earned for themselves, the civilised world has recently combined to express its sense, and now that the mission of the self-devoted band has ended, we may indulge the hope that the Sovereign whose maternal kindness is so alive to every claim that Her goodness considers can appeal to it, will cheer by Her royal approving notice this no less meritorious arm of Her public service.

As an old collector of medals, I may perhaps be allowed to offer some suggestions as to a medal on the discovery of "The Passage," by the North Pole; whether honorary or otherwise, I consider that a medal should always be a record in itself, and the more clearly it can express the actual *fact* for which it has been engraved, so much the more valuable will it be for the present, and infinitely more so to those to whom it may carry its history, hundreds and thousands of years hence. We have to record a discovery, which has occupied the thoughts and exertions of Europe for centuries, and England has now determined the geography of our globe.

The medal should therefore communicate this splendid achievement to the world (present and to come) in the most conspicuous manner possible, and this I submit will be best accomplished by giving a map of the North Pole, and showing on it the line of communication from one sea to the other, distinguishing "The Passage" either by a line of arrows (as usual to denote the flow of a river), or by ships sailing on it, or by combining both, which perhaps would be still more decisive.

I think that the maritime nature of the medal might also be indicated by changing the uppermost line of the Tiara worn by Her Majesty, and rendering it a naval crown, by substituting the hull for the cross pattée, and the sail for the intermediate floral ornaments.

Clasps, with the names of Her Majesty's ships, and the years of their respective services, would classify the different expeditions.

THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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JUNE, 1855.

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REPORT ON THE LIGHTING OF THE OLD BAHAMA CHANNEL,—*with an Examination of the Sites of Guincho and Lobos Cays for the purpose of erecting Lighthouses on either one or both of them.*—By Mr. J. Parsons, Master, R.N., commanding H.M. Surveying Vessel “Scorpion,” and in charge of the West India Survey. April, 1855.

The question of lighting the Old Bahama Channel, in its most extended view, necessarily includes the various channels leading into and from it; and in fact it may be said to be in connection with all the principal passages in the immediate neighbourhood of the Bahama Bank. I therefore propose, in complying with the instructions of the Hydrographer to the Admiralty, to make a brief report on the whole question, taking a glance at the passing trade, so that if possible the recommendations herein contained may not only benefit our own commerce, but be conducive to the general good.

TRADE.—Many English ships, with vessels from all parts of Europe, bound through the Old Bahama Channel for the Havana or for the Gulf of Mexico, enter either on the north side of St. Domingo, or one of the channels about the Turks Islands: these latter being generally preferred on account of the light on the Grand Turk.

After the first entry their difficulties commence; and there is no navigation in the world more arduous to perform than from thence to the Havana.

GREAT INAGUA.—Supposing the ship to have entered by either of the above-named channels, the first island in the way is that of Great Inagua, a very low one, surrounded by a dangerous reef, as the many



wrecks will show, and one that gives great perplexity to several navigations, that may be classed thus:—

- 1st. From Europe to the Gulf of Mexico on its South side.
- 2nd. From America to the Caribbean Sea on its West side.
- 3rd. The return from the Caribbean Sea on the West side.
- 4th. And that from the Havana Eastward, principally steam navigation.

**INAGUA.**—The want of a light on Inagua has long been felt by a very important trade. The proper position for it is at the south-west point. And here I may as well state, that building-stone, lime, and a sure foundation, are a matter of certainty on this island.

**CASTLE ISLAND.**—To complete the lighting of this passage to the north, a light on Castle Island is also required to enable ships to make it at night and pass through the Crooked Island Passage without delay. Most of our Jamaica sugar ships go through this channel, as also copper ore vessels from the south side of Cuba. With the capabilities of this island I am not acquainted, but should suppose building material will be found there, and the foundation to be firm.

After leaving Inagua, even supposing a light had been placed on the south-west point, enabling vessels to be sure of a correct position, it becomes a question of very nice steering to pass between Punta de Mulas and Cayo Sto. Domingo; for the angle subtended at Inagua between those two dangers is only  $14^{\circ}$ . A ship must therefore steer within  $7^{\circ}$ , or a little over half a point on either side of her course, to ensure a safe passage. Even without consideration of the conflicting currents in this quarter, running scarcely ever two days alike, such a course on a distance of 120 miles may be considered a dangerous experiment.

A light is therefore required either on Cayo Sto. Domingo or Punta de Mulas. Of the two positions I think the former would be the best, on account of its prominent position on a very sharp point of the bank. I propose to make an examination of this Cay with regard to the strength of its foundation before leaving the immediate neighbourhood.

**MATERNILLOS.**—After passing the above two places, there will be no difficulty in getting within the circle of the Maternillos Light, which is a very good one, and in clear weather can well be seen at its extreme limit of twenty-three miles, from an elevation of 50 feet; and at fifteen miles from the deck. It is revolving, at one minute intervals, and the tower is 169 English feet in height above the sea. The base is but two feet in elevation.

This tower is very creditable to the Spanish Government. It stands on a low point, (but two feet high,) and makes an excellent day mark, as it can be seen fifteen miles off from a ship's deck. It is built entirely of stone quarried in the immediate neighbourhood; and its erection cost but a small sum. The Cuba method of constructing these towers, as I witnessed at Paredon Grande, is to send one engineer, a leading man, about four others, and a small party of negroes to transport the stones, and the work proceeds in a most effectual manner. The building is very solid, in the old Spanish style, and calculated to last for ages.

This is without doubt the finest building of the kind in the West Indies, all other towers being very insignificant in comparison.

Being within the circle of the Maternillos Light, it must, after passing it, be brought to bear S.E.b.S. (S.  $84\frac{1}{2}^{\circ}$  E.), magnetic, and it must be left on that bearing to reach Lobos.

LOBOS CAY is undoubtedly the proper position for a lighthouse; but it is not necessary to see it over Diamond Point at the distance of twenty-four miles, as recommended by the Spanish Authorities, neither is it practicable to construct a light tower of the elevation required, on account of the foundation, as it would have to be 200 feet high to be seen at that distance from a vessel's mast-head of 50 feet; and 430 feet to be seen off deck, even supposing any navigator would be so indiscreet as to try and make a light with a danger at its extreme range. It is unnecessary, therefore, to consider that matter further, as if built it would be an engineering difficulty overcome for the destruction of many ships. Lighthouses, as a general rule, should be placed at the dangers they are intended to guard, and not at the most remote distance from them.

DIAMOND POINT.—The question then of a lightvessel at the Diamond Point, a possible suggestion in the Hydrographer's Instructions, next presents itself for consideration in this difficulty.

It is quite possible to place a lightvessel within the Diamond Point reef, at a mile from it, in 6 fathoms; but she will always be exposed to a very violent sea, with but trifling shelter, or in fact none: and it will be recollected that this point is in the track of the hurricanes, as also greatly exposed to north gales in the winter months. And the difficulty of placing a good light in a vessel both as regards elevation and power, must render it an inefficient method of guarding against so extensive and dangerous a reef as that to the N.E. of the Diamond Point. Neither would the lightvessel supersede the necessity of a light on Lobos Cay, as its range would hardly guard against the Lavanderas, at twelve miles, and certainly not against the Tributarios de la Minerva, at thirty-four miles distance.

Of course if a good light could be placed and maintained at this Point, it would be great advantage; but even at the best a floating light is open to objections, and I think the clearing of this Point had better be left to the Maternillos Light, for in thick weather, when unable to see that, it is quite evident vessels should not venture near Diamond Point, with only a floating light for its guard, which would scarcely show beyond from six to eight miles.

I therefore do not recommend placing a lightvessel at Diamond Point, as its use would not be equivalent to the expense and trouble of maintenance; lightvessels, also, are at all times liable to accidents.

LOBOS CAY.—It will be then positively necessary to place a light on Lobos Cay; and after considering the subject attentively, I have come to the conclusion that a tower, 120 feet high, would answer the purpose, that is, if engineers could not guarantee raising one of greater elevation (which is to be desired if possible), in order to lessen the distance between the extreme range of it and Maternillos, forty-eight miles apart.

An elevation of 120 feet would show at  $12\frac{1}{2}$  miles from the water, and at 20 miles from an elevation of 50 feet (considering terrestrial

refraction  $\frac{1}{2}$ ) leaving but five and a half miles between its extreme range and that of Maternillos.

Lobos Cay is, as far as I can judge, of coral, sand, shells, and other marine productions, heaped together by the wind and tides. There is a little hardened crust on the same level with the reef, but not sufficient for a foundation; when this is broken through the same material presents itself, sand and shells, and the salt water flows freely through, proving the Cay to be loose throughout.

Mr. Anderson, C.E., in charge of naval works at Bermuda, has, I understand, bored to 26 feet in the same material without reaching rock. It is possible rock may be met with farther down; but the Cay stands in so suspicious a place that sand may be unlimited in depth.

It will then be necessary to try either a greater depth of boring, or to drive a few experimental piles to ascertain the amount of weight they will bear per foot; and, although no engineer, I do not think it will be necessary to drive more than 30 feet to sustain the necessary structure without solid foundation.

Hard wood piles can be obtained in Cuba of the best material. The mangrove is an excellent wood for withstanding the ravages of the *teredo navalis*, or other marine borer, and it is much used in wharves, &c.; piles coppered and imbedded in sand would last an indefinite time; other hard and durable woods can also be obtained. Perhaps iron screw tubular piles, filled with concrete, would be effectual; as a stone pillar would be left when the iron was destroyed by oxidation. But this is a question for practical engineers.

Although Lobos Cay is in its component parts quite loose, I apprehend no danger to a building erected on it from that circumstance, as it is evidently increasing and gradually hardening throughout. This process might also be assisted by the residents on the Cay gradually forming small breakwaters, and causing it to extend itself; it is without doubt progressive.

The tower, I think, should be of iron, and as light as possible consistently with strength and durability.

The light should be of the first class, of the very best construction, revolving, or intermittent, at half minute intervals. And I may add that I consider the brilliancy of a light in most cases as of greater consequence than the actual height above the level of the sea.

The light-keepers should have a residence detached from the light, as the inducement to sleep will not then be so great, nor will their families be so able to meddle with the light apparatus; which should be considered sacred to all except the two keepers or a visitor on duty.

Strict injunctions should be given that both keepers do not leave the Cay at the same time for the purpose of fishing, as it is quite possible they might be blown away, and the result would be probably the loss of several ships, as their wives or families in such case would probably be in too frantic a state to light the lamps.

The light-keepers should be properly supplied, and the begging system, which has been carried on in the Bahamas, put a stop to, on pain of dismissal; for vessels have not unfrequently been detained in consequence of a light-keeper having made signals to passing ships.

There is no fresh water on the Cay, therefore tanks will have to be built; and these should be of sufficient extent to last six months or more, as occasionally the drought lasts for a long time, and this would form a good excuse for signaling vessels. Precautions should be taken against the water becoming salt in gales of winds, as much spray would fly about: this could be managed by a waste pipe to the catch, and stop-plug to the tank.

As there is grass on the Cay, and the soil would in a short time work into garden ground, the space should be so divided that the industry of one keeper be not demolished by the other.

PAREDON GRANDE comes next in order on the Cuba side. A light-house here is in progress on its north-west point, in lat.  $22^{\circ} 29' N.$ , long.  $78^{\circ} 10' 5'' W.$ , to be 170 ft. in elevation, and the light to be visible at fifteen miles from the level of the water, and twenty-three miles from an elevation of 50 feet.

I have lately visited this place to fix its position with regard to Guincho and Lobos Cays, and find that the workmen have the foundations laid out, and are working at the quarry for stone. The base is to be of masonry and the superstructure of iron. The Spaniards have the upper part (100 feet) of their iron towers all made after one model, and they increase on that as required either with a stone base or more iron work. This method has an obvious advantage from its uniformity.

GUINCHO CAY.—A light on Guincho,\* or, as corrupted, Ginger Cay, as recommended by the former Spanish authorities, and entirely ignored by the present, would be no doubt of some use, but is not positively requisite. As such a light has been recommended in more than one instance, it may be as well to consider all the possible circumstances in which this light would be of any value.

1. Supposing the Cay will bear a light-tower of 170 feet, (which is doubtful,) it will then guard eight miles more of the Bahama Bank than a light on the Paredon Grande; but that part of the Bank is quite clear, and may be entered by most vessels, and in the event of their making it before seeing the Paredon Grande Light, it is quite evident what course they should pursue.

2. No danger need be apprehended from the bar west of Guincho Cay, as a vessel must have been some time on the Bank before reaching this, and ought to know it; beside the Paredon Grande Light will be visible from an elevation of 50 feet.

3. Leaving Lobos at extreme range, with Paredon Grande visible to the left, it will scarcely be possible to go near Guincho Cay so as to have any chance of striking it.

4. Either of the two lights, Lobos or Paredon, will always point out the position when between them, as their limits overlap. And in the event of a N.W. gale coming on, vessels would have the option of entering on the Bank between Guincho and Lobos Cays, and anchoring, which can be done with certainty, as the above two lights command the whole edge between those two cays.

\* Guincho is Spanish for Sea-gull.

5. I therefore submit that the expense of a light on Guincho Cay is not warranted by its usefulness, and recommend one on Anguila in lieu of it.

6. But as vessels leaving the immediate neighbourhood of Guincho Cay in the daytime will not be able to get so correct a position as they would if able to take a bearing of that Cay at some distance, I recommend a rough stone tower of sixty feet, and of good horizontal dimensions, to assist for this purpose, and also to point out the position of the Cay at all times. This would be of trifling expense, as the stone and lime can be procured on the Cay. And here I may mention that the Spaniards consider the towers will almost be as much use by day as the lights by night, for the cays are very low and not distinguishable. The tower should be stained black or striped black and white in horizontal bands, as there is no background.

There would be no difficulty in erecting such a work as a beacon with some of the crew of the *Scorpion* (with the addition of a few masons and the requisite tools), during such time as she might be employed in surveying other portions of the coast of Cuba, and, on receiving the proper authority, I should readily undertake it.

ANGUILA.—A light on the S.E. point of Anguila is much required for several distinct purposes. After leaving the Paredon Grande Light, vessels should incline more on the Cay Sal side than the other, and on some occasions it will be necessary to make the Cay Sal Bank; but for sailing vessels in light winds it will be difficult to determine whether the current is setting into the Santaren Channel or coming from it, and this will often be fifteen miles or more in the night—half the width of the channel. It has been known for vessels thus set to get upon the outside (N.E. part) of Anguila on the supposition that they were running the channel fairly; and on other occasions to be set so far south as to be in great danger from the Cuba Cays and Reefs, particularly about Cayo Medano. On this latter cay the Spanish Government has some idea of placing a light, and this would partly supersede the necessity of one on Anguila, but not altogether; and in such a case it is submitted whether the English should not take the initiative.

Anguila Light would also be of great use to the few sailing vessels navigating the channel to the eastward, and also to steamers, as a proper departure from it at the extreme range would ensure making the Paredon Grande with precision; and as vessels of very heavy draught will not be able to enter the Bahama Bank it will assist them to keep their position if caught in a N.W. gale in that vicinity. Again, for the American trade this light would be of much use, for vessels are often subjected to a west wind when between the Cay Sal Bank and the Beminis. In the event of a light being placed on Anguila, these vessels would be able to proceed down the Santaren Channel and remain close to the light, ready to proceed down the Nicolas Channel as the wind turned to the north, which it is sure to do in this quarter.

It will only be necessary to inspect the chart and observe the pro-

minent position occupied by Anguila,—at the entrance or termination of two navigable channels to be satisfied of the utility of a light in this position; and, on the whole, for the safety and convenience of British ships, it is of far more importance than one on the Great Isaac, which I understand from Sir A. Bannerman, Governor of Nassau, is shortly to be erected.

**DOUBLE HEADED SHOT or ELBOW CAY LIGHT.**—The insufficiency of elevation and power of this light is a subject that my attention has often been directed to, not only from the reports of others but from my own observations. This light, which stands at the turning and most dangerous part of that channel through which the greatest trade of the West Indies must pass, is in reality little better than a lantern. On two occasions lately we have been within a few miles and have not been able to see it. One morning, at daylight, being hove to in expectation of making it, we found ourselves close upon the tower (seven miles off), the light not having been seen at all.

The elevation of the site and firmness of the foundation would warrant a tower of 150 feet in height being built; which, if furnished with a first class flashing light, would be seen well over the channel and give more certainty to the navigation of it. Many vessels now pass without seeing the light, although within its range.

A high tower is also required here for day bearings, as it is difficult to establish a ship's exact position on account of the strength of the stream; the difference this motion produces in the latitude having its corresponding effect in the determinations for longitude, and these matters being generally overlooked by ordinary navigators.

An improvement of the Double Headed Shot Cay Light would guard vessels from Cay Sal, as it would be seen well beyond that Cay and over it, and would preclude the necessity of having a light on Cay Sal for the navigation of the Nicolas Channel.

To show the effect of placing a bad light at any place, I may mention that two vessels have been lately wrecked within range of Piedra Cay Light, on the coast of Cuba, one at eight and the other at six miles from its position, in consequence of its not being much better than a lantern; and this, as it is, is superior to the Double Headed Shot Cay Light. I had an opportunity of seeing these vessels in going to the Havana, and can state this as a fact within my own knowledge.

**GUN CAY LIGHT.**—The same may be said of the Gun Cay Light, only eighty feet in elevation, with a good base for building, and the light also very faint (third class). Vessels passing up the Florida Channel seldom see this light at all. It should be 150 feet high at least, to show to the centre of the channel and guard more of the bank to the south, and of sufficient brilliancy to be seen at the extreme range from the mast-head, twenty-two miles or more.

**GREAT ISAAC.**—The light which is about to be placed on the Great Isaac will be a vast benefit to the American trade, but scarcely any to that of England, for it is rare that a British vessel passes that way, with the exception of a few Nova Scotia schooners with fish, &c., for the Havana market.

ABACO LIGHT is the best in the Bahamas, and can be seen at its proper distance. It is, however, chiefly of benefit to the American trade, except in so far as it shows the entrance to the Island of New Providence, and also for vessels leaving thence for America or Europe.

NASSAU LIGHT is a positive disgrace to the port; it sometimes cannot be seen four miles off. I took an opportunity of visiting it, and found it to consist of five simple lamps, with tin reflectors, and the windows of very small panes, to counteract the light, and of course no two reflectors having the same focus; it is about equal to a ship's signal lantern.

Fixed lights are seldom to be seen at their extreme range if of any elevation, and even very far within it if the weather is hazy. All lights should, if practicable, be revolving, intermittent, or flashing, at different intervals.

Brilliancy of the light is, as I have already said, of more consequence than elevation of the towers, although both in conjunction render them perfect of their kind; for a very high tower with a bad light may be said to be work thrown away and tends to deceive, for it must be perplexing to the mariner to have a light marked on the chart that from the mast-head should be seen twenty-four miles and find on trial that it cannot be seen beyond half that distance.

Fixed lights do not bear any comparison in usefulness with revolving or intermittent lights, particularly in misty weather. Such a light, also, is more certain to be recognised, and not mistaken for a ship's light or for a fire on shore, and, unless where the lights on a coast are very frequent, they might, I think, more generally be used.

One reason that the Bahama lights burn so badly is on account of a false economy in the quality of the oil. I have made inquiries and find that bad rape reed oil is now supplied in the Bahamas, which is of a thick cloggy nature, and, as the light-keepers inform me, not adapted for the purpose. It should be either pure rape seed, sperm, or clarified olive. The Spaniards use the last.

It is unpardonable in those whose duty it is to supply proper oil that by their neglect the lives of our sailors should be endangered and vessels should incur the risk of shipwreck.

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#### OUR BRITISH SHIPMASTERS.

Sir,—The remarks of your correspondent "North," in your present number for May, on "Our British Shipmasters," is very severe, and it is well that he admits that the same remarks apply to men in every walk of life.—And why? Because the good old English principle of "Live and let live," has come to be all but universally disregarded! Labour, mental or physical, must now be bought in the cheapest market. I cannot, however, agree with "North" that shipowners could not, if they pleased, have a little more discrimination in the

selection of Commanders for their ships. One thing is certain. All professions which are lucrative are sure to be sought after by men of standing in the social scale, men of education; and I do not believe that the satire of the novelist would make much impression on a class of men from whom I continually hear "that they cannot afford to take in the useful periodicals which are published for their exclusive information and benefit."

In a former letter to you on this subject, I endeavoured to prove the cause of this evil to be that the officers in charge of our enormous national property upon the seas have not a sufficient interest in its preservation. If "North" is a shipowner the remedy (as far as his own immediate interest is concerned) lies with himself. If owners and underwriters will but offer to deserving and energetic men a handsome remuneration for their services—and why should there not be a premium on the policies to reward the successful and skilful navigator?—there is no fear whatever but the tone and character of our mercantile marine will improve in a corresponding ratio. Reference may be made to your February number of this year, page 99, in proof of this.

North is right as to the great bulk of our mercantile marine, and if it is not lifted in the social scale it cannot fail to prove a source of disaster to a maritime power like our own. I hear continually the aspirations of the young in the desire to go to sea, and the ready reply of parents or guardians, "My dear boy you had better be a tinker," meaning as regards emoluments, which after all are the life blood of enterprise and respectability. For, as a wise King of Prussia once said,

"Love by hope is still sustained  
And zeal by the reward that's gained!"

It is worse than useless to be invidious upon a class of men whose position in life hardly gives them a superiority of means above the status of a common labourer, certainly not equal to that of many clever mechanics in connection with their own especial profession; men who by industry and care have a chance of getting into business for themselves. Not so the generality of shipmasters now a days. They indeed have little chance of getting a ship of their own, and I am grieved to see such a sentence as the following upon this depressing subject, "A cabman driving through London streets requires as much (or more) skill and nerve as a shipmaster." Has North read Falconer's description of the commander of his day, 1755. And are we to be thus compared after a century of boasted improvements,—official examinations, and all the et-ceteras?

"Brave, liberal, just!  
Him science taught by mystic lore to trace  
The planets wheeling in eternal race.

\* \* \* \* \*  
Inured to peril, with unconquered soul,  
The chief beheld tempestuous oceans roll;  
His genius, ever for the event prepared,  
Rose with the storm, and all its spirit shared."



Have we any reason to doubt the veracity of the poet when he says of Albert,

“ Abroad, confessed the father of his crew.”

And shall we not blush for the treatment North gives us of the chief officer of a ship of 1,000 tons, in which he was a passenger? I believe it to be too generally the case from my own observation of ships in this harbour of refuge.—But is it not all of a piece? Is it not part and parcel of the levelling system? In the olden time, the Master was an honoured guest at his owner's table, and the Mate remained in the service an aspirant for the same honour in due course. At sea he was the Commander's right hand, and Captain Closereef (as described by his passenger) must have been a singular being to deny himself the pleasing and satisfactory association of a community of skill in keeping his ship's reckoning with those of his officers, who, if they required improvement, it was no less his duty than his interest to impart it to them. But he had no faith, it seems, in lunars! “Tell it not in Gath?” If these are England's thousand ton ships we may indeed exclaim, “How are the mighty fallen!”

It is becoming a serious question, and something should be done. I have very recently stood upon these piers and seen a fine vessel, in company with others, in a fair sunny clear day, running through the Gull Stream with a fair gale, drop, drop, drop to leeward with a beam tide till she went ashore upon the shoal, and was immediately abandoned by her officers and crew. I have seen, when daylight succeeded to a fine night (during which the lights were visible from my bedroom window), vessels hard and fast upon the off side of the Goodwin from similar causes of sheer carelessness and neglect. And there is now a heavy case of salvage in hand where, in a full moonlight night, with every light-vessel beaming on her ocean path, a ship was run on shore upon the Goodwin through some unaccountable mistake of the officer in charge of the deck!

Let us then all do what we can to lessen these evils. If you will give the space in your next number, I will address a few cautions to my brother mariners as to the tides in the immediate locality of our dangerous shoals.

I have the honour, &c.,

K. B. MARTIN,

Harbour-Master, Ramsgate.

To the Editor of the *Nautical Magazine*.

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WESTERN AFRICA: ITS COAST, RESOURCES, AND TRADE.—By  
*Thomas Miller, Commander H.M.S. "Crane."*

The Southern Division of the West African Station lies between Zanga Tanga, in  $0^{\circ} 27' S.$ , and  $15^{\circ} 24' S.$ , comprising a distance of about 1,000 miles.

The probable difficulties for a Senior Officer to surmount at present will arise from discussions relative to the right of sovereignty. The Portuguese possessions at present recognized extend from  $8^{\circ}$  to  $18^{\circ} S.$ , and yet they would claim Ambriz, Congo, Kabenda, and Malemba. That State, however, has never established any functionary at those places, nor as yet attempted to use its presumed rights. Since the arrival of the present Governor-General, every inclination has been shown that  $5^{\circ} 12' S.$  is considered the limit of their territory. It is clear that such claims cannot be recognized under the pretence of a reservation of rights, for the Conventions of 1815 and 1817 show all that is necessary on this matter.

*Seasons, Land and Sea Breezes.*—I should consider from May to November to be the fine season. During this period, particularly from the middle of June till early in October, beautiful bracing weather prevails, without rain, although at times heavy dews, especially in July, are found; and when these dews are very heavy the land and sea breezes are invariably light—sometimes very much so; consequently making a passage along the coast is tedious work. The direction of the sea breeze is not to be depended on, as it may blow one day from the S.S.W. or S.S.E., and the next from West or W.N.W.

The hot season commences in November and lasts till the end of April. This is the sickly and rainy season. There is most rain during February and March, but, strange to say, south of St. Philip's Bonnet, Benguela, rain seldom falls, and frequently a season passes without any. Hazy weather, similar to the smokes in the Bights, prevails in January, February, and March; during which it is difficult to keep position.

The sea breeze is uncertain at all times, coming one day early, before noon, and on another late in the afternoon. I find the earlier it sets in the longer it will last, though frequently when setting in late it makes amends by blowing very fresh; and it may happen at times that a late sea breeze may last till 11h. p.m., whereas the sea breeze in general seldom blows after sunset. As regards the land breeze, I have invariably found the earlier it comes in the morning the fresher it will blow, and if it is met before 4h. a.m., good progress may be reckoned on. It sometimes does not come till 7h. or 8h. a.m., when it rarely lasts. It is in general light and sometimes verges into the sea breeze; the latter drawing gradually round as it freshens. During the prevalence of the thick weather and dews, the land breeze is lighter than at other times; and with the latter it is frequently little more than the cold air arising from the land as the sun ascends, which causes a cold air from the shore, but it extends to a very short distance.

*Currents.*—As a general rule, the current runs to the northward, though there are times, for three or four consecutive days, when an equally strong set to the southward is experienced; and this change is generally attended by a total cessation, for some twenty-four or thirty-six hours of any current whatever. Doubtless the atmospheric force of wind, the latter being much affected by the former, both influence the currents.

That of the Great Zaire, or River Congo, is so well known that little can be added that is novel. It runs rapidly to the N.W. for more than 200 miles, and its influence is felt considerably further. Still, rapid and powerful though it be, it may not be generally known that the Congo stream is of no great width or extent coastwise. In approaching it from the southward, the vessel enters it as it were in a moment, and, if able to stem it and not forced to seaward, the instantaneous check is as quickly felt on going out of it. I would define the Congo Stream as extending coastwise to Red Point, a distance of eighteen miles; and it always sets very strongly on the Mona Magia Bank. Vessels are frequently several days passing the Congo when going south, and at times it is done easily in a day. I left Kabenda, thirty miles from the Congo, at a.m. on 14th July, and anchored clear of and to the southward of Point Padron at 10h. p.m.; also, on 25th September, Kabenda in view, I passed the Congo during the night. Such passages are, however, very rare indeed.

Mona Magia Bank is extremely dangerous and should not be approached, even by small vessels, in less than five fathoms. It is extending further out to seaward and much requires resurveying. While passing along its edge, steering a course indicating four fathoms, we all at once struck a quarter less three, and had to haul out some distance. This happened on 21st October. I am very much inclined to prefer keeping in shore to going out to sea, for passing the Congo, unless bound to a place at least 150 miles south of Padron.

During all September, till the 28th, we experienced a very strong northerly set; when all at once it changed to the southward and continued so, equally strong, till the 3rd of October. The winds previously had been very light, but with this change came on strong land and sea breezes. The surf on shore, and, consequently, the landing is always very good during these changes, however strong the breezes.

On the 26th of September, while at anchor some five or six miles south of Padron, I found the current had set twenty-seven miles E.S.E. in forty-one hours; which is a most extraordinary circumstance, well worth being recorded, as no one out here has ever seen the same occur, and I only witnessed it on this solitary occasion. For so extraordinary a deviation I am quite at a loss to account, for I feel certain no coast of Africa cruiser would credit the same were he told that the Congo current had set to the eastward and northward.

On the 3rd of December, going south from Loango, we were set thirty-two, and on the 4th, thirty-six miles to the N.W., while next day, on passage between Kakongo and Kabenda, we had no current whatever, maintaining about a like distance from the shore.

*Rivers, Watering, &c.*—To the southward of St. Paul de Loando, there are the Coanza, Quicombo, Logito, Catambella, and Little Fish Bay; to the northward you have the Bengo, Dande, Onza, Ambriz, Ambrizette, Congo, Kabenda, Kacongo, Louisa Loango, Killoo, Kil-longo, and the Nazareth.

Quicombo has no entrance over sea bar for boats, but canoes may be got over at high water. I do not know how far this river goes inland, but from the highest hills I have seen it wending its course, and have been some few miles up in the gig. The water is shallow, with some deep pools, and by no means bad.

This precious article is plentiful, and at Logito, Malembo, and Loango uncommonly good. The Bango supplies Loanda with water, and a considerable trade is made by means of water boats occasionally. For two or three consecutive days supplies may be stopped on account of the boats not being able to cross the bar. At the entrance, it is not always very good, particularly after heavy rain, when it assumes a muddy colour and requires settling. I have passed close in to the Coanza, where there is a passage for boats, but with a dangerous bar. I have been up the Logito River in boats, but as there is generally a good surf off the mouth, a smooth must be watched for, if intending to enter; though for watering, a vessel may do so at any time by merely sending her boat with Kroomen, who anchor her off the entrance and warp the casks off. I consider the water of this river the best on the whole line of coast.

Catambella is navigable for boats, and supplies Lobito, Benguela, and all the surrounding country. It is much inferior to the water of Logito, being full of vegetable matter. Dande has a free passage for boats, and small schooners go up a short distance. The rivers at Ambriz, Ambrizette, and Kabenda are of no note, having no passage across the sea bar for boats.

Water should never be procured at Kabenda, as it is very bad, turning black and fetid after being a few days on board. I have been fourteen miles up the Congo for water, and could have gone much further; but owing to the strong N.N.W. current it freshens at its very entrance, consequently nothing is gained, but health may be very much impaired by going any further off. Medora Creek is the usual place; I watered about two miles further up, and the higher up the better the water. There is beautiful water to be procured at Malemba, twelve miles to the northward of Kabenda; it is found by digging a few feet a short distance from the beach, and also from the drippings of the sundry rivulets coming down from the high lands. Kaconga is very wide at its entrance, and seems of considerable extent, but shallow; and except after very heavy rain, the sea entrance is completely blocked up by a very wide continuation of the beach. The scenery about here and Malemba is extremely lovely, far surpassing any other part of this line of coast. I should say this river was a quarter of a mile wide at its mouth. I frequently pass the Louisa. Loango, Killoo, and Kilonga; but they are of no note. I know nothing of the Naza-

reth except by report. There is no river nor any signs of one at Two Tree Point.

The water at Loango is very good; but to obtain it is tedious, as there being no river here, we have to await the process of dripping close to a rock, under which is sunk a large barrel to catch it. A cask may be rolled on shore and floated back to the boat. There is very good water to be had at Little Fish Bay.

To enter the Congo, anchor a small boat in 5 or 4½ fathoms, right off Sharks Point, and setting every stich of sail, pass as close outside the boat as possible. The sea-breeze is always fair for entering the river, and if fresh there can be no difficulty; but if not so, no sailing vessel has any business to attempt going up. On clearing Sharks Point, keep well over on the southern shore, as the current sets strong towards the Boolumbella side; the current will be found strongest when just off the Point, and even with a fresh breeze she may steer rather wild; but so long as the current is kept from taking the vessel on the port bow, which under commanding sail is simple, there is no difficulty. Should the current by any chance, such as the wind suddenly changing or falling calm do so, the vessel must go on shore.

*Provisions, Stock, &c.*—can be procured at any inhabited parts of the coast. Pigs, sheep, goats, fowls, and ducks form the principal. At the Congo, Kabenda, Malemba, and Loango, empty bottles will purchase the poultry, fruit, &c.; and by procuring a little of the common trading cloth, you can save your coin, and purchase the rest at a ridiculously cheap rate. At Loanda and Benguela money alone is taken. Beef, i. e., living cattle, are to be procured at Ambriz, Loanda, Benguela, and Quicombo. The beef at the latter place being very much the best. Vegetables, such as onions and pumpkins, are moderately plentiful; any others can only be had in small quantities. Yams seem to be little cultivated, and potatoes are imported from Portugal and England. At Quicombo, Logito, Annah, and Old Benguela Head, vegetables are too scarce for barter. Ambrizette is the cheapest place for stock, where you pay in lieu of bottles.

*Slave Trade.*—The illicit traffic in slaves has been during my time of command of this division almost exclusively carried on in American bottoms, the flag of the United States seems to have taken the place of the Sardinian; and so long as we have not even the right of visit, unless a strong American force is maintained, they may push a very profitable trade and laugh at us. I am, however, glad to say, that an American Consul was appointed for Angola, at Loando, on the 12th November last, so that if an Officer in command has good grounds for suspicion, and does not fear responsibility, he may venture more than he could before. I never fell in with a U.S. cruiser from March to November. I then met the American Commodore off Kacongo, in the *Constitution*, and afforded him considerable information concerning those Yankee topsail schooners. In consequence the *Gambriel*, that I had been long watching and repeatedly boarded, (the last time just as he hove in sight,) was taken by him a few days after off the Congo.

The *Sarah Hope*, however, got away with 600; and the barque *Republic* with, I believe, 700, and no doubt others, all covered by the *Flag of Liberty*. They are perfectly aware that we have no power over them; and so long as we do not find them full, they have no occasion to heed us. Their schooners are very swift, and sail within four points of the wind.

I believe the Portuguese Government at present established at Angola to be thoroughly honest in its endeavours to suppress the slave trade; and since I have been Senior Officer, I have observed with considerable pleasure a marked difference for the better in the vigilance of the Portuguese cruisers. A Portuguese brig, as also another vessel, is reported as having shipped a little to the southward of Benguela and made their escape. The former we know to be a fact. The Benguela Government having no cruiser at hand, sent troops; but their presence did not prevent the embarkation, probably owing to their being too late. This shipment took place on the third, and under the Portuguese flag. I immediately proceeded to Benguela, to concert measures with the Governor.

We should never have less than seven vessels on this part of the station, or five if all steamers; and of those two should be off the Congo, one taking the north side to Kabenda: the other from Sharks Point to twenty miles south; two between Kabenda and Cape Lopez, and one from Old Benguela south. The Portuguese keep a strict guard over Ambriz, so an occasional look into Ambrizette by the southern Congo steamer, would be sufficient. I am certain slaving is a dead letter at Ambriz, and would recommend the Senior Officer's rendezvous in future being off Loango.

Boats are safe to be detached from April to December; and with active Officers may do much. A fortnight is not too long to keep a boat away; I frequently kept mine more, and the crew were well pleased.

Zanga Tanga is a noted slave station, the Spaniards being the chief agents concerned. Up the Gaboon a brisk traffic in slaves was formerly carried on, and indeed could be still, for the French, to whom it pertains, appear not vigilant, and a slave ship might enter in open day, get her cargo, and sail out again unmolested.

At Loango the slave trade is carried on. The natives of this part are a turbulent set, continually making palavers with the traders; but are intelligent, though very superstitious. Kabenda was formerly a great point for the purchase and shipment of slaves; but is now deserted by the dealers, and the first symptoms of illegitimate trade springing up are exhibiting themselves.

The Congo is a chief point on the south coast whence the trade in slaves is carried on. Between Point Padron and Ambrizette are two or three points of embarkation for slaves. At the latter place the river is said to communicate with the Congo, by which slaves are conveyed thither for shipment. All these places, together with Ambriz, are subject to the King of Congo, who resides in the interior, at St. Salvador.

Ambriz was formerly one of the chief shipping places for slaves; but though numbers are still purchased there, I have the authority of an English merchant, long resident there, for stating, that two shipments only have taken place during the last four years. The Portuguese, though engaged in legal traffic, do not omit availing themselves of opportunities to embark in the other. Mazulah is the next shipping place; and from Dande I believe embarkations have taken place to the south of Loando; since the *Water Witch's* capture off Quicombo, a year ago, I have not heard of any slaving taking place between Loando and Benguela. To the south of Benguela the slave trade is recommenced, and the Benguela Government is too weak to prevent it, so much so, that just round the Bonnet, within a few miles of the roadstead, is one of the slavers' favourite haunts for shipping. The Salinas, Elephants Bay, Little Fish Bay, &c., afford better facilities for the shipping of slaves; but the paucity of the population is so great, that I feel certain few shipments, if any at all, ever take place south of Elephant Bay.

*Legitimate Trade.*—At the Gaboon River the natives have considerable commerce with the English, and occasionally an American vessel will call in. The exports are ivory and beeswax. The imports Manchester goods and a general cargo. The natives are mild, and advanced in civilization. Cannua has some legitimate trade; but the natives are very fierce, and reported to be cannibals. Mesette and Mayumba are the next trading points; but insignificant in amount. Kilongo is famous for its dye-wood, and more recently for its white gum. Loango possesses a small trade in ivory. Between Kabenda and the Congo, there is a small trade in palm oil, and orchilla weed and also at Mona Mazea; the trade in these two articles and white gum is extensive. Between Padron and Ambrizette there has recently been purchased a considerable quantity of yellow gum. At Ambrizette a very extensive trade in copper ore is carried on. There is likewise ebony of good quality; but at present it cannot be purchased at remunerating prices. The lawful shipments on the south division are very extensive, that of ivory extending probably to fifty tons per annum; yellow gum three times that amount; besides palm oil, white gum, copper ore, orchilla weed, wax, a small quantity of castor oil, india-rubber, red pepper, ginger, coffee and pea nuts are likewise exported largely: and there is no question that the number of articles of export might be largely increased. There are two English, two American, and ten Portuguese factories.

(To be continued.)

REPORT from Commander Nolloth, of H.M.S. "*Frolic*," to Commodore Trotter, on his Examination of the Namaqualand Coast, south of the Orange River.\*

H.M.S. *Frolic*, Table Bay, Cape of Good Hope,  
2nd January, 1855.

Sir,—I have the honour to inform you of the arrival of H.M.S. *Frolic* under my command in Table Bay, having, in pursuance of your orders of the 27th October, 1854, made such examination of various parts of the Namaqualand coast as time and opportunity have permitted.

In obedience to your instructions, I left this port on the 1st November, 1854, and proceeded to the northward. At noon, the following day, we sighted Roodewal Bay, which, from the deck, presented the appearance of a steep reddish cliff, beaten heavily by the sea; from aloft a moderately smooth space of water could be seen between the shore and a line of breakers, running parallel with it. As the pilots considered the bar impassable, we continued our way to the northward, and, in the evening, anchored in 9 fathoms, about half a mile from the entrance of Hondeklip Bay.

HONDEKLIP.—The wind had moderated, and there was but little swell on the bar, which could have been easily worked by cargo boats. Having landed with Mr. Pearce, master's assistant, and the whaler's crew, a building was kindly placed at our disposal by Mr. Grace, a resident, and the brig put to sea.

The accompanying survey of Hondeklip will convey an idea of the nature of this place; but a few remarks may be required.

Two small craft, drawing about 7 feet, were within the bar, and I have been informed that as many as six have anchored there at one time; but it appeared to me that, generally, three would be enough for the capacity of the place, and that, in heavy weather, even they would incur considerable risk of dashing each other in pieces. It is open to the N.W.; the reef, which leaves but a narrow entrance, diminishes considerably the force of the sea, especially at low water, when parts of it are left dry: at the bottom of the bay is a clean hard sandy beach, of about 400 yards; the best landing place is to the southward, where considerable protection is received from the rocks on that side, but, in moderate weather, the whole extent could, with proper appliances, be worked, if necessary. It appeared to me that when the bar could not be passed, vessels inside might frequently be loaded. Both sides of the bay are rocky, especially the northern, which is quite unavailable.

The lead generally showed sand, both in the bay and at the outer anchorage, but (from the irregularity of the soundings, and the nature of the shore,) it is to be feared that the latter has but a thin layer here and there over a rocky bottom. The *Frolic* anchored in 9 fathoms, sand; but her buoy-rope was cut through, and the anchor had been

\* Surveys not yet arrived.



chafed by a rock. The best anchorage, outside, appears to be abreast of the entrance. To the southward there is a spot over which, I was informed, the rollers sometimes set very heavily,—a vessel was in imminent danger from having incautiously anchored close to it; it is an uneven, rocky patch. The outer anchorage is quite an open roadstead.

While at Hondeklip, we experienced several of the thick fogs which are common on this part of the coast, and to the northward, in this season of the year, especially in the early part of the day; but owing to the shortness of the bar, and of its distance from the outer anchorage, they occasioned little obstruction to the loading of a vessel outside, the winds, generally from the southward, being very light at the time.

Hondeklip Bay is easy of access with the prevailing winds, and generally in moderate weather, unless the wind should be from the westward, which, I believe, is seldom the case; and under these circumstances small vessels find little difficulty in putting to sea, by hauling out to and making sail from the weather-point, or by sailing out early with the light land wind, which frequently blows in the morning.

The bar was smooth enough to be worked by cargo boats at all times during our seven days' stay, excepting on one forenoon, with a light wind from the westward; it had been previously blowing strong from S.S.W. and S.S.E., when the bar was smooth; with a moderately strong breeze from the N.N.E. it was perfectly smooth.

The limited capacity of the inner anchorage, and the nature of the outer one, which is quite an open roadstead, with indifferent holding-ground, and the exposure of both to the rollers and to the heavy westerly winds, which blow sometimes on the coast, seem to preclude the idea of Hondeklip being a very safe or a very important port of shipment; but the frequency, especially in summer, with which advantage can be taken of the facilities afforded by the shortness of the bar in ordinary weather, by the moderate distance of the outer anchorage, by the goodness of the beach on which boats may be hauled up beyond the reach of the heaviest weather, and by other circumstances, is much in its favour.

There is no fresh water at Hondeklip; that required by the few persons residing there, excepting a small quantity preserved during the rains, is brought from Cape Town. The brackish Swartlintjes River is used for cattle.

The latitude of the Dogstone at Hondeklip is  $30^{\circ} 20' S.$ , and its longitude  $17^{\circ} 19' E.$

On the 10th November, I returned to the brig, and proceeded to the northward, and on the following day we stood in for Robbe Bay, and examined several spots; but the fog, which came on at intervals during the day, at length obliged us to haul off, without any part having been recognised by the pilots. In the morning a partial clearance enabled us to see the land again; and at noon, a good observation of the sun having been obtained, we ran along the coast, hauling out occasionally as the fog thickened, until we saw the wheelruts of a wagon on a sand hillock near the shore; shortly afterwards we observed a small wooden building, which marks the south extreme of M'Dougall Harbour,

nearly abreast of which we anchored,—the pilots supposing it to be Robbe Bay: and we landed after crossing a tolerably smooth bar.

**M'DOUGALL HARBOUR.**—The south end of M'Dougall Harbour is completely sheltered by a broad and in parts high reef, and we found it almost without a ripple when a heavy surf was breaking outside; but it can only be considered a dock, in which a small number of boats may lie in safety at all times in 4 feet at low water spring tides. There is a small basin of deeper water and sandy bottom near the north end of an islet, which forms part of the reef, it which it appears that one or two small vessels might, in the summer season, generally lie in safety, and which, at no time during our stay, was much affected by winds from the southward. Such a place seemed scarcely worthy of further notice, after a few soundings had shown its shallowness; but as we were prevented, for some days by the weather, especially by fogs, from leaving it in search of the entrance of Robbe Bay, a plan was made of it. It appears to be often spoken of at Cape Town as Robbe Bay. On a coast where a vessel or boat may run many miles after missing a bar without effecting a landing, any opening to even partial shelter may be important, and being close to Robbe Bay, this small place may be hereafter turned to useful purposes: it has a sandy beach on which boats (perhaps small vessels at high water) might be hauled up for repairs, &c.; and the water is so smooth that a vessel might take the ground at low water without injury. A blunt pole was thrust nearly a foot into the sand, in several places. There is a well of slightly brackish water on the beach near the house; it was cleared out and it filled again in less than half an hour; two others were dug near it, and we got the same kind of water at the same depth—7 feet above the level of low water spring tides.

The few soundings which could be taken outside, did not show greater evenness than that at Hondeklip; the brig had considerable difficulty in waying after anchoring off the bar, the coir-cable having got foul of a rock.

While we were here, Mr. Bell, Surveyor-General, and Mr. Jencken, a gentleman connected with mining operations, arrived from the interior. Before their departure they were so considerate as to leave with us a native, who, in the event of the state of the bar, or the fogs, preventing communication with the brig, could procure some supplies from a Hottentot "lay-place," or, if necessary, proceed to Spectacle, which is 70 miles distant. Occasionally the atmosphere was so thick that the water could scarcely be seen from our tents on the beach.

**ROBBE BAY.**—On the 18th November we removed to Robbe Bay, the north point of which is about two and three quarter miles from the south extreme of M'Dougall Harbour.

It affords excellent anchorage for a number of vessels of light draught, on the south side, which is exceedingly well sheltered by a reef, dry in parts at low water, and by Robbe Islet, and which I consider must be quite safe in any weather whatsoever. It would require a longer acquaintance with the bay than I possess to enable me to offer an opinion as to how far the northern and deeper parts of it could

be generally used by small vessels with safety, if moorings were laid down; but during the eight days we spent there, although a heavy surf frequently broke outside, and the *Frolic* was on one occasion under close-reefed topsails, no heavy sea came in far beyond the reef, on which, and at the entrance, where no rocks directly opposed it, it seemed to exhaust its force.

The entrance was, with the exception of one whole day, and occasional short intervals, workable throughout the above period; it is sufficiently wide to allow vessels to enter or leave without difficulty in moderate weather; and although better shelter would have been afforded to the space opposite, by a narrower opening, the breadth of the channel often serves to keep it clear of the wash from breaker to breaker, which extends across more contracted entrances as soon as in any part a surf commences. This was very apparent sometimes on comparing this bar with that of M'Dougall Harbour in the same weather.

There is a very narrow boat passage at the south end, which can only be taken in very smooth weather. If the bay should be used, it is probable that a small vessel bound to the southward would, with a light northerly wind, and smooth water, occasionally venture to find her way through it, to avoid warping or sweeping up to the northern or proper channel.

I am informed that, according to the statement of natives, American whalers, including three-masted vessels, used Robbe Bay about twenty years ago. Two Hottentots who visited us, and had occasionally been on this part of the coast, within the last six or seven years, stated that they had never before seen any boat, and pointing to the surf, which then broke from one extreme to the other, asked how we had entered. We found part of a wreck on the beach; also a pair of decayed paddles stowed in the rocks above high water mark. A pole at the north end seems to have served as a rough guide to the best channel. The coast and the land at some distance are strewn with whales' bones much decayed.

The soundings which were taken outside the bar are similar to those to the southward, and it is probable that the true nature of the bottom throughout a great extent of this coast, although modified by the action of the sea, is indicated by its reefs and by the rocks on the shore, which, dipping at angles approaching  $45^{\circ}$ , protrude their sharp edges one above the other.

If Robbe Bay should be much used as a port of shipment, a small paddle steam-tug of light draught would be very effective in aid of vessels inside and also of cargo boats proceeding to ships outside the bar, whose trips would not be so short as those at Hondeklip.

We experienced much foggy weather here, which caused considerable hindrance and prevented as many outside soundings as are desirable. These fogs would occasion little or no obstruction to the loading of vessels and boats at the inner anchorage to the southward, which was always perfectly smooth and which lies close to a good working sandy beach.

A current, which increased with southerly winds, set continually through the southern to the northern passage in both Robbe Bay and M'Dougall Harbour during our stay.

We dug for water without success, but we had not proper implements. As drinkable water exists at M'Dougall Harbour, it is probable that it will be found here also, with proper search. The land, as at Hondeklip, is covered with a low bush, the wood of which burns well, and which will, perhaps, if the bay should be opened and a settlement take place, be found convenient for the distillation of sea-water as a reserve. We saw no wood which would serve as fuel for a steam-vessel.

There is a long line of hard level ground, which seems very fit for the sites of buildings, along the shore, northward of the sandy beach opposite the islet: it is but a few feet above the level of the sea.

A rather remarkable patch of reddish sand, on a range of low hills, about five miles inland, bears nearly N.E.b.E. from the centre of the bay, which is in lat.  $29^{\circ} 17' 30''$  S., and long.  $16^{\circ} 5' 3''$  E.

JOHN OWEN BAY.—Between Robbe Bay and M'Dougall Harbour is a very small indentation, called John Owen Bay, which, although open to the S.S.W., seemed, in a strong breeze from that point, to receive considerable protection from the northern part of the reef of M'Dougall Harbour; in northerly and in westerly winds it must be very smooth. It has sufficient depth of water for small vessels drawing eight or nine feet, but the bottom is rocky. It might, if the adjoining bays should be used, prove serviceable as a place of refuge in the event of the weather-bar being missed. It has a conveniently steep sandy beach. In fine weather, and at certain times of tide, there is, between the main and an islet, a boat passage, which is but a few minutes' pull from the boat passage at the south end of Robbe Bay.

PEACOCK ROADSTEAD.—On the 28th November we returned to the ship, and on the following evening anchored off Peacock Roadstead, where the swell, which had increased with our progress to the northward, was very great. Having anchored outside, for the convenience of visiting both Homewood Harbour and Harrison Cove, the brig was quite unprotected and frequently rolled  $28^{\circ}$  each way.

Peacock Roadstead and its neighbourhood may be easily recognised by two very remarkable rocky hills, called the "Twins," which rise abruptly from the level ground, and whose lengths seem to run nearly at right angles to each other—the northernmost lying north and south, and immediately overlooking Homewood Harbour. From Homewood, the coast, a sloping rocky cliff, runs northerly more than a quarter of a mile, when, bending to the eastward for about three quarters of a mile, it affords considerable shelter, of moderate area, from the constant ocean swell and from the S.S.W. wind, which blows during so great a part of the year. A little beyond this, and where the coast again takes a northerly trend, is Harrison Cove; which, from the bay, has the appearance of a quarry, but it is not very conspicuous. The sloping cliffs extend a short distance northward of the Cove, when they ter-

minate at the commencement of a long sandy beach. Following the line of the coast to a distance of about five miles from the cliffs, is seen, in clear weather, a flag-staff, which marks the north point of Alexander Bay.

The soundings in Peacock Roadstead are regular, deepening from four and five fathoms, at a few yards from the cliff, to twelve and fourteen fathoms, at a convenient distance for anchorage. Sandy mud, of which samples are forwarded, were always shown by the lead beyond a few yards from the cliff; also by a small instrument contrived by Sir John Ross for the purpose of bringing up specimens from the bottom. It appears to be of the same nature as the banks of the Orange River, with the addition of small shell at the deeper soundings; but I think it right to state, that on heaving up our bower-anchor the last time it came up without its iron stock. We had previously got underway with a light westerly wind, which suddenly dropped and, as a heavy swell was setting on the shore, the anchor was let go again from the bows, in sixteen fathoms water, without being catted, and in little more than an hour it was wayed with the above-mentioned loss: we had been rolling heavily.

Several lines of soundings were taken between Peacock Roadstead and Alexander Bay, which show great regularity, gradually increasing from three to four fathoms, at about 300 yards from the shore, to fifteen and sixteen fathoms, as far as two miles from the coast—the bottom being of the same nature as that of Peacock Roadstead. It would appear that a well-conditioned ship could, if not anchored too close to the cliffs, put to sea from Peacock anchorage with any commanding breeze. In the southerly winds, which prevail throughout a great portion of the year, she would have no difficulty; with light winds from the westward, which, I believe, are seldom of long duration, it must be difficult to make way against the swell which perpetually sets in. It is quite open to north-westerly winds.

On the morning after our arrival I endeavoured to land at Homewood Harbour; there was a fresh breeze from S.S.W., and a very heavy surf broke almost continually across its entrance. Having failed, we proceeded to Harrison Cove; but, having entered the little place, which one swell seemed to fill, it was found impossible to land without injury to the boat, as a ledge of rocks lines the shore, and we returned to the ship. On the following day we landed at Homewood, also at the Cove, and during our subsequent stay in the neighbourhood we could always effect a landing at the latter—anchoring the whaler and backing her on to a small sandy spot of about the boat's breadth and hauling her up. At Homewood, the bar was frequently impassable. I was informed on our arrival that the weather was then, and had been for a few preceding days, heavier than at any time during the previous three months.

The Master having on one occasion been sent in the cutter to sound between Peacock Roadstead and Alexander Bay, was prevented by the heavy swell and a strong breeze from fetching the brig, or from attempting Alexander Bay, which then broke right across—but which

I supposed they had entered—and putting to sea they incurred considerable risk during the night. They reached the brig at noon the following day. My thanks are due to Mr. M'Dougall (who has an establishment near the mouth of the Orange River), who, on learning the situation of the boat, sent a messenger to me with the information; also parties along the coast to render every possible assistance, and one across the river with provisions, in the event of their having been able to effect a landing to leeward of its sands.

I have been informed that the rollers sometimes break as far out as the line joining Harrison Cove and Alexander Bay.

(*To be continued.*)

EXTRACTS FROM A JOURNAL OF CAPTAIN CRACROFT, H.M.S.  
"GORGON," IN THE BALTIC, 1854.

(Concluded from page 253.)

The city of Abo is concealed from view until within a distance of three miles, by a sharp bend in the sound, which here contracts to a narrow channel, forming the entrance of the River Aura, the real indications of the proximity of an important place, which, although shorn of its former glories, still contains fifteen thousand inhabitants, and is supposed to cover as much ground as Dresden, being a couple of party-coloured bathing-houses, and a handsome white building, probably a country gentleman's seat, at some distance in the back ground. The history of Abo, according to Clark, "has been nothing but a catalogue of disasters, conflagrations and catastrophes of every description." In 1775, it suffered much from a great fire; but in November, 1827, a fearful conflagration consumed nearly the whole city, including the University and its valuable library, and other public buildings. The fire raged for two whole days, and was not extinguished until nearly eight hundred houses out of eleven hundred were a mass of blackened ruins. The Cathedral—built in 1300, highly interesting, not only on account of its architecture, but from its having been the cradle of Christianity in Finland, has almost miraculously survived the disasters which have fallen upon the city. The Castle, used also as a prison, and before this war broke out garrisoned by half a battalion of infantry, is as ancient as the town, and arrested more than once the onward march of the Russian armies.

Our squadron had evidently been well watched, its progress telegraphed, and preparations made for its reception. Off the entrance of the river, a small steamer was on the look out, which the *Alban* was ordered by signal to chase, but in vain, she speedily disappeared

among the trees. As we neared the narrow channel, several gunboats, pulling forty or fifty oars, were observed slowly retreating towards the city; each had a flag flying, very similar to our red ensign, with the exception of a blue St. Andrew's cross, on a white field, being substituted for the Union Jack. Their appearance reminded me of the Canton salt boats, (Centepedes,) but instead of being painted flaring red and yellow, they were coloured light blue or grey, like our paddle-box boats. To the number of seventeen they drew up ready for action inside a row of stout piles, which had been driven into the ground, about six feet apart, right across the river. Five steamers, one with the Russian ensign and pennant flying, and their steam up, were stationed behind the gunboats; and several six-oared gigs, the officers in them evidently in a great state of excitement, were moving about here, there, and everywhere, apparently directing the flotilla's movements.

On the high ground to the left of the passage, and commanding it within half musket shot, I could plainly distinguish a masked battery among the thick fir trees, in spite of the attempt to conceal it; while a more formidable work occupied the side of the hill almost immediately over the gunboats, and appeared constructed to enfilade the channel inside the Island of Beckholm, where several small sloops, laden with wood, had just anchored, and their crews taken to the woods, in alarm probably at our sudden appearance. Large bodies of troops were observed also moving about in all directions, their brass helmets glistening in the sun.

At 4h. p.m., the *Alban* having succeeded in approaching within fifteen hundred yards, opened fire on the gunboats, which they were not slow in returning; and shortly after, the *Odin*, having gone in as close as was prudent to a place of which we possessed neither chart nor survey of any kind, opened also upon the enemy; and her example was quickly followed by her consorts. Owing to the fresh breeze, our practice was not so accurate as could have been desired; but a shell from the *Alban* exploded beautifully, causing no little commotion on board the nearest gunboats: it must have done some mischief.\* Being anxious to see the battery unmasked which I had detected on the left, I directed the fire of one of the pivot guns on it, and had the satisfaction to find the compliment instantly acknowledged; but the shot fell very wide of us: a small return for three of Moorsom's shells we exploded in it. It was impossible to ascertain the number of guns in position here. By this time it was evident the gunboats had no intention of quitting their stronghold; and as the object of the Senior Officer, viz., that of ascertaining the defences of the place, had been fully attained, at 5.40 the signal to "discontinue the action" was made by the *Odin*, and the squadron stood slowly out. Capt. Otter, before coming away, coolly taking soundings in his gig, in the face of the

\* The Russians acknowledged a loss of eight killed and fourteen wounded, including one officer; and decorations were freely distributed afterwards in honour of the *repute* of the British Fleet!

gunboats, which appeared to redouble their fire when they ascertained what he was about.

\* \* \* \* \*

On our way down the beautiful Ersta Bay, a small boat was captured by the *Alban*, and from the people in her we learnt what great preparations had been made at Abo in expectation of a visit from the British Fleet. Four thousand men arrived there yesterday, and five thousand more were on their way and expected to arrive every hour; the forts at Hango were to be destroyed, and the garrisons brought here to assist in the defence of the place, where also thirty gunboats were collected (we only saw seventeen) and six steamers.

We went on at half speed till night closed in; but it was not till the *Odin* had run ashore in the dark on the shoal S.E. of the Island of Omminais that the signal was made to anchor. Fortunately she soon came off. We took the precaution of rowing guard in the neighbourhood all night; but we might have saved ourselves the trouble, for the enemy did not attempt to molest us.

23rd.—The squadron started again at 4h. a.m., and got to Berghamn without difficulty; sent the pilot ashore, and proceeded. Shortly after the *Driver* had a very narrow escape from a sunken rock, which she fortunately went over, scarcely losing her way. The leadmen gave nine fathoms one side and ten the other. The *Gorgon* must have passed it within her own breadth; had she struck it, drawing two feet more water, the consequences would have been most serious. We managed to get through the labyrinth of rocks off Korso safe, and anchored for the night in a very snug place, between Engholm and Enklinge, off the little village and mill.

The next morning we got away at 4h. a.m., and before 9h. anchored to the eastward of Bergo, having left Wardo on the starboard hand after passing the Pres Rock. The *Odin*, however, struck twice in this channel, which I cannot consider so free of dangers as the one I took with *Stromboli*, and *Goeland* some time ago. It blew too hard in the afternoon to move, so we held on here for the night.

25th.—Heavy rain all night, and evident signs of a break up in the weather. Got away at 8h. a.m. in a lull, and making a short cut into Ango Sound, anchored at 10h. off the forts at Bomarsund. Found the *Ajax* and *Cuckoo* here, the only English vessels left. Having a few hours to spare, I went ashore to see the effects of our fire and pay a visit to the French camp. The forts are being completely gutted, prior to being blown up; and the *Ajax's* men are hard at work clearing out the military stores,—these ought to be worth something to the captors in the shape of prizemoney! Our gallant Allies appear to be in a bad way here; they are losing men at the rate of sixty a day, "*une soizante*," as one of them told me, with the habitual shrug. It is quite melancholy to contemplate, and yet they seemed as merry and unconcerned as though there were nothing unusual in it. They appeared very well off as far as living went; plenty of good bread, meat, and vegetables. It was their dinner hour, and the savoury exhalations



from the numerous *pots à feu* occasioned what Charles Lamb calls a "premonitory moistening of the nether lip." Nor were polite offers to partake of the fare wanting. A close inspection of the long fort satisfied me that it had been roughly handled by our ships, even from the long range from which they shelled it; and there is no doubt about the result, in my mind, if the fleet had gone in as arranged by the Admirals previous to the surrender.

\* \* \* \* \*

At 1.30 p.m., started again for Ledsund, which we reached before dark without any casualty, in the teeth of a strong gale. Found a large fleet assembled here, and was placed under the orders of Adml. H. B. Martin, whose flag is flying on board the *Leopard*.

Saturday, Sept. 2.—This is a very exposed anchorage. During the gale a heavy swell set in, and all communication was suspended.

On Monday the three Admirals went up to Bomarsund, to witness the blowing up of the forts, as the Swedes very wisely have decided upon having nothing to do with them. The work of destruction appeared to commence on Thursday, judging from an illumination which must have been visible for miles in every direction. About 7h. p.m., a tremendous explosion was heard; and soon after the *Odin* arrived with intelligence that the forts were effectually demolished.

The French have been very busy all the week embarking their troops. They return to France immediately, and all our visions of an expedition to Abo are at an end.

\* \* \* \* \*

3rd.—At 4h. a.m. I stood out to sea with H.M.S. *Odin*, and shaped a course for the coast of Sweden, our destination, much to my satisfaction, being the Gulf of Bothnia, which to all on board is a perfect *terra incognita*. At 11.30 we hove to off Grisselhamn, where, in consequence of the reports they have received of the cholera among the Allies, I was not allowed to land; but they had no objection to receive letters, including a message from our Minister at Stockholm, to be sent by the telegraph. Grisselhamn is but a small place, but being the nearest point to Finland, and only twenty-nine miles from Eskevoe in the Aland Islands, it is the post station between the two countries. The telegraph communicates with Stockholm viâ Upsala. Stood to the northward again, and picked up a pilot at Swartscobb for the Oregrund. Here we entered once more the Skar-gard, which extends in this direction nearly to Gefle. The numerous islands lie strewn about here in the water by thousands; and a beautiful landscape it is on a sunshiny day. Having passed the lighthouse and pilot's solitary wooden house, we glided in between dark stony islands, which lie like gigantic monsters in the water, lashed by the wind and weather of centuries. We next approach larger rocky islands, where dwarfish pinewoods grow in a continual struggle with the blast. Now we open an extensive lake, studded with small islets, all of stone; a block of stone to which a single little fir-tree clings fast: now a farm-house

appears, its red painted sides shining forth from the dark back ground; a group of cows lies basking in the sun on the stony surface, near a smiling pasture; and now the town of Oregrund appears, the Deal of this part of the world, its excellent sheltered anchorage being a great place of resort for shipping. We got pratique here, thanks to the good understanding that subsists between Capt. Scott and the Authorities; and I enjoyed a stroll on shore in the evening.

\* \* \* \* \*

The town of Oregrund may consist of about a hundred and fifty wooden houses. The first object that attracted my attention on landing at the little jetty, was a poor-box fixed on a pole in the street for the reception of alms, with a suitable text inscribed on it. I saw many afterwards in different places, in fact this is one of the institutions of the country, and it is a beautiful trait in the character of the nation—worth all their records of glory and deeds of arms—that although fixed sometimes by the road side far from any house, there is no instance of one of these boxes being plundered. The poor in Sweden are well provided for, both by these receptacles for casual alms-offerings, and by a regular parish provision. There is a quaint old belfry, or clock-tower, here, which as usual stands apart from the church. It is a singular custom that of separating the church from its steeple; it may be to save expense, as the latter will not require to be of so substantial a construction if not intended to support the weight of a steeple, particularly when timber is the chief material employed. Paid a visit to a farm, on the opposite side of the harbour, before returning on board, where our party received a hearty welcome. And I really believe these worthy people were glad to see us, although our object here is to stop the little trade they have with Finland.

4th.—Left the Oregrund at 9h. a.m., and at noon parted company with the *Odin* off the Orskar Lighthouse. I shaped a course to the northward, intending to fill up our water, of which we are very short, at Hudiksvall. It was a beautiful day, oppressively hot, although the thermometer was 65°; and the old man I succeeded in getting on board as pilot, who seems to know the coast well, was quite exhausted on the bridge from the heat of the sun. I had hoped



*Orskar Lighthouse.*

to reach our destination while daylight lasted; but after groping our way in the dark for an hour, the old man refused to go any farther, and at 9h. p.m. the anchor was let go in 20 fathoms in the fairway between the Islands of Ago and Hornsuddé. There was every prospect of a fine night; and I had just gone below, after seeing everything secure, when about 10.30, without any warning, a tremendous squall from N.W. struck the ship, and she heeled to it till the main-deck ports were in the water. The other anchor was let go immedi-

ately, for with 70 fathoms on the small bower she was evidently driving, and it was astonishing how soon the sea got up. The barometer oscillated very much, at 8h. p.m. it stood at 29·83; at 10.30, (when the squall struck us,) 29·61; and at 10.45, 29·75, where it remained stationary for some hours. When day broke I found the ship in anything but a pleasant position; it was still blowing very hard, a nasty sea on, and the outer reef of Ago about half a mile under our lee. As soon as possible I got under way and stood up the broad estuary, at the head of which Hudiksvall is situated. The wind blew in heavy squalls down it, and raised such a chopping sea, that our progress was necessarily very slow. No "Krons lots" could come out to us from the Pilot Station; but as the dangers were staked we managed to find our way in, and anchored in seven fathoms off the entrance of the Delanger Strom, a small river from which I hope to complete water.

This spot is about seven miles below the town, and so sheltered from the gale that I was enabled to commence watering with the paddl-box-boats. We did not complete, however, for it was rather brackish. At this season the river is too low.

\* \* \* \* \*

As it was too stormy to proceed by water, I went to Hudiksvall by land, having no difficulty in procuring a conveyance, one of the little gig-carts of the country. The distance is about eight English miles; the road, for the greater part of the way well macadamised, but very narrow, winds through fir woods, and occasionally cleared land well stocked with cattle and in a high state of cultivation. We passed through three villages and several detached farm steads and scattered cottages, all looking trim and tidy, although painted the everlasting dull red colour; the fences were the common post and slab, which looks at a distance like park paling; in one of the villages was a very neat chapel and quaint belfry, detached of course, in this instance separated from it by the road. Nothing could exceed the politeness of the country people; the whole population seemed to be afield gathering in the harvest, and it was a most animated scene: close to every farm-yard were huge standards of timber, crossed with poles about two feet apart, and covered with oats, rye and beans. The crop is considered quite safe from heating when put up in this way, and dries very rapidly.

\* \* \* \* \*

Hudiksvall is pleasantly situated: the view from the elevated ground, about half a mile from the town, is very fine; it is built of wood, and contains 2,300 inhabitants. There is an old-fashioned looking Town-hall, a more modern School, and Post-office. The Church, which together with the town has suffered more than once from fire, is a massive building, with an oriental spire and cupola, a conspicuous object for some distance round. There is not much display in the shops, but trade is increasing; the exports are tar, deals, and timber: ship-building is also carried on here; there was a fine ship of nearly 400 tons or lasts on the stocks, and one just launched, fitting out for

a voyage to Australia! Fifty years ago this place owned three vessels of the united tonnage of 182 tons; now it boasts nineteen of 707 lasts, according to Mr. Paton's "*Sveriges Skepps Kalender*," a copy of which the author kindly presented me with when I was at Stockholm. The inhabitants are also actively engaged in the strömming, or herring fishery of this coast. The strömming is about the size of a sprat, but a much more delicate fish; when salted and mixed with potatoes it is the staple food of the people; and washed down with a bowl of milk, or a glass of corn brandy. The harbour is too shallow to allow vessels of any large draught to come alongside the jetties; but there was a mud dredge, worked by horses, hard at work deepening it. I obtained what supplies were required through a merchant named Frisk, Mr. Remal's agent here.

\* \* \* \* \*

6th.—Notwithstanding the gale still blowing, I determined to-day to try and get to my station, which extends from the Gadden Lighthouse, in the north, along the coast of Finland. But meeting the *Odin* coming in for shelter, after suffering severely, I returned with her, and anchored off the Delanger-strom again.

Here we both remained till the 9th, when the weather having moderated, we put to sea at daylight. Off Bramo the *Odin* parted company and stood across the Gulf; I continued to the northward. We passed Hornoklubb at sunset; but at midnight the weather changed again for the worse, and to avoid a fresh gale, evidently brewing up, I shaped a course for Hernosand, off which place I anchored at 8h. a.m.,—the first British man-of-war ever seen in these waters.

\* \* \* \* \*

Hernosand appears a thriving place, having a large and increasing trade in timber. No less than sixty-eight vessels, from a ship of 267 last burthen to a sloop of 14 tons, hail from this Tullkammer district. Several fine vessels were in port, and a good deal of bustle was observable. The population is over 3,000. The town is situated on the slope of a hill, sheltered on every side by a well-wooded and highly picturesque country. The environs are set off by a few villas of some pretensions; with yards and outhouses, and gardens in front, neatly laid out. The streets are badly paved and narrow; all the houses as usual of wood, consequently exceedingly liable to fire. There is a fine of five rix for smoking in the streets after 9h. p.m. by way of security; little attention, however, seems paid to it. There are two hotels and some very good shops. The Church is new and very handsome, an elegant dome and cupola surmounts the east end, the western portico is flanked by low towers of good design: the interior is chaste and simple; the cross elevated over the communion-table has no figure of our Saviour attached, but the seamless coat and crown of thorns, of gigantic dimensions, are suspended over it, the carving is good: I did not hear the organ. There is an Academy, or Gymnasium, here, where youth are prepared for the University; it is the most northern in Sweden, and is evidently well cared for. Hernosand can boast also

of a public Hospital, and Lunatic Asylum, the latter is the finest-looking building in the neighbourhood. The Prison, a dilapidated-looking place, was, I was informed, empty.

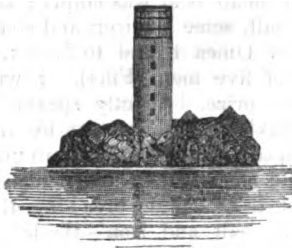
A canal is being cut across a narrow neck of land to unite the southern with the northern harbour; an expensive undertaking, the greater portion being blasted through the solid rock; but a great convenience, if there will be water enough in it, which I very much doubt. The engineer is a Swede, and the expenses are divided between the State and the Town. Mr. C. Engstrom is H.M. Vice-Consul here.

11th.—I got away this afternoon and stood for the Gadden; shaped a course for the Norrskaren, but at daylight the Bonnskaren was in sight, showing there had been a strong southerly set from the late gale. The soundings are very little guide here, varying from fifty to twenty fathoms in a single cast; but as neither of the lighthouses on these islets have been destroyed they are still most useful in the daytime, in clear weather. The lanterns have, of course, been removed by the Russians. Having sighted the Gadden, I stood to the southward again, and was not sorry to get clear of this Quarcken. A great number of merchant vessels passed up the Gulf to-day, principally English, flying light. They all hope to return with a cargo of timber before the navigation closes. A fine cutter I boarded was bound to Happaranda, from Stockholm, laden with sugar and coffee, doubtless destined for Finland. I had been informed at Hernosand that immense quantities of colonial produce were being forwarded to that frontier port; from whence it is taken across to Tornea. It is no wonder, therefore, the Swedes wish to remain neutral, when they can carry on such a trade with the Fins in spite of the blockade. Disconnected, and proceeded under sail only.

13th.—We carried regular soundings in the parallel of Christinestadt, off which place (Torngrund) we were only five or six miles distant at noon to-day. Observed beacon fires burning in all directions to notify our presence; only one vessel, a small boat close in shore, was in sight. Stood to the southward, along the line of dangerous reefs that fringe this coast. The Sidby church and beacon is an excellent land-mark. Tacked off at nightfall, and took in the second reefs: wind shifting to S.W., weather very threatening, bar. 29.39, ther. 53°, sea water 44°.

15th.—After twelve hours strong breeze, during which a very nasty swell got up, the wind died away and the sea went down as rapidly. We are now under steam again in a thick fog, head to the westward. I ought to be off Bjorneborg, but it is impossible to approach the coast of Finland in this weather. About noon the fog began to clear a little, and we caught sight of a lighthouse, which I made sure was the Orskar. At the same moment a vessel, apparently a wreck, was reported, and I stood towards her. She was a foreign built schooner, waterlogged and abandoned. The anchors were at the bows, but the cables, which had been washed overboard, held her in twenty-five fathoms water. She had evidently been thrown on her beam ends in

a squall and dismayed. After great difficulty, the cables were cut and we took her in tow. And now the lighthouse that had been



*Understein Lighthouse.*

taken for the Orskar began to puzzle us: rocks and ialets appeared where the land ought to have been unbroken. The building itself was unlike what we had seen previously, and it was some time before I could credit the evidence of my senses and acknowledge that this was the "Understein" before us. We must have been set full twenty-five miles to the southward and westward since noon yesterday! From the bearing of the lighthouse now we were surrounded by sunken rocks and reefs and I was puzzled how to steer, for it seemed almost impossible to shape a clear course according to the chart. How we escaped is a mystery! Anchored for the night inside the Swartklubb, and came on in the morning to the Oregrund; where I handed over the derelict to the Harbour-Master, M. Lind, and Collector of the Customs, M. Lindsett, till the owner is discovered, and towed her into the little camber for security. The *Odin* arrived in the evening from Sundsvall, and Captain Scott, having received intelligence from H.M. Consul at Stockholm that a steamer called the *Ellida*, laden with gunpowder, was going to run it on the coast of Finland, ordered me off to look after her.

\* \* \* \* \*

17th.—The *Ellida* passed through the anchorage last night, and at daylight I followed, but she must have got at least sixty miles start. A breeze sprang up from the southward in the afternoon, and we rattled along, under steam and sail combined, eleven and twelve knots. Before 9h. p.m. it was blowing hard with a heavy sea and we had to furl everything; the wind hauling round to the eastward, sent the topgallant yards down. A light was seen from the foretop about 11h., but lost sight of in the thick weather.\* At daylight we made the Norskar lighthouse.

It was now blowing hard from N.E., and, as it was impossible for any vessel of the *Ellida's* size could face it, I stood for the Gadden, and at noon anchored under the lee of the point upon which the lighthouse is situated, in fifteen fathoms, mud,—some fishing stakes, in five fathoms, within half a cable. This handsome lighthouse has last year's date carved on it, being only lately completed, and lighted this season for the first time; it is invaluable as a guide in this narrow channel.

19th.—At daylight, a large boat was seen standing over to the coast of Finland, with another smaller one in tow. We were not long in overhauling them, and, as I expected, they proved to be part of the

\* This light was proved afterwards to have been the *Ellida*: she was disabled in the gale by a sea striking her and smashing the paddle-wheels.

flotilla employed in conveying salt and colonial produce across the Gulf (the light-keeper told me he had seen as many as a hundred vessels from the tower at one time). The small boat was empty; the other's lading consisted of thirty bags of salt, some bar iron and steel, and a few loaves of sugar. She was from Umea bound to Malax, a little place south of Wasa, with a crew of five men (Fins). I was exceedingly puzzled what to do with my prize. Strictly speaking, these men were prisoners of war, but having been ordered by the Commander-in-Chief to release those I captured under similar circumstances in the Gulf of Finland, "as we did not war with individuals," I warned "Peter Ruff" and his crew not to be caught breaking the blockade again, and let them go, minus the salt and iron—the latter we were very much in want of. Made sail and stood to the southward. We had hardly lost sight of the Norskar, before the *Odin* was descried; and, as the weather was very threatening, both ships took shelter for the night under Skegs-udde, in the snug little harbour of Skegenshamn; the inhabitants of which place were not a little astonished to see us. This little port would afford shelter from any wind for half a dozen steamers, moored head and stern. The village at the head of the harbour consists of about a dozen houses and a primitive chapel. There is an enormous ladder on the high ground above; from which a look-out is kept by the pilots at this station.

20th.—The weather having moderated, at 9h. a.m. we stood out to sea; but a steamer being observed inside the islands at the entrance of Ornskoldsvick, the *Odin* stood in after her, leaving me to anchor under Raskarso and watch the passage. On our way, we passed several fishing stations where the stromming is cured. The curers send out vessels with barrels and salt to these stations to receive the fish from the fishermen. This seems a thriving business; indeed, if we consider the quantity of food it produces, the capital and industry employed, and include the trades connected with and developed by it, the stromming fishery may be compared in importance with the herring fishery on the coast of Scotland.

\* \* \* \* \*

During our stay here the neighbourhood was well beat for game, but, having no dogs, with indifferent success; black game is plentiful. We obtained a good supply of sand from Maskara,—not before it was wanted,—and hauled the seine on a capital beach, but only caught half a dozen mullet and a couple of salmon peel. The natives here seemed to understand bartering, and we got rid of all our salt for an equivalent of excellent potatoes. For some magnificent salmon, they took biscuit in exchange; indeed money appears of little value to them.

22nd.—At 8h. a.m. the *Odin* came out and I followed her to sea, when we parted company. I steered for Hernosand. The weather was very thick, but, fortunately, we caught sight of the pilot's red house under Hernoklubb, and by 2h. p.m. were at anchor again in that harbour. Here I found the object of our search repairing damages. Report says she has arms as well as powder on board, and

intends to get across the Gulf in spite of our cruisers. *Nous verrons!* I applied at once to the Authorities to have her examined; which was refused, after some delay, because "the Magistrates could not upon the requisition of the Commander of a foreign vessel authorize such an act to be executed against a Swedish subject." This was unsatisfactory enough, but, as a set off, the anti-Russian feeling of the inhabitants was manifested the same day by their extemporizing a splendid banquet in honour of Old England, at which all the officers who could be spared from the duty of the ship attended.

\* \* \* \* \*

26th.—It has blown very hard the last three days. The gale commenced at S.E. with rain, veered gradually through South to N.W., when it came in tremendous squalls, and finished at North. Barometer's lowest 29.24. We let go a second anchor, and rode it out very well with top-gallant masts on deck. This morning the *Ellida* took her departure. I let her have a good start, then went out, and came up with her a few miles off the coast. Having put the Second Lieutenant with a party on board, I took her in tow and brought her to the Oregrund, where I met the Admiral. Here she was searched, but no gunpowder was found; and, although her destination was manifest from her custom-house clearance, which ran "for Haparanda and foreign parts," and that the drawback had been taken off her cargo of coffee and sugar in consequence, also that a Russian supercargo, a resident of Bjorneborg was on board with his carriage, I was ordered to release her, and she returned to Stockholm. "Free ships may make free goods," and both be allowed plenty of latitude, but in this case the intention to break the blockade, if possible, was so clear, from the documents discovered on board, that the owners of the *Ellida* ought to think themselves fortunate she was not sent to England for adjudication.

\* \* \* \* \*

28th.—The *Odin* left us at daylight to try and pick up some of the Finland vessels which intended making a bolt across as soon as I was clear of Hernosand. Shortly after, we 'wayed, with the *Leopard* (flag). It was a lovely day, probably one of the last we shall have this year. Boarded several ships making the best of their way to Swedish ports in the Gulf, and at sunset stood for Christinestadt. At midnight we fell in with the *Odin*, having two prizes in tow. After communicating with the Admiral she parted company, and we altered course to the northward. At 8h. a.m. Skegshudde was in sight, and we stood in for Ornsköldsvick; where we anchored at eleven o'clock. This harbour is by far the most magnificent I have seen on this coast. The town, which may number seven or eight hundred inhabitants, has sprung up within the last twelve years, called into existence by the timber trade, which is increasing rapidly. Its name has not yet figured in any of the maps of Sweden, Klint's excepted, but it promises to become an important place of trade. Off the southern shore rows of piles had been driven; to which the timber rafts



were moored. A Norwegian barque was loading here. Not far distant a small stream empties itself into the harbour: we obtained a supply of water from it with the paddle-box boats. The country in the neighbourhood is very beautiful,—the hills clothed to the summits with fir and birch; the latter, in its autumnal tint, relieving the sombre hue of the pine. We wearied ourselves in search of game, in the afternoon, over a very rough country, and were unsuccessful into the bargain, although game of all kinds is abundant. A good stock was, however, procured from the town,—black cock, grey hens, tree partridges, and capacailzie; all snared, apparently.

The following day we went to Hernosand, and remained there over Sunday. The Swedes have the reputation of being a church going people, but on this occasion the church was deserted, the whole population having repaired on board the *Leopard* to gratify their curiosity. I met some Dalecarlians here in their picturesque costume. These people turn their hands to anything for an honest livelihood: at Stockholm they ply on the water, these were agriculturists.

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October 2nd.—We steamed to Sundsvall to-day against a strong breeze. This appears a thriving town; spar, deal, and timber yards line both sides of the harbour. There was a steam saw mill hard at work, and several large vessels loading, making the most of the remainder of the season, for a month hence, in all probability, this place will be closed up by the ice. Fifty years ago Sundsvall owned one vessel, of 124 tons, it has now thirty-three belonging to it, of 4,000 tons burthen.

\* \* \* \* \*

3rd.—The variations in the climate at this season seem very great; yesterday it was blowing a gale of wind, to-day it is a dead calm. We left Sundsvall at daylight, and in the afternoon arrived at our old anchorage off the Delangerstrom. During our absence a great change has taken place, the little river is full,—the water in it must be six feet, at least, higher,—and perfectly fresh. The scenery here is very picturesque now; close by the water side there are a few acres of inclosed ground, comparatively flat, and either arable or meadow; beyond this the ground becomes more broken and wooded and assumes a parkish character, notwithstanding a bare ridge of rock will force its way occasionally through the short green turf. The woods themselves are more like shrubberies than any we have been in lately. The view, at sunset, from the farmsteads at the head of the valley, looking towards our ships, I shall not easily forget.

I was to have gone to Hudiksvall with the Admiral the next day, but during the night it came on to blow very hard from the northward and ended in a regular snowstorm, which lasted nearly twelve hours, ther. 28°, bar. 28·96. This is the first we have had and is a warning to quit. Twelve years ago this harbour where we are now was frozen up on the 27th of September!

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On the 6th we arrived at the Oregrund, having experienced very bad weather on the way and anchored for one night off Gefle. Dredging vessels were hard at work deepening the entrance to this harbour, and the channel was blocked up by them, or we should have gone up to the town. This is an increasing place, with two churches and 8,000 inhabitants, the third in trading importance in Sweden; eighty-two vessels, of nearly 10,000 tons burthen, hail from it, and may be met with in all parts of the world. Free trade is all that is wanting now to insure the permanent prosperity of this and the other ports we have visited lately, and I believe Sweden is at last making a move in the right direction. It is, however, a curious fact and worthy being made a note of, that, notwithstanding the predilections of the people, Great Britain is still, commercially, less favoured by Sweden than any other nation; while Russia has the greatest advantages, even to the right of navigating its canals and inland waters!

8th.—I accompanied the Admiral and Capt. Gifford yesterday on an expedition to the chateau of a nobleman about twelve miles from this. Count —— is a large landed proprietor, owns iron mines, in short is a man of wealth and consideration in this country, and has especially distinguished himself by his hospitality to our Officers since the squadron has been stationed in these waters. We had a delightful day; it was English October weather. The road, in excellent repair, wound through pine woods, with here and there cultivated spots to diversify the scene. We passed through one large village, and by several substantial farms. About eight or nine miles from the Oregrund the Count's property commences, and there are evident signs of its being well looked after. Among other improvements he has commenced tile-draining on the English system, and the different appearance of the land where this has been carried out, shows how much it was needed. Shortly after we passed an imposing-looking building of four stories; this was the general warehouse for stores. The traffic here consisting chiefly of huge pigs of iron, twenty feet long, just smelted, and on their way to the place of shipment, had cut the road up a good deal.

The Count's is quite a model village; the chateau stands with a lordly air at one end, surrounded by a "grille;" the church, a handsome structure, at the other; the houses between them, on either hand, are built with great regularity, and an avenue of trees bordering the road completes the picture. The whole wears an aspect of good order and comfort, far superior to anything I have yet seen in Sweden.

\* \* \* \* \*

We got away for Faro (Gottland) this afternoon, in company with the *Leopard*, which returns to England immediately, leaving the *Odin* in charge of the blockade of the Gulf of Bothnia.

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After completing coals I rejoined the Commander-in-Chief and fleet assembled at Nargen.

FLAG OF THE MERCHANT SERVICE,—*Unjustifiable Command to haul it down at Bombay.*

Singapore, February 8th, 1855.

Sir,—Will you oblige myself and many other Merchant Commanders frequenters of Bombay Harbour, with your opinion as to the right of Adml. Sir Henry Leeke, the Commander-in-Chief of the Indian Navy, to haul down and take away an English Merchant ship's proper Union Jack, with the white border, when displayed at the bowsprit end on Sunday or other holiday.

My reason for asking this question is, that on Christmas day last, (1854,) while lying in Bombay Harbour, I saw one of the Indian Navy's boats proceed on board six vessels and take away a Merchant Union Jack from each; upon which, I hoisted mine, and shortly afterwards, seeing the I. N. boat coming alongside, had the Jack hauled down and put in a safe place. The officer in charge of the boat told me that if I would not give up my flag, he would return with an overpowering force to take it away. But finding his threats of no avail, went away. I then rehoisted my Jack, and for the rest of the day was unmolested.

Now, sir, by the 17th and 18th of Victoria, it is stated, that we are permitted to use the usual Merchant Jack, and should a Merchant ship fly an improper flag, it is there stated that such a flag can only be hauled down by the order of an officer on *full* pay in Her Majesty's service, which of course Sir Henry Leeke is not.

It so happened that all those Captains whose flags were taken away were on the point of sailing, as well as myself; but to know if we were right or wrong, we went to the expense of one hundred rupees to obtain a legal opinion, which was given in our favour, and on which we should have prosecuted the Admiral, had we not, as I said before, been on the point of sailing.

To the lawyer Sir Henry Leeke stated in writing, which note I read, that the Union Jack at the bowsprit end was "one of the principal signals of a man-of-war, and that permitting Merchant Ships to fly their Jack in that place, would tend to great confusion."

Now I am sure we all entertain the highest respect for the Navy, and would not willingly create any confusion therein; but, after numerous inquiries, we cannot find out what signal is in use in the Navy in which the Merchant Jack is used.

Certainly, Mr. Editor, the Indian Navy have lately distinguished themselves greatly,—to wit, on the 1st and 2nd of November, during the hurricane, when they got all their ships ashore, and were indebted to a Merchant ship, the *Glendaragh*, under my command, for saving their guard ship, the *Hastings*, from total loss; (and this was properly acknowledged;) but I doubt whether such another instance of "zeal for the service," as the above-mentioned spoliation of Jacks, has been known since the days of Midshipman Easy.

I hear that some months since Sir Henry Loeke attempted to prosecute and fine two Merchant Captains for flying their Jacks; but the case was thrown out of the Supreme Court of Bombay as frivolous and vexatious.

I have only to repeat, that your opinion in this case will gratify many of your readers; or, at any rate, publishing this letter will warn commanders of ships of the treatment they may expect to receive in Bombay.

I remain, Sir,

Your constant reader,

E. M. SMITH,

Commanding ship *Glendaragh*, of Singapore.

To the Editor of the *Nautical Magazine*.

[Without considering the *Nautical* an authority in these matters, we believe such interference with a merchant ship's jack to be unjustifiable by any law, new or old,—and if the naval instructions be appealed to, they refer to flags used by ships of war only. In our opinion, the Commander of a merchant ship has a full right to fly his *white bordered* jack in any part of his ship he pleases. At the same time we would impress on these Commanders the propriety of preserving that respect due to H.M. Ships, when meeting them at sea, by dipping their flags,—a courtesy established of old, and which should be preserved.—Ed.]

ON IGNITING THE CHARGE OF FIRE-ARMS,—*A Method of Plugging the Nipple of Fire-Arms to prevent them Missing Fire.*

Singapore, February 10th, 1855.

Sir,—In page 492 of the *Nautical Magazine* for 1842, there is a suggestion from Mr. Waterson, of the Indian Navy, for igniting the charge of fire-arms by the condensation of air.

Now something similar to this, but with some considerable advantages, I have been practising for years, and from such experience being convinced of its efficacy, think that I can do no better than endeavour by your assistance to render it public, premising that I derived my knowledge from an American Merchant Captain.

The plan then is this:—After loading the piece, whether percussion musket, fowling piece, rifle, or pistol, in the customary manner, before putting on the cap, cut a piece of dry pine wood, say off a common packing-case, and point it fine, like a “spill” for a beer-cask but much smaller, then putting the lock on full cock, drive the plug into the nipple, taking care that it fits tight. When it will go no further, cut it smooth off close to the nipple. Now put on the cap, and you may feel sure that at the end of three months, if you choose to keep it loaded so long, the weapon will be as serviceable and go off as readily as a newly loaded gun, and no danger of missing fire, which a gun

loaded and capped in the usual manner is very likely to do in damp weather, from the saltpetre in the powder corroding the cap. This the wooden plug totally prevents, and on firing, as the wood is instantly consumed, the nipple is as clear as before.

Sailing principally with Malay crews, I constantly have loaded pistols in my cabin, and always plugged as above, seldom discharging them more than once during a passage, and never knew one so plugged to miss or even hang fire.

As a sportsman I find this method invaluable, for when laying wait in damp weather for large game for some hours, it is pleasant to feel secure that your gun will not miss fire, which under the old plan with a foul gun not unfrequently occurs.

Very few people will believe this without trying it; but it is an experiment that can be tried in two minutes and without any expense, and as long as the plug is driven tight there is no fear of a failure.

I have, however, not found it to answer for Colt's revolvers, the orifice in the nipple being too large to readily consume the wood; but for these weapons it is not required, as the powder never touches the cap, and they remain a long time in serviceable trim.

I have found considerable difficulty in making people believe in the efficacy of the plan, until I adopted the method of loading and plugging the gun in the presence of the party to be convinced, and then borrowing his hat for a target, which he, convinced of the impossibility of the gun's exploding readily lent. The invariable result was, that the party bought a new hat and became a convert immediately.

I think that, should you consider this worthy of publication, it may be of service to many of our countrymen in Russia, who in rainy weather no doubt find it difficult to keep their arms in fighting order.

I remain, &c.,

E. M. SMITH.

To the Editor of the *Nautical Magazine*.

[The fact is new to us, and will, no doubt, be appreciated and turned to useful account by our readers.—Ed.]

#### HISTORY OF THE SCREW PROPELLER.

The increasing use of the submerged propeller in ocean navigation, occasions at the present moment considerable interest in the question of "Who is its inventor?" The question was warmly discussed on Tuesday last in the House of Commons. It is so much the fashion of the world in general, which likes not the labour of investigation, to ascribe to some one man and one epoch some great improvement in the mechanical arts, the development of which has been, perhaps, the work of centuries, that the following review of the most important facts connected with the above invention will, doubtless, be acceptable to the public.

A. D. 1727.—In a scheme of Duguet we find somewhat of the dawning of

the system. His plan consisted in mooring to a post in a river two boats, connected by two cross beams, having in the interval between them a screw; which, being turned round by the action of the water, the motion was conveyed by means of pulleys to the vessels which were to be towed.

1768.—Painton proposed to apply horizontally the pteraphore to the bow, stern, and sides of a ship; but did not describe the motive power.

1785.—In this year, or shortly before, the great Franklin witnessed an experiment on the Seine, at Juvelle, below Paris, which suggested to him the idea of a submerged propeller. "A clumsy boat was moved across that river in three minutes, by rowing, not in the water, but in the air, that is, by whirling round a set of windmill vanes, fixed to a horizontal axis, parallel to the keel, and placed at the head of the boat. The axis was bent into an elbow at the end, by the help of which it was turned by one man at a time. I saw the operation at a distance. The four vanes appeared to be about five feet long, and perhaps two and a half wide. The weather was calm. The labour appeared to be great for one man, as the two several times relieved each other. But the action upon the air by the oblique surfaces of the vanes, must have been considerable, as the motion of the boat appeared tolerably quick going and returning, and she returned to the same place she first set out, notwithstanding the current. This machine is since applied to the moving of air balloons; *an instrument similar may be contrived to move a boat by turning under water.*"—See *Memoirs*, vol. vi., p. 45.

The same year Bramah patented a submerged propeller, on the principle of the sails of a windmill, or the blades of a smokejack.

1790.—May 7th.—Earl Stanhope patented a *Janus*-shaped vessel, which he styled an "Ambi navigator," with a propeller in the form of a duck's foot, worked by a 12-horse crosshead engine, with double connecting-rods; which, at the conclusion of the experiments, was laid up in Deptford Dockyard. This engine, or at least such portions of it as could be made available, was subsequently (in 1802) applied to the *first steam dredge* built for the Admiralty. The "Ambi navigator" had also a novel description of rudder, styled by the inventor an "equipollant rudder."

1792.—Baron Segulier experimented with a submerged propeller.

1794.—William Littleton patented a three-bladed screw, to be either partially or wholly immersed, and to be worked by the capstan, and experimented with one made of copper.

1796.—Fulton "proved an experiment on moving boats, with a fly of four parts, similar to that of a smoke-jack, and I find this apply the power to great advantage, and it is extremely simple."—See *Letter to Dr. Cartwright*; Paris, Feb. 16th, 1798.

1800.—July.—Edward Shorter patented a screw with inclined blades, which was tried on board the *Doncaster* transport in 1802. It was placed in front of the stem, and worked by eight men by winch handles, producing a speed of one and a half to two miles an hour. Subsequently, in the *Superb*, 74, in Gibraltar Bay, when worked by the capstan, a speed of two miles per hour was obtained.

About the same time General George Stevens, of Hoboken, N.Y., made some experiments with a spiral wheel, fitted to the stem of a vessel.

1815.—Trevithick proposed an Archimedian, or fixed screw, working in a cylinder.

1816.—July.—Professor Millington proposed a smoke-jack placed abaft the rudder, and worked by a universal joint.

1817.—Lowe experimented in a similar manner.

1818.—Captain Duvernety, of the Staff Corps, made some experiments in screw propulsion at Hythe, with a model vessel of his own construction.

1819.—February 3rd.—J. Lewis, of Virginia, obtained a patent for a spiral

or screw propeller, "which," says Dr. Jones, "was not the first which had been issued for the same thing. We know that several have since been obtained for using the spiral principle, both in a combined thread and in disjointed sections."

Whytock experimented for the same purpose this year.

1824.—A work was published under authority of the French Government, describing the various methods of screw propelling in America. One of these methods was by a screw revolving in a hollow in the bottom, nearly as long as the vessel itself, either in a forward or backward direction; and another, by a double screw placed between two boats.

1825.—February.—Jacob Perkins applied a propeller, eight feet in diameter, at the side of the rudder of a canal boat. It was like a double set of windmill vanes, the solid axle of one set working in the hollow axle of the other, and rotating in opposite directions.

A vessel was also built at Rochester, by the Canal Towing Company, fitted on the plan of Samuel Brown, with a gas-vacuum-engine of 12 horse-power, working (by means of bevelled gear) a two-bladed propeller at the bow. The blades were at an angle of  $90^\circ$  to each other, and  $45^\circ$  to the axis.

Another vessel, with a similar engine and propeller, was subsequently tried on the Thames, and realized a speed of seven miles per hour.

1826.—November 18th.—Bennett Woodcroft patented a screw propeller.

1829.—Commeraux patented a perfect one-turn screw fixed parallel to the keel, and held by a stage beyond the rudder.

November 20th.—Benjamin Smith, of Rochester, N.Y., procured a patent "for propelling boats on the water by the application of sculling wheels, or screw-propelling wheel, formed like the wheel of a smoke-jack, and fixed at the stem or bow of the boat by means of a shaft running through the centres, and worked by any suitable power." Mr. Doolittle states that, on July 10th, 1830, being at Syracuse, N.Y., he saw a steamer with wheels of this description arrive on the canal from the West.

1830.—February 4th.—John M. Patten, of Milton, Pa., patented "a spiral or screw wheel (described by him as an *old invention*) to operate wholly under water."

May 22nd.—Josiah Copley, of Warner Mark, Pa., patented "a shaft having affixed to it eight or any other number of vanes or fans, forming segments of spirals. These are to be placed under water parallel with the keel, and a rapid rotatory motion given to them."

October 1st.—Felix Peltier of New York, patented "a screw placed in a horizontal position, and wholly uncovered or naked, whether formed of a single spiral wound round a solid arbor, and cutting at constantly equal angles, or whether its inclination vary, and whether the spiral be of one or the same breadth throughout, or vary in its breadth and several dimensions, measured from the arbor."

1831.—April 23rd.—Giraud patented, in the United States, "a screw, or spiral lever, for propelling."

1832.—March.—Bennett Woodcroft patented a screw formed by a circular line coiled round a cylinder, increasing the pitch throughout the length, and producing greater speed with fewer revolutions; to be fixed forward of the rudder post, by cutting away part of the dead wood.

Sauvage also experimented this year.

1835.—September 18th.—John F. Smith, of Charleston, Mass., patented a screw revolving in a cavity made by giving the hull the form of a double vessel from about midships to the stern; the forepart being in the ordinary shape.

November 23rd.—Edward P. Fitzpatrick, of Mount Norris, N. Y., patented a spiral screw, the shaft swelling in the middle, like a double cone, surrounded by a spiral thread, also wider in the middle than at the ends.

1836.—May.—T. P. Smith patented a perfect one-turn screw, to be placed in the centre of the deadwood. A small schooner fitted on this plan, with a high-pressure engine, answered admirably against the wind and in a heavy sea, and towed the *British Queen* up the Thames into the City Canal. This schooner was 34 feet long, 6½ wide, and drew 4 feet of water. The screw was 2 feet diameter and 2 feet 5 inches pitch, worked by a 6-inch cylinder, with a stroke of 15 inches.

July 13th.—Capt. John Ericsson, of the Swedish army, obtained a patent for a propeller consisting of two broad thin hoops, with eight fans each, fixed on a shaft, the outer hoop revolving in a contrary direction and at a greater velocity to the inner one. This propeller was to be entirely submerged abaft the rudder, the shaft passing through the centre of the stern post, the rudder being divided into two parts, connected by a strong iron stay on each side, having a wide bend to allow the rudder to traverse clear of the shaft. This object is since attained in a better and simpler manner, by retaining the rudder in one piece, and cutting a “shark’s mouth” in it abreast of the propeller-shaft, which passes by the side of the rudder post and not through it.

Mr. Francis B. Ogden, U.S. Consul at Liverpool, an early promoter of steam navigation, and the first who applied steam expansively, and originated the idea of rectangular cranks, joined Capt. Ericsson in the construction of a boat, named after himself, 40 feet long, 8 wide, and drawing 3 feet water, with two screws each 5½ feet in diameter. This little vessel, when towing the *Toronto* packet ship, attained a speed of more than five knots; and with a schooner of 140 tons in tow, seven knots.

Capt. Ericsson attempted to attract the attention of the Admiralty to his experiments, and at length succeeded so far that some of the members of that Board, accompanied by the Surveyor of the Navy, were towed, in the Admiralty barge, by the *Francis B. Ogden*.

Capt. Robert F. Stockton, U.S. Navy, a man of scientific attainments, who was in London at this time, was so convinced of the value of Capt. Ericsson’s plans, after only one trip in the latter’s vessel from London Bridge to Greenwich, that he immediately ordered two iron steam-vessels on the same plan. The first of these, named after himself, the *Robert F. Stockton*, was launched from Mr. Laird’s yard, North Birkenhead, July 8th, 1838. She was 71 feet long, by 10 in beam, drawing about 7 feet, and had two propellers, which might be used singly or in conjunction. In the following April, she was sent to the United States, under the command of Mr. Crane, an American, who was presented with the freedom of the city New York in consideration of his daring voyage in so small a vessel. Under the name of *New Jersey*, this vessel was afterwards successfully employed as a tug on the Delaware and Schuylkill. The *Enterprise*, an iron vessel, 70 feet long by 7 wide, also with Ericsson’s screw, was built as a passenger-vessel for the Ashby-de-la-Zouch Canal, but transferred, in 1839, to the Trent and Mersey, as a tug for the coal trade. She was 14-horse power, and had a speed of ten miles per hour.

Meeting with so little encouragement in England, Capt. Ericsson proceeded to the United States, where, in compliment to him, the first screw steamer by the inland route between Philadelphia and Baltimore, was named the *Ericsson*. In the mean time, the “Ship Propelling Company” had been formed, with the aforesaid T. P. Smith as their adviser, under whose direction the *Archimedes* was built at Millwall, in 1838. This vessel was 125 feet long over all, 22½ feet beam, 13 feet deep, and having a complete screw of 7 feet diameter. This was found to act disadvantageously, owing to the obstruction of the back water; and the same year Lowe patented a propeller divided into arms or blades.

1839.—April.—Smith entered “a memorandum of disclaimer,” stating that the true principle was two half-turns of a screw placed in the centre of the deadwood.



In this year Hunt and Rennie also experimented with varieties of the screw.

Having thus traced the history of the propeller down to its actual employment in a *seagoing* vessel, it will be unnecessary to notice in detail *all* the various proposals which have since been made by different persons, but come at once to its introduction into the national service. Through the medium of Capt. Stockton, Ericsson's plans soon attracted the attention of the naval department at Washington, ever ready to patronise what is really useful; and, in 1842, the *Princeton*, the first screw-propelled war steamer ever built, was launched. This ship, though of only 700 tons and 220 horse-power, carried a most powerful armament. Her propeller was 14 feet in diameter.

The French Government also tested the screw principle in their post-office steamer *Le Napoleon*, built by M. Normand at Havre, in 1842. This vessel had a four-bladed screw, was 470 tons, and 180 horse-power.

In 1843, the British Government purchased from the Messrs. Rennie, for £5,806, the iron steamer *Dwarf*, (late *Mermaid*,) of 164 tons, and 90 horse-power, which was built at Blackwall in 1840. The *Dwarf's* screw had three fans, on Rennie's *conoidal* principle, 5 ft. 8 in. in diameter. The same year, the steam sloop *Rattler*, built at Sheerness, expressly for the application of the screw principle, from the designs of Sir William Symonds, was launched. This vessel was 888 tons burthen, with Maudslay's double cylinder engines of 200 horse-power.

The propellers tested in the *Rattler* were those of Smith, Steinman, (Blaxland's patent,) Woodcroft, Sunderland, and Hodgson; and the trials, thirty-two in number, took place at various dates from October 30th, 1843, to January 23rd, 1845. Notwithstanding the public guarantee given by Sir George Cockburn, in the House of Commons, March 1st, 1844, that "whichever screw proved to be the best, *that* the Admiralty would adopt," and which certainly must be held to imply the placing the competitors on an equal footing, the grossest favouritism was practised towards Mr. Smith. Of the *thirty-two* runs made by the *Rattler*, *one* was with Hodgson's three-bladed parabolic propeller, *two each* with Sunderland's flat-bladed, Woodcroft's, and Steinman's; and *twenty-five* with *Smith's!* Woodcroft, in his two trials, employed first a *four*, and then a *two* threaded screw. Sunderland's, on the second trial, had 9½ in. cut from the under side of the plane; and Steinman's, on the second trial, had an addition made to the surface of the fans towards the centre. Smith was indulged with no fewer than *twelve* alterations in the course of the experiments, viz.:—

1st. A screw of two half-turns, in accordance with the "memorandum of disclaimer" already mentioned. Diameter 9 feet; length of shaft, 5½ feet; pitch, 11 feet; angle 22½ degrees. 2nd. Reduced the length to 3 feet. 3rd. Added a foot to the diameter, and reduced the angle to 20 degrees. 4th. Reduced the length to 2 feet. 5th. Reduced the length to 15 inches. 6th. Tried a screw of 3 blades, each one-third of a turn; diameter 9 feet. 7th. Tried a screw of 4 blades, each one-fourth of a turn. 8th. Returned to the one with 3 blades. 9th. Returned to that with 2, but each of them only one-sixth of a turn; first with a diameter of 9 feet, and then with 10 feet. 10th. Tried a screw of two blades, with pitches of 11 and 9 feet. 11th. Tried one similar to No. 6, but strengthened near the boss by side and backstays. 12th. Tried one still stronger. This form is the same as that of Steinman, excepting that the segments are carried down to the shaft, instead of being cut away at the lower part, and attached to short arms.

The result of these experiments was the establishment of Smith's screw as (with few exceptions) *the* propeller of the British Navy. In the French, Swedish, and American services, Ericsson's still continues a favourite. The greatest speed attained in these trials by Smith's propeller was 11.877 statute miles per hour (on October 17th, 1844), with a two-bladed screw, 10 feet in

diameter, 15 inches long, and 11 feet pitch; the steam low; the engine making 27, and the screw 108 revolutions per minute.

The next greatest speed was with Steinman's (January 22nd, 1845,) 10·876 statute miles; the wind light; the diameter of screw 10 feet. But in this case the engines were only worked up to 25·24 revolutions, or 100·94 of the screw. With Woodcroft's two-bladed, 9 feet in diameter and 19 inches in length, the speed attained (April 18th, 1844,) was 9·927 statute miles; the wind being very light; the engines making 27 and the screw 107½ revolutions per minute. With Sunderland's (two flat blades), 8 feet 2 inches in diameter, 8 feet long, and 26 feet pitch, the speed was 9·64 miles; the engines making 17·4 and the propeller 69·9 revolutions. Hodgson's (three parabolic blades), 10 feet in diameter, attained a speed (January 9th, 1845,) of 7·8 miles. Messrs. Smith and Steinman were supplied with their propellers at the public expense; the other competitors were obliged to pay for theirs out of their own pockets.

The above outline of the history of the screw propeller, to the date of its introduction into the public service of this country, will, no doubt, rectify many erroneous impressions relative to this interesting subject. It is written with no hostile feeling towards any person, but solely with the view of conveying reliable information to the public.

HORACE J. ROCKWELL.

*Hampshire Advertiser*

#### THE QUEEN AND THE CRIMEAN MEDALS.

The annals of the British Army are bright with glorious days. Open the pages of the "Calendar of Victory" where you will, and some record of a brilliant achievement meets your eye. From St. Chrispin, A.D. 1415, to Inkermann, A.D. 1854, history sparkles with instances of valour, of fortitude, of endurance, and of discipline, resulting in the establishment of universal peace and the promotion of civilization. It is the peculiar glory of England that all her conquests have terminated in the advancement of human intelligence and the increase of human happiness.

It is doubtful, however, if amidst the records on which we can linger with pride it will be possible hereafter to point to a story more interesting than that which the chronicler of yesterday's proceedings will have to relate. It was the first occasion on which British Soldiers ever received a tribute to their gallantry from the hands of their Sovereign. They had won it well,—they will wear it the more proudly that it was handed to them by the first lady of the land, with the most gracious smile, and in the presence of thousands of their grateful and admiring countrymen.

Anxious to impart the most striking effect to the issue of the Crimean Medals, Her Majesty had caused it to be announced that she would, upon a given day, deliver to a certain number of the Officers and men who had returned from the Crimea the guerdon of their bravery and devotion. The Eighteenth of May was fixed upon, and the greatest pains were taken to render the scene imposing. On the parade, in rear of the Horse Guards, a dais was erected, raised about two feet from the ground, and in the centre was placed a flag-staff, which bore the Royal Standard. Close to the edge of the dais a chair of state was placed, and here sat the Majesty of England surrounded by some of the highest State and Staff Officers. A balcony with suitable decorations, and a canopy over the gateway, accommodated the Duchesses of Kent and Gloucester and the younger branches of the Royal Family. On either side, and in the enclosure were raised seats for the accommodation of the friends and *employés*

of the Minister of War, the Commander-in-Chief, the First Lord of the Treasury, the Chancellor of the Exchequer, &c. At an early hour all these seats were occupied by the aristocracy. An immense square was formed by barricades and ropes, and the Brigade of Guards was distributed as a double chain of sentries. Within the two lines of sentries a few privileged persons were admitted by cards from the Commander-in-Chief, and as the greater portion of these were Officers of the Line, the East India Company, and the Militia in their various uniforms, the effect was picturesque and brilliant in the extreme. Beyond the lines of sentries, on the tops of houses, and at the windows of every neighbouring house,—nay, on the spreading branches of the trees in the park,—were *the people* in countless thousands. And here we may express our regret that the raised ground in Hyde Park was not selected for the ceremony in preference to the confined spot contiguous to the Horse Guards. Vast numbers of persons must have been disappointed of obtaining the most distant glimpse of the Queen and the brave fellows who were the recipients of her gracious gift.

The morning was gloomy and threatening, but the public entertain so profound a confidence in Her Majesty's weather-fortune, that no one dreamed that rain would fall. Nor did it: on the contrary, when the clock of traditional repute struck *eleven*, the sun smiled upon the Royal cortege as it emerged from the gate of the Horse Guards and approached the dais. Several bands struck up, cheers burst from every throat, and the ceremonial commenced. Her Majesty was attended by Prince Albert, the Duke of Cambridge, the Commander-in-Chief, the Adjutant General, the Quartermaster General, &c. Everything had been admirably arranged. The medals, attached to a sky-blue ribbon, with a white edge, were placed on a table at Her Majesty's right hand, and as each Crimean hero advanced, he bowed and received the prize from the hands of his Sovereign. There were Officers and men from every Regiment engaged. The Duke of Cambridge was the first to receive the precious gift, then Lord Cardigan and Sir De Lacy Evans and Adm. Dundas. The Staff followed, and then the Detachments in the order in which they stand in the *Army List*. At least 500 medals were distributed. Attention was riveted on those who had greatly suffered at the Alma, at Inkermann, or at Balaklava. There were some who had lost their hands and arms; many who limped from fractured legs, and not a few whose countenances indicated that they had recently risen from beds of sickness. The estimable and brave Sir Thomas Troubridge, of the 7th Fusiliers, was wheeled up to the dais in a chair, as was another Officer who had lost a leg. The number of wounded Artillery Officers and men appeared considerable. The Officers and Sailors of the Naval Brigade, and of the portion of the Fleet engaged in the Black Sea, followed the Military recipients, and much interest was excited by the appearance of two young Midshipmen, who had earned the decoration of the Medal. As the groups emerged from the line of Guards formed near the dais and approached the ladies, who were within the line of Sentries, they begged for pins wherewith to attach the Medal to their breasts, and we could not help remarking the enchanting grace with which their wishes were instantly complied with. Many a fair hand was employed in assisting the Officers and men, whose crippled hands had rendered them incapable of helping themselves.

The ceremony lasted nearly an hour and a half. The Troops then marched past, and Her Majesty and the Royal Family, re-entering their carriages, returned to Buckingham Palace, escorted by the Life Guards.

If the public were disappointed in their endeavours to witness the presentation of the Medals, they had a full measure of gratification afterwards in the opportunity good-naturedly given to them, by the recipients of the decoration, of conversing with them, inspecting the medals, and asking eager questions regarding the battles in which they had been engaged. We were much inter-

ested in observing an elderly gentleman with silver-white hair approach a Trooper of the Enniskillens, and, with tears in his aged eyes, ask leave to shake hands with him—he had had a son in the Cavalry at Balaklava. Lord Cardigan, whose duties as commanding the parade required him to move about a good deal, was greeted with cheers at every turn, and His Royal Highness the Duke of Cambridge received no less a share of the respect of the British public for his noble character.

Upon the whole, the scene was of a most touching description, and will not readily be forgotten by those who had the happiness to be spectators of its leading features.

We should add that the Medal is handsome, and corresponds, in a great measure, with the Peninsular decoration. On one side is the bust of Her Majesty in profile; on the other a Roman warrior crowned by Victory.

*United Service Gazette.*

### THE BALTIC FLEET.

Commander-in-Chief, Rear-Admiral of the Blue, the Hon. Richard Saunders Dundas, C.B.

Second in Command, Rear-Admiral of the Blue, Michael Seymour.

Third in Command, Rear-Admiral of the Blue, Robert Lambert Baynes, C.B.

Captain of the Fleet, the Hon. F. T. Pelham.

	Guns.	H.P.		Guns.	H.P.
<i>Duke of Wellington</i> (flag) . . . . .	131	700	<i>Tartar</i> , Capt. Dunlop . . . . .	21	250
<i>Royal George</i> , Capt. Codrington, C.B. . . . .	102	400	<i>Penelope</i> , Capt. Sir Wm. Wiseman . . . . .	18	650
<i>Ermouth</i> (flag) . . . . .	91	400	<i>Archer</i> , Capt. Heathcote . . . . .	17	200
<i>James Watt</i> , Capt. G. Elliot . . . . .	91	600	<i>Magicienne</i> , Capt. Tatham . . . . .	16	400
<i>Orion</i> , Capt. Erskine . . . . .	91	600	<i>Odin</i> , Capt. Willcox . . . . .	16	560
<i>Cæsar</i> , Capt. Robb . . . . .	91	400	<i>Sampson</i> , Capt. Brock . . . . .	6	467
<i>Nile</i> , Capt. Mundy . . . . .	91	500	<i>Dragon</i> , Capt. Stewart . . . . .	6	560
<i>Majestic</i> , Capt. Hope, C.B. . . . .	81	400	<i>Bulldog</i> , Capt. W. K. Hall . . . . .	6	500
<i>Cressy</i> , Capt. Warren . . . . .	81	400	<i>Vulture</i> , Capt. Glasse . . . . .	6	470
<i>Colossus</i> , Capt. Robinson . . . . .	81	400	<i>Lightning</i> , Capt. Sullivan . . . . .	3	100
<i>Sanspareil</i> , Capt. Heath . . . . .	70	350	<i>Firefly</i> , Capt. Otter . . . . .	4	
<i>Blenheim</i> , Capt. W. H. Hall . . . . .	60	450	<i>Falcon</i> , Com. Pullen . . . . .	17	100
<i>Hogue</i> , Capt. Ramsay . . . . .	60	450	<i>Cruizer</i> , Com. Hon. Geo. Douglas . . . . .	14	60
<i>Ajax</i> , Capt. Warden . . . . .	60	450	<i>Harrier</i> , Com. Story . . . . .	14	160
<i>Edinburgh</i> , Capt. Hewlett . . . . .	60	450	<i>Ariel</i> , Com. Luce . . . . .	9	60
<i>Russell</i> , Capt. Scott . . . . .	60	200	<i>Desperate</i> , Com. White . . . . .	8	400
<i>Hawke</i> , Capt. Ommanney . . . . .	60	200	<i>Conflict</i> , Com. Cumming . . . . .	8	400
<i>Cornwallis</i> , Capt. Wellesley . . . . .	60	200	<i>Basilisk</i> , Com. Hon. Fran. Egerton . . . . .	6	400
<i>Pembroke</i> , Capt. Seymour . . . . .	60	200	<i>Rosamond</i> , Com. Crofton . . . . .	6	286
<i>Hastings</i> , Capt. Caffin . . . . .	60	200	<i>Driver</i> , Com. Rice . . . . .	6	280
<i>Imperieuse</i> , Cp. Watson, C.B. . . . .	51	360	<i>Janus</i> , Lieut. Kane . . . . .	4	220
<i>Euryalus</i> , Capt. Ramsay . . . . .	51	400	<i>Recruit</i> , Lieut. J. F. Day . . . . .	4	160
<i>Arrogant</i> , Capt. Yelverton . . . . .	47	360	<i>Weser</i> , Lieut. Commerell . . . . .	4	160
<i>Amphion</i> , Capt. A. C. Key . . . . .	34	300	<i>Locust</i> , Lieut. — . . . . .	3	180
<i>Retribution</i> , Capt. Fisher . . . . .	28	400	<i>Otter</i> , Lieut. W. Heath . . . . .	3	120
<i>Horatio</i> , Capt. Cochrane . . . . .	24	250	<i>Porcupine</i> , Lieut. Jackson . . . . .	3	182
<i>Cossack</i> , Capt. Fanshawe . . . . .	21	250	<i>Zephyr</i> , Lieut. Bond . . . . .	3	100
<i>Pyiades</i> , Capt. D'Eyncourt . . . . .	21	250			
<i>Esk</i> , Capt. T. F. Birch . . . . .	21	250			

*Floating Batteries.*

	Guns.		Guns.
<i>Ætna</i> .....	16	<i>Thunder</i> .....	16
<i>Glutton</i> .....	16	<i>Trusty</i> .....	16
<i>Meteor</i> .....	16		

Horse-power not published.

*Mortar Vessels.*

	Guns.		Guns.
<i>Blazer</i> .....	1	<i>Manly</i> .....	1
<i>Firm</i> .....	1	<i>Mastiff</i> .....	1
<i>Hardy</i> .....	1	<i>Porcupine</i> .....	1
<i>Havock</i> .....	1	<i>Surly</i> .....	1

Horse-power not published.

*Steam Gunboats.*

	Guns.		Guns.
<i>Gleaner</i> .....	3	<i>Hind</i> .....	2
<i>Pelter</i> .....	3	<i>Jackdaw</i> .....	2
<i>Pincher</i> .....	3	<i>Jasper</i> .....	2
<i>Ruby</i> .....	3	<i>Jack</i> .....	2
<i>Teazer</i> .....	3	<i>Maggie</i> .....	2
<i>Badger</i> .....	3	<i>Redwing</i> .....	2
<i>Snapper</i> .....	3	<i>Skylark</i> .....	2
<i>Biter</i> .....	2	<i>Snap</i> .....	2
<i>Boxer</i> .....	2	<i>Starling</i> .....	2
<i>Clinker</i> .....	2	<i>Stork</i> .....	2
<i>Cracker</i> .....	2	<i>Swinger</i> .....	2
<i>Dapper</i> .....	2	<i>Thistle</i> .....	2
<i>Fancy</i> .....	2	<i>Weasel</i> .....	2
<i>Grinder</i> .....	2	<i>Pigmy</i> .....	2

*Belleisle*, Com. Hosken, hospital ship.*Æolus*, 42, ammunition magazine.*Perseverance*, store ship.*Volcano*, Master-Com. Dyer, floating engineers' factory.

The operations in the Baltic this spring will, it is confidently and officially stated, be conducted on a scale of extraordinary magnitude. In addition to the naval forces of England, which are to consist of one hundred steamers, France will send fifty steam vessels and a powerful land armament, which is now stationed (says *Galignani*) along the coast from Calais to Cherbourg. For the conveyance of these troops and all the war *materiel*, the French Government have entered into a contract with an English Company, the representative of which is at present in Paris; an arrangement which will have the advantage of leaving the vessels of war to operate with all their power against the great Russian strongholds in the Gulf of Finland.

*Hampshire Advertiser.*

CAPT. V. HALL'S OFFICIAL ACCOUNT OF THE LOSS OF THE "CRECUSUS."

We have been favoured by the Admiralty with the following:—

Statement of John Vine Hall, commander of the steam-ship *Crecesus*, received from H.M. Minister at Turin, made on board H.M.S. *Vulcan*, at Genoa, and published in the *Genoa Official Gazette*.

We left Genoa yesterday at nine o'clock, with 270 soldiers and 37 officers of the Sardinian army, and various stores and provisions for the army, including twenty-four mules on the upper deck. We also had to tow the transport *Pedestrian*, No. 58, laden with ammunition chiefly. Nothing particular occurred, steering four or five miles off the coast, till about ten o'clock a.m., when my attention was called by Mr. Maynard, junior officer of the watch, and Mr. Smith, boatswain, to the circumstance of the main-stay smoking, which, being of wire, was supposed to be on fire in the centre, which was of hemp. This caused me to observe the funnel and steam coming out of it, the funnel being extremely hot, the heat of which had caused the deck plates to expand in a convex form. I told the engineer of the watch to ease the fires and damp the coals. Soon after this smoke was observed below on the main-deck, and the surgeon reported that his surgery, which was near the funnel, was full of smoke.

We immediately connected the fire-hose, manned the force-pumps, and I ordered the water to be directed against that part of the bulkhead from which the smoke was observed to come. We cut through the deck on each side of the funnel, and broke several of the deck lights, in order to direct the hose with more certainty.

After pumping a considerable time, and sending a great quantity of water below, both by pumps and by men drawing it, the smoke appeared to increase, notwithstanding all our efforts.

I then called the chief mate aside, and stating my opinion that I thought the fire was extending, directed him to send men to clear away the boats, appointing an officer to each to see them veered astern safely. This was done, and orders given to those in charge of the boats to prevent any one from getting into them. This was effected with some difficulty, because I could not afford to lose the time to reduce the speed, having now changed her course for the land, so that in case the fire should increase, we might be enabled to land the troops with greater facility. The powder and ammunition were now thrown overboard, under the supervision of Mr. Hildyard, the purser. We still continued pumping, and, assisted by a party of soldiers drawing water, poured volumes of it below. Hailed the *Pedestrian*, telling them that my ship was on fire, and that I would thank them to prepare their boats for lowering (if necessary) to assist us. Soon after I hailed, the *Pedestrian* cast off. We were still steaming towards the shore, and the fire appeared to be reduced at one time, but soon after a flame appearing through the deck, I thought there was not much hope of saving the ship. Hearing that the engine-room might soon become untenable from the increasing smoke, I sent an order to the chief engineer to make up the fires, so that the engines might work as long as possible in the event of the engineers being obliged to leave the engine-room.

The fire getting worse, I considered the best course to adopt was to endeavour to run the ship on shore. The coast appeared very difficult to approach, being ironbound and rocky; but perceiving a church in a ravine, it struck me, that being low down there must be some cove there, and according directed the ship to be steered for it. The engineers could now no longer remain in the engine-room, and sending for the chief engineer, I asked him how much longer the engines would continue to work, for it now became a question whether

they would last long enough to enable the ship to reach the shore. He stated that they might work seven minutes or a little longer. I then inquired as to the probability of the boilers bursting, and he made arrangements to prevent an explosion of the boilers when the ship struck. We were at this time rapidly approaching the shore, narrowly observing the nature of the coast as we approached, in order to select a place where it would be most favourable for landing, as it was impossible to stop the engines. In anticipation of striking, and not knowing the nature of the ground, I recommended the commanding officer of the troops to send the soldiers forward, so as to have a better chance of getting on shore first, and also to be clear of the fall of the masts should the shock be so great as to cause them to do so. We were now very close to the shore, and perceived at the foot of the building mentioned before, a small beach and cove. The ship was carefully steered round the rocky point which run out; and after first striking, the ship heeled over to port, righted, and then grounded tolerably gently, within a short distance of the rocks, about ten yards off. The foremast and fore rigging were now on fire, and the midship part of the ship in flames. I immediately ordered the boats alongside, and told the commanding officer of the troops to put his men in them, some leaving the ship over the bows and others at the gangways. After the military had all landed, I told the seamen to get into the boats; and when all had left, the boat came alongside and took the officers and myself, the flames now coming up the saloon staircase. As the ship was now in a perfect mass of flame, and it being utterly impossible to save any of the stores, &c., my attention was called to the mode of providing means of transit for the crews, desiring at the same time one of the military officers to tell the commander of the troops that I suggested it would be better for his men to march to Genoa, which course, I presume, he adopted, as I soon lost sight of them.

I hired two fishing-boats, and dispatched them with the foreman, who could be of no service on the spot, to Genoa; and then sent an officer in a boat to report the loss of the ship to Capt. Brock, remaining myself with the other boats to watch the progress of the fire, and to pick up any straggler I might see on shore. Seeing it was impossible to do anything more, there appearing no one on shore,—previous to which the three masts had gone over the side, and the upper deck had fallen in,—I left the ship in my gig for Genoa, and arrived on board the *Jason* about nine o'clock. It is supposed that there are three or four military persons drowned, owing to their own imprudence in jumping overboard, contrary to my remonstrances and repeated assurances that if they did not hurry and get confused, they would all be saved.

A boat came off from the shore with two women, to render assistance; but the soldiers having swamped the boat, by too many getting into it, a seaman named Burns was drowned in attempting to save the women, one of whom was also lost.

I am of opinion that the fire was occasioned by the heat from the funnel causing the iron bulkhead to be so much heated as to set fire to the wooden bulkhead outside it. I have been nearly two years in command of the *Cræsus* and have never noticed anything of the kind before, to this extent; and I never had reason to apprehend any danger. My own opinion is, that some peculiarity of the coal caused the unusual heat of the funnel. I am perfectly satisfied with the conduct of every one connected with the ship, and my orders were carried out with coolness and precision.

Dated on board the *Vulcan*, at Genoa, April 25th, 1855.

A true copy of the statement made in my presence, also in the presence of Lieut. Furneaux and Comdr. Lane, of the steam-ship *Jason*.

E. P. B. VON DONOP, Commander H.M.S. *Vulcan*.

J. H. FURNEAUX, Lieutenant H.M.S. *Vulcan*.

*Hants Advertiser*.

## ERUPTION OF VESUVIUS.

Naples, May 8th.

Do the wells dry up—is a city swallowed up—is there an earthquake or the shock of one down in Calabria, or are credulous foreigners shaken in their beds at Nice,—the finger of the public is sure to be pointed at Vesuvius, as much as to say, “That’s the villain who occasions all this fear and trembling.” Truth to say, too, that as far as regards Naples, the fears of the inhabitants are more justifiable, for the lower part of the city is completely hollow beneath, and it would not require a great effort to lift up the thin crust on which dwell so many thousands of noisy, busy souls. Since the last eruption, we have experienced many shocks of earthquake in Magna Grecia: Meli has been destroyed; at the beginning of this year a portion of the crater fell in; smoke in greater quantities than usual has at times been vomited forth; still, so late as ten days since, the guides prophesied that an eruption would not take place till October. It is singular that these catastrophes have taken place, I will not say generally, for I have not sufficient data to go upon, but frequently about the full of the moon. On this occasion she was eclipsed, adding vastly to the mysterious grandeur of the spectacle, and awakening in the minds of the vulgar a species of pious awe. One of the lights of heaven was going out, whilst a subterraneous fire was bursting forth, scorching and destroying everything within its reach. All the public places have therefore been crowded nightly with curious or anxious gazers,—and a stranger entering the city might have readily imagined that a series of demonstrations was being made in different parts.

I think the finest view was to be obtained near the Church of the Carnival, for the fire does not flow down so much in front as on the side or the back. Standing, then, near the church,—sacred, by the by, to the memory of Masaniello,—a broad path of light lies across the sea to Resina. Over this the imagination runs, and advancing up the mountain sees a river of fire descending like the coils of a serpent from the recently opened mouths. On the very top, the huge crater is comparatively quiet and inactive; one might fancy that the portion which fell in earlier in the year had gorged it, and that like a huge boa, it was now lying insensible in all the agonies of indigestion. But an examination on the spot is worth a hundred distant, imaginary views, so on the second night I started for Resina. On the outskirts of Naples, in the centre of a bridge, is a large statue of St. Januarius, with an inscription beneath, recording his miraculous interposition to stay the destruction of a former eruption. The saint was holding out his right hand, as though he was saying, “Thus far and no farther,” whilst his face gleamed with the recent fires. Still nearer Resina a long inscription calls on posterity to be vigilant, and describes the impetuosity, the suddenness, the overwhelming destruction of an eruption,—and now again the boiling lava was flowing down the sides of the mountain, and people were driving and hurrying along the road by thousands, as if to throw themselves into the flames they were warned to avoid. Resina is passed, and we are going up the mountain on foot,—for the best of all reasons, our horses will not pull us. Nor were we alone in our disaster; many were the carriages stuck deep in the fine dust which had been thrown out during former eruptions. The neighbourhood of the Hermitage was like a horse-fair, and a motley group indeed the human or Neapolitan species presented in its many varieties. Without guides, for we had nothing more to do than join the stream of living creatures, that was flowing all in one direction, we pushed on to the grand point of attraction, and, deviating a little from the road, we crossed the lava of yesterday’s deposit. It was an immense black bed of coke, to all appearances;—here and there the occasional elevations looked like waves which had been arrested in their course. The heat which ascended was sometimes intolerable; it burned our shoes. We were walking over the blackened crust which lightly



lay on the surface of a river of fire. We took up loose pieces of the coke, and the glowing lava appeared, at which we lighted our cigars, and on which, throwing paper and other inflammable materials, flames sprang up. This vast bed, which is now again in motion, was then stationary, yet divided only by an imaginary line from the most remarkable spectacle I ever witnessed,—a long fiery extended plain moving on slowly and irresistibly, as if the Power which set it in motion required not to make itself known by any sudden or violent jerks. There were a majesty and a continuity in its progress which made an impression upon me which I can never forget. Although it was nearly a level, yet unceasingly it moved on like an Alpine glacier, carrying everything with it. The noise, 'oo, which marked its course reminded me at times of the murmuring, rattling kind of noise which an Alpine stream makes as it rolls or rattles over its shingly bed. The masses of coke ground lightly one against the other, and it seemed to one as if a thousand voices were uttering *hish—sh—sh*.

There was a point at which this scene, grand as it was, became yet grander. Half way between the Hermitage and the foot of the cone is a vast ravine, which separates Vesuvius and Somma. A different wind might have brought the lava more to the North and West down upon Ercolano; as it was it took the direction of this ravine, which descends more than a thousand feet below, into the villages of Massa di Somma, San Sebastiano, Madonna del Arco, and others. The first descent into this ravine is precipitous, and over it rolled this stream of fire, in width about 200 feet, forming a cascade of liquid flame. Even in its fall, too, I imagined that it was not forgetful of its dignity:—there was no impetuosity in its movements; it rather moved than dashed over, and then kept on its course through the plantations of poplars and chestnuts with which the sides of the ravine were planted. They are now, of course, utterly destroyed. A sudden flame, and a shriek, and a waving to and fro, and tree after tree succumbed to the power of the fire. I never saw movements nor heard sounds more expressive of suffering; I could not disembarrass myself of the impression that they were human, and as they writhed and toppled over found myself exclaiming to some Italian friends "*Poverini!*" The abyss into which the lava rolled might have been unfathomable, for no eye could pierce it, and the huge masses of red smoke which heavily rose from below threw an indescribable air of mystery over the whole, except when a sudden puff of wind clearing the opposite side showed us the burning trees.

There was yet another point to be attained, without doing which I could not content myself: so, like the traveller who has come upon some unknown river in a strange land, I determined to trace back the fiery stream to its very source. Taking for our guide a man who was selling coins, which he had imbedded in burning lava, and without any other light than that which proceeded from the mountain, we tumbled along over our rugged path of coke, listening as we walked to the history of the various strata against which we were knocking our shins. As we rose higher and higher we obtained a further view of that marvellous river on our left, which here appeared to be divided into two branches, and a short distance further brought us to the foot of the cone. There were then seven mouths open on this side, vomiting flame, and smoke, and lava, and two of them were throwing up stones, though not large. "We must see them," said I; "nay, we must stand by them." It was one of those situations when a man does not reason, but when he is drawn irresistibly along by that wonderful fascination which draws the bird to the serpent. So up through the heavy dust we toiled, over our ankles at every step, puffing, panting, and perspiring, until we reached the goal to which our wishes tended. The noise, though not so loud as I have heard it, was like that of a distant, continual cannonade; and at every shot up came fire and stones, or out gurgled lava. The latter flowed down before us in gentle and regular undulations, the former fell in all directions and some amongst us, but being small we had more fear of

that dense mass of red lurid clouds which were piled up in the background ready to do battle. Had the wind changed, we should have fallen as lifeless as the soldiers of Sennacherib; and it *was* a fitful night. Parties had more than once returned in consequence of the clouds sweeping down in their direction; and the "*avanti*," "*avanti*" of the guide, and a deep gulp of sulphur, warned us too that it might be as well to go down. "Not however till we have got some lava with our own hands, and put some money in it." There, now we are ready. It is only to repeat oneself to use the terms "wonderful," "magnificent," "miraculous,"—and yet little else could I utter that evening. Returning, we found ourselves half surrounded by a semicircle of fire; it accompanied us to the edge of the cascade: and once more we placed ourselves there again. Sometimes large masses broke away out of the stream, as it rolled down, and falling down precipitously, tumbled over and over. The glare and the heat, which at such times were thrown out, blasted and scorched us: we were obliged to lift up our hands, and fly for it.

Since that evening many changes have taken place. Several of the new *bucche* have united; another has burst out, and under the following alarming circumstances. A Spanish family was standing on the cone, and nearly on the same site as ourselves, when they fancied they both felt and heard the ground cracking beneath them. It was a run for their lives,—when up shot a stream of stones and lava, and a new crater was formed. The old crater too, at the summit, is beginning to rouse itself from its lethargy, and is now adding to the destruction which is pouring down upon the devoted country beneath. Another change has taken place in the bed which I first described as that from which I looked down on the fiery cascade. It is also in motion; and to give you any idea of it, I must beg you to imagine Oxford Street or the Strand taking it into its head to go into the country, not in detached parts, but in one solid, continuous whole. On moves this fiery serpent, now upwards of four miles in length, its jaws devouring plantations and vineyards, whilst its huge body is emerging, coil after coil, from the "shattered side" of Vesuvius. God preserve the poor people below! I went round the mountain last night to the villages of Massa di Somma and Sebastiano, and met the river in its course. I was there till two o'clock in the morning;—but must reserve my description of what I then witnessed till another occasion. I am stupified by it: all that I had hitherto seen faded before it. Not all the various, picturesque, and, under ordinary circumstances, amusing incidents, which one met with, could relieve the one absorbing feeling of awe which took possession of me. Suffice it, for the present, that I looked on a cascade of glowing lava without exaggeration one thousand feet in height. It was Niagara on fire; and now it is in the very streets of a village. The excitement in the capital and throughout the neighbourhood is intense: the whole population swarms out to the great scene of interest. On the first night on which I went up the mountain I met the King, the Queen, and all the royal family after midnight. Many remained the whole night, for it was just one of those scenes that it was impossible to gaze upon sufficiently. What a contrast did the view present as we returned! As we left the fires more and more behind, the moon resumed her influence, and shed her softened, silvery light on the placid bay and the spectral outline of the lovely coast. Capri was distinctly looming up in the distance; and circling round to Naples, and Procida, and Ischia, the eye marked the many points rich with poetic and historic interest.

The mountain increases in activity, and a portion of Massa di Somma has been destroyed. The poor inhabitants are flying in all directions with furniture, with the timber they have cut down,—with whatever, in short, they can save from the general ruin.

H. W.

*Athenæum.*

## NAUTICAL NOTICES.

**CAROLINE ARCHIPELAGO: Wreck Reef—dries—Caution to Navigators.**

The following account of a reef on the Eastern end of the Caroline Group, confirms the position assigned to that of doubtful authority noticed in D'Urville's Chart of 1847, but which does not appear to have yet found its way into those of our own authorities. It is of considerable importance from its position as well as from a portion of it being above water. It appears also to have been reported through Col. Sabine, R.A., by a Commander of a Swedish vessel, of which we find no other notice than that it was seen by him, agreeing in position with that here given, and is about \_\_\_\_\_ miles South of Duncan Reef.

Report of Capt. Augustino Costello, of the Sardinian schooner *Sofia*, dated 18th December, 1854, at Hong Kong, where he had arrived from Australia.

Passing between the Caroline Islands, a reef was discovered in lat.  $8^{\circ} 6' N$ . and long.  $154^{\circ} E$ . from Greenwich, which is not laid down in the old charts, nor yet on that of S. T. Hobbs of 1850, with the additions to 1852. It was on the evening of the 27th of November I thought I saw from the cross-jack-yard, to the N.N.W. a ship, and breakers in the same direction. I stood towards it to be certain, and in half an hour saw that it was a ship wrecked on the reefs which extended in various directions. The night came on rainy. Prudence suggested I should go no nearer, and in the hope of saving the shipwrecked crew if there were any, on the following morning I kept in the offing under shortened sail.

The next morning the same vessel was in sight, and on getting sufficiently near, it was seen that she was a broken hull, nothing remaining entire but the head and bowsprit, and the jibboom nearly perpendicular, had induced us to think it at first sight a complete ship. We went as near as we could so as to distinguish the jibboom-rigging. Our sails were then backed, and a gun fired; but not a living soul was seen on the deck or above on the yards. The tide driving us towards the reef, we kept at a little distance, where we could take good observations for the chronometer and meridian altitude, and off the East point determine the aforesaid position, which is I think correct, since we found no change in the rate of the chronometer since leaving Sydney.

The form of the reef is that of an ellipse, with an extent of about seven miles from East to West, and about two miles North and South. There was but a small portion dry, on the East part, where the hull of the ship lay, and it is believed that at high water this would be covered. The rest is level with the water, or some feet under water, where the sea breaks over the whole extent of it.

**DISCOLOURED APPEARANCES OF THE SEA.**

Burr Street, 25th February, 1855.

Sir,—In looking over the remarks made by the Commander of the *Harriet Humble*, during a voyage to the Australian colonies, &c., I observed a notice of discoloured water, accompanied with seaweed, having been met with in lat.  $43^{\circ} 44' S$ , long.  $40^{\circ} 47' E$ . I am in consequence induced to forward the following extracts from a journal of my own during a passage from London to Van Dieman Land, in 1849, and which are at your service, should you think them worthy of insertion in your valuable periodical.

Noon, 28th February, lat.  $49^{\circ} 10' S.$ , long.  $30^{\circ} 15' E.$ , course (by compass) S.S.E., distance 180, variation  $36^{\circ} W.$  Find a set to the N.E. of twenty miles since yesterday, p.m. Passed several patches of sea weed (algæ). 6h. Passed a large iceberg.

Noon, 1st March, lat.  $49^{\circ} 54' S.$ , long.  $35^{\circ} 15' E.$  Current during the last twenty-four hours N.E. by E.  $\frac{1}{2}$  E., sixty miles. Passed several icebergs. Much sea weed. Hard frosty weather, with clear blue sky. Water slightly discoloured. Several bottles thrown overboard containing notices of the set and velocity of the current. The albatrosses appear to have left us. Great number of stormy petrels and a bird resembling the common diver, but not more than one-third the size.

Noon, 2d March, lat.  $50^{\circ} 44' S.$ , long.  $39^{\circ} 28' E.$  Passed an iceberg. Current E.N.E. thirty-seven miles since yesterday. Water slightly discoloured. Patches of sea weed. Several bottles thrown overboard.

Noon, 3rd March. Thick snow showers. No observations. Sea weed. 8h. p.m. Passed close to a large iceberg.

Noon, 4th March, lat.  $52^{\circ} 15' S.$ , long.  $45^{\circ} 11' E.$  No ice or sea weed. Current E.N.E. ten or twelve miles since noon of the 2nd. Variation  $40^{\circ} W.$

After the last date, met with neither ice nor sea weed, nor found any perceptible current until the 19th March, in lat.  $52^{\circ} 18' S.$  long.  $110^{\circ} 9' E.$ , when we met with a very high tubular iceberg; with patches of sea weed. The highest latitude reached during the passage  $56^{\circ} S.$

My object in troubling you with the foregoing is that the report may meet the eye of Shipmasters or officers who may have navigated the same part of the Southern Ocean, and perhaps experienced the same current, &c. If so, it might be of service to physical geography to communicate the fact. I am not aware of any notice of it having been made before. It may be observed that the set was nearly in the direction of icebergs laid down in some old charts, said to have been met with by the H.C.S. *Farquharson* and others many years ago.

Might such a current not have some connection with the great L'Agullias stream running to the S.W.?

I beg leave to remain, &c.,

A SHIPMASTER.

To the Editor of the *Nautical Magazine*.

#### THE WRECK OF THE "JOHN," EMIGRANT SHIP.

One of those calamitous shipwrecks which have come upon us every few months for the last several years has just occurred. The ship *John*, from Plymouth for Quebec, with emigrants, struck on the Manacles Rocks, off Falmouth, got off into deep water; and shortly went down, 200 feet from the shore. Of about 300 persons on board, only about 70 were saved. They were taken from her masts and rigging, and landed at St. Kevern by the Coast Guard. There were five cabin passengers, all of whom were lost. H.M. steamer *Avon* was sent out to look for survivors, and brought back fifty-one. The total number saved has been ascertained to be ninety-three, the number lost 194. An inquest has been held on some of the bodies, and a verdict of "Manslaughter," has been returned against Mr. Rawle, the Captain.

After pronouncing Captain Rawle guilty of manslaughter, the jury at the inquest expressed their "entire disapprobation of the conduct of the crew, with the exception of Andrew Elder, in not exerting themselves to save the passengers. They also strongly disapprove of the vessel having been sent to sea without being supplied with a signal gun, muskets, rockets, or blue lights

as night signals. And they would recommend that a lighthouse should be built on the Manacle Rocks, on account of so many wrecks taking place there, and the sacrifice of so many lives."

We learn from the passengers that the ship's carpenter, Elliot, made a raft, on which seven people were saved, and that the cuddy steward, John Hewett, saved two young women, Mary Ann Penman and Elizabeth Pearse, by conveying them to the foretop, where they remained until rescued by the Coast Guard boat. Among the steerage passengers was James Eastcott, of North Tolland, Cornwall, labourer, with his wife and eleven children: of these, two boys, 14 and 16, are the only survivors. Another passenger, William Walters, of Beer-alston, miner, through great exertions saved himself, wife and six children; he made two daring, but unsuccessful efforts to recover his infant child, which had fallen into the sea.

She was a very old vessel, was 465 tons register, and was built at Chester in 1810, and has long ceased to be "classed."

*Result of the Inquiry at Falmouth, at the Instigation of the Board of Trade.*

The examination of the witnesses terminated on Wednesday, when it was agreed to forward the following report to the Board of Trade:—

That the ship was provided with four boats, three of which were efficient, the other doubtful; that the lifeboat was neither stowed in the proper place, nor prepared for immediate service, as directed by the Act; and to these circumstances probably the staving and loss of the lifeboat, and the delay in endeavouring to get out the longboat, are to be attributed.

That, with the exception of one signal lantern, there were no means on board the ship of making a signal of distress by night. We think that, had there been adequate means of making signals, and had they been shown when the ship first got on shore, while the weather was moderate, the boats would have come off at an earlier period, and thus have rescued a much larger proportion of passengers.

That, with respect to the above deviations from the provisions of the Passengers' Act, we consider that the Government emigration officer and owners of the ship are culpable.

That, either from ignorance or gross and culpable negligence of the captain, the courses steered by his orders were the direct cause of bringing the vessel on the Manacle Rocks.

That after the vessel struck the conduct of the captain was most reprehensible in every respect; he appears to have taken no active means to save the lives of the passengers, did not assist them to leave the ship, quitted her himself while many passengers were still in the rigging; and he and the mate were the only two persons who secured anything for themselves, the captain saving his cloak and the mate his quadrant.

That the chief mate appears to be ignorant of his duties and responsibilities, and is culpable in not having personally rendered assistance to the passengers.

That the conduct of the crew, with the exception of Andrews, Elder, and one or two others, appears to have been very bad, but would possibly have been different had a better example been set them by their officers.

That the conduct of the chief boatman of the Coast Guard and his men, and of a fisherman named James Hill, and others associated with them, in going to and taking the passengers and crew off the wreck, was highly commendable.

The circumstances of this case render it our duty to suggest to your Lordships that in all passenger ships the first mate should be required to have a certificate of competency, instead of one of services only; and that the number and nature of the night signals required to be provided by the owners of passenger ships should be specified.—*Hants Advertiser.*

## ARCTIC EXPEDITIONS.

The last of the Searching Expeditions has arrived in England "all well." Would that we could add that they had been successful in their main object.

It will be remembered that the *Plover* (Com., now Capt. Moore,)—which ship has been employed in the relief service in Behring Straits since 1848—quitted the ice last summer, having during the whole period of her two commissions, under Captains Moore and Maguire, nobly performed the work allotted to her;—wintering first on the Asiatic coast and then on the American coast, at Port Clarence and Kotzebue Sound, and finally, for the last two winters, in the extreme north, at Point Barrow; where Captain Maguire skilfully succeeded in navigating and securing his vessel in this advanced position, an *ultima thule* of the globe.

The return of the crew of the *Plover* forcibly reminds us of the loss of one of her best officers who died last year in London,—from the effects of great hardships and privations undergone while absent from the ship for two winters, in the *Plover's* boat voyages,—Lieut. Wm. Hulme Hooper, a zealous, enterprising, young officer, greatly beloved, and who published an admirable account of the natives of those parts of the shores of the Polar Sea visited by the *Plover*, under the title of *Ten Months in the Tents of the Tushki*.

The *Plover*, on arrival at San Francisco, being found unseaworthy, after all the hard knocks and rubs received amongst the ice, was condemned and sold; and Captain Maguire, with his officers and crew, was transferred to the *Sitha*, a Russian prize; which, on arrival in England, was ordered to Cherbourg to be adjudicated. A steamer was sent to bring back the crew.

We are glad to notice the well earned promotion of Commander Maguire, Lieut. Vernon, Mr. Hull, the Second-Master, and Mr. Jago, the Clerk in Charge. They have well deserved this mark of their Lordships' approbation, and none more than Dr. Simpson, who, we believe, is appointed to Malta Hospital.

The safe return of Capt. Collinson, C.B., in H.M. discovery ship *Enterprise* is also highly satisfactory, after an absence of three years in the Arctic Seas; during which period (like Capt. M'Clure, in the *Investigator*.) he was entirely unheard of, and many felt great anxiety as to his safety; of which, however, we did not ourselves entertain any serious misgivings, although at which end the *Enterprise* would make her appearance was a matter of some speculation with us.

We believe that the passage might be made through Peel Sound in a steamer; and certain it is that Captain M'Clure considers that, with a screw steamer, he should have got through the first season, and not only have discovered but made the North-West Passage with his ship.

The voyage of the *Enterprise* and *Investigator* has opened out a new field for commercial speculation and thrown open to navigation the whole of the northern shores of America: of which our enterprising Trans-Atlantic brethren—whose hundred sail of whaleships have, during the last few years, fished in Behring Strait—will, doubtless, take advantage. We trust Capt. Collinson will give us a full account of his most interesting voyage. Several officers of the *Enterprise* have also been promoted.

AMERICAN ARCTIC EXPEDITION.—The fitting out of this expedition is proceeding rapidly, and the two ships, a screw steamer and transport, will probably sail from New York on the 1st of June. May it prove another glorious First of June, and may the exertions of the good Mr. Grinnell be attended with success. We shall anxiously watch its progress, and trust in the

autumn it may return safe and bring back in safety and in health the noble hearted Dr. Kane and his brave companions, the result of whose proceedings up Smith Sound will be of the deepest interest.

**MEDALS FOR ARCTIC SERVICE.**—Captain McClure, who has already received the gold medal of the Royal Geographical Society, has been presented with the gold medal of the Geographical Society of France. A similar compliment has been paid to Captain Inglefield. Three or four arctic medals have been presented by their Lordships to seamen of the *Investigator*; we yet hope to see it become general, for all have deserved it.

### NEW AND CORRECTED CHARTS, &C.

*Published by the Hydrographic Office, Admiralty, and Sold by J. D. Potter, 31, Poultry, and 11, King Street, Tower Hill.*

NORTH SEA, General, Various	-	-	-	3	0	
NORWAY, South Coast, Sheets 1 to 4, Admiral Klint, corrected to 1849	-	-	-	each	3	0
"    "    West Coast, Sheets 2 to 15, Ditto and Norwegian Government	-	-	-	each	3	0
LAPLAND, Sheets 1 and 2, Russian Surveys	-	-	-	each	3	0
WHITE SEA, General, Ditto	-	-	-	-	2	6
"    "    Sheets 1 to 9	-	-	-	each	2	6
"    "    Arkhangel Bay	-	-	-	-	2	6
SWEDEN, South Coast, Sheets 1 to 5, Swedish Surveys	-	-	-	each	3	0
"    "    Wingo Sound, Swedish Surveys	-	-	-	-	2	0
PRUSSIA, Sheets 1 to 8	-	-	-	each	3	0
"    "    Lubeck to Femern Belts	-	-	-	-	3	0
"    "    Memel to Libau	-	-	-	-	3	0
"    "    Libau to Lyserort	-	-	-	-	3	0
FARO SOUND, Capt. Sullivan, R.N., 1854	-	-	-	-	1	0
LED SOUND, Messrs. Biddlecombe and Hill, Masters, R.N., 1854	-	-	-	-	1	6
FOGLE FIARD, Capt. Sullivan, R.N., 1854	-	-	-	-	1	6
BOMARSUND, Channels leading to, Capt. Sullivan, R.N., 1854	-	-	-	-	2	6
BOTHNIA, GULF, General	-	-	-	-	3	0
"    "    Sheets 1 to 8, Swedish Survey	-	-	-	each	3	0
FINLAND, GULF, Baro Sound, by the Masters of the Fleet, 1854	-	-	-	-	1	6
"    "    Petersburg Bay, Russian Survey	-	-	-	-	1	6
"    "    Kronstadt and Bay of Petersburg, Ditto	-	-	-	-	2	6
"    "    Riga Gulf, Admiral Klint	-	-	-	-	3	0
WARMISO SOUND, Officers H.M.S. <i>Lightning</i> , 1854	-	-	-	-	1	0
BAFFIN BAY, Upernivik Harbour, Capt. Inglefield, R.N., 1854	-	-	-	-	2	0
NORTH AMERICA, West Coast, California, Sheets 1 and 2, Captain Kellett, R.N., C.B., 1848	-	-	-	each	1	6
BOTHNIA, Pilot	-	-	-	-	2	6
BALTIC Ditto, Supplementary	-	-	-	-	1	0

EDWARD DUNSTERVILLE, Master, R.N.

*Hydrographic Office, Admiralty, May 22nd, 1855.*

THE  
NAUTICAL MAGAZINE

AND

Nabal Chronicle.

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JULY, 1855.

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ESTABLISHMENT OF NEW CALEDONIA AS A COLONY OF FRANCE.—  
*Extract from the Report of M. Le Capitaine de Vaisseau Tardy de Montravel.—From the Annales de la Marine et des Colonies.*

[That useful compilation called *Laurie's Pacific Directory*, alluding to Cook's discoveries, refers thus to New Caledonia:—"To the same great navigator to whom so much of our knowledge of the Pacific is owing, are we indebted for the discovery (in 1774) of this the largest island in the great ocean except New Zealand. It is the only one of his numerous discoveries, too, that he did not make a complete examination of. Captain Cook attempted to sail around its North extremity, but on reaching lat. 19° 17', he found that a line of reefs extended beyond his view to the northward, which his want of time prevented him from following up. He then essayed to round its South end, but met with a similar repulse, and thus he abandoned it for that time. The French commander, Admiral D'Entrecasteaux, completed what Cook had left undone. He examined both the N.E. and S.W. sides of the island, and determined the limits of the frightful chain of reefs which form a continuation of the island both at its N.W. and S.E. extremities, the former reaching fifty leagues from the end of the island. His stay in Port Balade, where Cook also remained, gave him the opportunity of reversing the opinion that Cook had formed of the natives. He found them to be the same fierce cannibal race that are described to exist at the Feejee Islands; Cook thought them more mild and peaceable than the Friendly Islanders. Besides these two navigators, H.M.S. *Sulphur* and other ships have visited it."]

From all the information that had reached me relative to the disposition of the tribe of Hienghen\* (N.W. coast), I was led to expect

\* Called Yengen on the Admiralty charts.



that Buarate, the Chief of the tribe, would resist our taking possession. I deemed it necessary, therefore, to make my appearance in that port with means of action sufficiently powerful to intimidate the population, to render hopeless all thought of resistance in that Chief, and to annihilate the idea of some tribes of the North making demonstrations of hostility on any signal for their assistance. It seemed to me, besides, important to impress all the tribes whom my instructions directed me to visit with a just idea of the power of France by the military preparations which I should display.

Free from any prejudice as to the security of the position at Balade, I quitted this latter port on the evening of the 4th May, 1854, in company with the *Prony*; and the next day the *Constantine*, with her consort, anchored at the entrance of the harbour of Hienghen. An hour afterwards, we were surrounded by a large number of canoes, free from any appearance of hostility, and which the natives readily quitted to come on board of us.

The warlike appearance of our two ships, their size, and the number of men composing their crews, seemed to produce the liveliest impression on the natives. In the meantime, the evening of the 5th had arrived, and the Chief Buarate had not appeared, although I had dispatched a native of the tribe to acquaint him that he must repair on board the *Constantine*.

The next day I resolved to send one of our brigs, armed for war, to the village inhabited by Buarate, with directions to the officer of the vessel (Senez) to tell this mistrusting Chief that all resistance on his part would bring serious evils on his tribe, since I had the power, if it were necessary, to establish by force the authority of France at every point of New Caledonia; that I recommended him to lay aside all fear or mistrust, and freely and cordially to accept a change which would necessarily ameliorate the condition of his country and which, moreover, he had not the power to prevent.

Conscious of his defenceless condition, Buarate consented to embark in the vessel I had sent and to accompany M. Senez on board. He acknowledged, during the voyage, that his aversion to our dominion arose from the fear of being put in chains and carried off, and also of being forced to embrace Catholicism, and, finally, of being deprived of his possessions and his territory. At the sight of our armament and crews his terror increased, and I had great difficulty in pacifying him and establishing his confidence, so much had he been deceived in reference to our real intentions. When I had explained to him how little foundation existed for his fears, and had assured him that the intentions of the Government towards the indigenous population were wholly benevolent, and that their property would remain untouched; when I had represented to him in clear terms how much it would be to his interest to deserve the benevolence of the Emperor's Government, rather than to incur his displeasure by hostility; when, moreover, I had assured him that he would be left at perfect liberty to continue living in idolatry or to embrace Catholicism; when, in short, I had enlightened him with regard to the present and the future: a

complete reaction took place in his mind. At our first interview, Buarate engaged himself expressly to forbid cannibalism and murder throughout his tribe. His confidence had become so great that he would not leave the *Constantine* until the next day, and which was the day I had fixed on for hoisting the flag on the territory of the tribe at the village of Kaligone.

The next morning, after the formal act of taking possession, backed by a salute of one and twenty guns, Buarate acknowledged the sovereignty of his Majesty over New Caledonia, and signed the deed of his acceptance in our presence.

Having returned with me on board the *Constantine*, he signified a wish that we should establish at Hienghen a station, as we had done at Balade: this I was obliged to refuse him. He then wanted me to leave the flag hoisted at Kaligone, as a sign of the new nationality of his tribe; but it was my duty again to refuse him, explaining to him at the same time that the national flag was a sacred signal which could only be confided to hands capable of defending it, and enforcing respect to it. He then entreated me to allow him to hoist it on his little state house at the palace, as a signal of protection on our part, and he pledged himself to enforce respect to it, and to defend it to the last extremity. To refuse him this distinction, after having destroyed every prestige of his authority, even to compelling him to remove the human trophies which ornamented his dwelling, would be to deprive him of the only mark of distinction which he could have; to grant it him, on the contrary, was to preserve to him his superiority over his subjects, to make him our friend, and clearly to define his position as opposed to the ill-disposed tribes of the interior. I determined, therefore, on granting him permission to hoist the flag on his official residence, after having fully explained the duties which this favour imposed on him.

In order to give to this act that *éclat* which would raise its value in the eyes of the natives, and at the same time to show them how easily we could reach them, even in the recesses of their mountains, if they deserved punishment, I went up the river to the village of Buarate, four miles from the sea, with all the boats armed, and carrying 200 men for landing, and four mountain howitzers. The entire tribe had hastened from every inhabited point and followed our column on the two banks, accompanying us with deafening cries. At the village fixed on for our meeting, we found Buarate, surrounded by five or six hundred warriors, the women and children, from respect or fear, standing at a considerable distance. The landing took place in the greatest order, and the column, preceded by Buaraté and myself, walked towards the habitation of this Chief, which itself was surrounded by natives. The flag was hoisted, and saluted with a fire of one and twenty guns; the reverberations of which announced from valley to valley, towards the interior, the submission of the most powerful Chief of New Caledonia.

\* \* \* \*

The tribe of Hienghen, bordered on the North by that of Puepo, although separated from it by that of Denone—the weakness of which

places it by turns in the power of one or the other, according to the chances of war,—occupies a rich territory, watered by three rivers, two of which bend to the sea in the bay, forming the inner port of Hienghen. The southern one of these two latter streams, although closely confined in a narrow valley, the steep sides of which leave but little ground for culture, is the most peopled, and is navigable for vessels of large size as far as the village of Buarate. The second, on the contrary, is closed by a bar, which only leaves a passage to the main sea; but, on the other hand, it traverses a valley less confined, which would afford good cultivation. The mountains and the coast would abundantly supply fine timber for exportation; if not easy, in the present state of the country, at least practicable.

The people (estimated at about 5,000 souls) are of a lighter complexion than that of the natives of pure New Caledonian blood, the Uveas, emigrants from Wallis, having more particularly settled on the sea-coast between the tribe of Poumer and that of Supuaca. The race is, therefore, taller, handsomer, and more intelligent at Puepo, Hienghen, and Tuho, where the mixture has taken place more unreservedly.

The population of these tribes, common in origin and similar in genius, seems to me to offer an equal interest for the future with the new colony. More than this, Hienghen has not the advantage of the two neighbouring tribes in being prepared by Catholicism for civilization; but it will be led to it by the simple course of things and by its position.

All tropical cultivation would succeed perfectly well in the territory of Hienghen; for the exportation of which on a large scale it has the advantage of being intersected by several streams of water of some importance, as indicated by the sketch of the river Hienghen, by M. Louis de Freycinet.

The outer anchorage of Hienghen is scantily sheltered in the fine season by the outer coral reefs, which are at a great distance from the coast, and would be one of the worst in the winter season. As for the inner harbour, it is very limited in superficial extent, and could not afford security against a storm. This radical defect induces me to think that a maritime establishment could not be made at this place, which should be reserved exclusively for produce.

The *Constantine* anchored on the 12th in the magnificent harbour of Kanala, a plan of which, made by myself and partly sounded by M. Campenon, I have the honour to present to you herewith. At the same time, I caused the sovereignty of France to be acknowledged, as elsewhere, and I concluded relationship with the Chief of this tribe, whom I found quite disposed to accept our dominion.

Kai, the Chief of a tribe once formidable and powerful, furnished with muskets long before his neighbours, had seen his forces increase tenfold by the use of this weapon, and had taken advantage of it to rule by sanguinary despotism over his neighbours. But this superiority was temporary, for he possessed it only so long as the exportation of his sandal wood lasted. As soon as this means of exchange became scarce with him the sandal ships applied to the neighbouring tribes

and enriched them, in their turn, with the same weapon which had created the power of their enemy. From that time, the equilibrium was by degrees re-established, and the tribe of Kanala is now at the level to which it had reduced the others. Kai, grown old by recent reverses and a life of sixty years, was, therefore, delighted to accept the sovereignty of France in the hope of living henceforward in peace; and the very next day after our arrival he and his people were wholly at our command.

An inspection alone of the plan of the harbour of Kanala conveys at once an idea of the superior importance of this point. Situated almost in the centre of the eastern coast of New Caledonia, and affording throughout its whole extent as secure a shelter as the road of Toulon. It includes four natural basins, in which every kind of maritime, military, and commercial establishments may be readily formed: each of them offering the same security for works of construction, the same facility for loading and unloading vessels, an abundance of excellent water, and an equal facility of communication.

The entrance of this harbour, between the reefs outside, at present appears difficult; but nothing would be easier than to facilitate its access by erecting a single beacon on the island of Nikety, and placing a buoy at the dangerous point.

The territory of this tribe is, perhaps, the most fertile of the island, and the numerous traces of abandoned cultivation everywhere to be seen indicate that the population, which now scarcely reaches 2,000 souls, was plentiful and industrious until reduced by the evils of war. In the further end of the bay are the mouths of two rivers, Kanala and Nigrepo, which take their rise in the mountains of the interior; the one in the east, the other in the west, traversing the valleys which separate the grand chain of the groups of high ground which border the sea, and fall into the bay by a common valley after winding through a level plain covered with a rich vegetation to within a mile of the sea and with mangroves to the edge of the bay.

Where the mangroves cease the land gradually rises, by successive platforms, to the highest ridge, presenting, almost as far as the most elevated summits, indications of a vigorous vegetation and abandoned cultivations. Large agricultural plantations would succeed well in this extensive valley, and their rich produce might be easily conveyed to the harbour by the rivers, which are navigable for ships to a distance of about four miles from their mouth.

In the evening of the 16th, the *Prony* arrived at Kanala from Tuho, where her appearance produced the best effect on the population, of whom our Missionaries have lately made a little Christendom, which seems as promising as those of Balade and Puepo. The territory of that tribe is rich and beautiful, but the anchorage found by the *Prony* was fouled by coral patches, which render its access very dangerous for a large ship, and exposed to the winds from seaward; it is at all times impracticable for ships of a certain dimension.

On the morning of the 17th, I dispatched the *Prony* for the port of Kwava, which I thought would be interesting to examine, in order to

complete the establishment of our dominion on the eastern coast and our first acquaintance with a land so little known.

This harbour is well sheltered, but it is more difficult of navigation and more limited in dimensions than the harbour of Kanala, which, in all respects, is much superior to it. The soil is rich and is watered by several streams; but the population is now so much reduced by the attacks of neighbours—of whom it has been for several years the victim—that it was with difficulty the *Prony* got sight of a few inhabitants, who were living in constant fear of being discovered by some enemy, and dying from hunger and wretchedness. The *Prony* brought me, however, the Chief of this unhappy tribe, who eagerly accepted our dominion, and whom I sent away delighted with some presents, of no value to us, but to him, in his poverty, very precious.

Leaving Kanala on the 23rd, in a calm, the *Constantine* being towed by the *Prony*, by noon the next day was in a position to double the reefs to the south of Pine Island and to steer for the harbour of St. Vincent, situated on the western coast. There I gave orders to the *Prony* to sail for the anchorage of Pine Island, where I hoped she would find wood for an establishment at Port St. Vincent.

Delayed by a continual calm, the *Constantine* did not reach that port until the 28th of May, and only twenty-four hours before the *Prony*. My first care was to ascertain the extent of the vast bay of St. Vincent, in order to select, on a good foundation, the most suitable point for the establishment of a post of defence. I was not long in discovering, from the nature of this port, that my choice would be confined to one of the large islands which limit the bay towards the south; and, after mature examination, I selected a *mamelon* which seemed to me to possess every desirable condition, with the exception of water;—an article of which all the other islands are alike deficient, as well as this to which it belongs.

Before, however, beginning any serious work for establishment, I wished to be assured that the necessary water could be procured by wells, and I immediately caused search to be made by having three wells dug within reach of the point selected. These preparatory labours were going on at the same time with the hydrographical survey of the bay, when I learned that about thirty miles to the South the bay of Numea offered an excellent harbour, sheltered by a large island. I sent my boat to Numea in order to examine it, and to be assured of the existence of coal said to be found there. \* \*

I was the more disposed to it as our wells, sunk in mining fashion, had already, with great labour, attained the depth of eight metres without much hope that we were likely yet awhile to obtain a supply of water sufficient for our daily need as well as for our ships, the stock of which was partly exhausted.

Port St. Vincent, seldom visited before being taken possession of, was the subject of diverse opinions. Some accounts represent it as one of the finest bays in the world, whilst others allow it only to be of limited dimensions in regard to the part where a vessel could anchor. The complete examination which I have made of it, and the result of

which I have the honour to send your Excellency subjoined, has shown me that, bounded on every side by a chain of islands, leaving between them a basin of vast extent, St. Vincent Bay would appear to one who had not studied it to be of great dimensions; but the navigable portion of it is much reduced by the heaps of sand and gravel washed down by the rivers from the mountains and the open plain. These are partly lost in the mangrove land which they have formed at some distance from the bases of the mountains; and the branches which reach the bay are obstructed by sand and mud, rendering their entrance impossible. The islands are almost entirely naked, and the only vegetation to be seen is a coarse grass, which does not seem to be fit for the food even of cattle.

Thus the extent of this large bay presents on one side only perpendicular mountains and watery plains covered with mangroves, and on the other a chain of naked islands without either wood or water. The labour of man would, I believe, prove unequal to overcome these radical deficiencies, the influence of which is sufficiently demonstrated by the numerical weakness of the natives and the wretchedness which accompanies the few wandering groups which are met with, sometimes on one island sometimes on another, without any shelter from wind, rain, or cold, and having for their sole support wild roots and fish which they chance to obtain.

Thus the port of St. Vincent left but a gloomy impression with regard to results to be expected from it hereafter, and I believe that for a long time to come it will afford no other advantage than a shelter in bad weather.

Leaving Port St. Vincent in the morning, the *Constantine* and *Prony* entered Numea Bay the same evening and anchored in the magnificent harbour which separates it from that of Morare, and to which I have given, provisionally, the name of Port de France. Its vicinity to New South Wales, the facility of its landings, its security, and its importance, made me fix on it from the first moment as the most suitable for an establishment; but I determined previously to examine the Bay of Morare, the neighbourhood of coal, and of which my boat had brought me some valuable specimens. We therefore repaired there immediately after having made ourselves acquainted with the resources of the Port de France; and on the next day I performed, with the same ceremony as at other places, in the presence of the natives, the act verifying our taking possession of New Caledonia.

The population of this tribe, which extends from St. Vincent to the South point of the principal land, is small in number, and by their keeping at a distance from us gave me unequivocal proof of their unfriendly inclinations towards us. Their chiefs, too, on various pretexts, got out of our way; but I took no notice of their absence, and shall act in the same manner in respect to them until necessity brings them to us.

The first valuable article found at Morare was the finest fresh water ever seen at the foot of a cascade, flowing down the Mont d'Or, an

isolated mountain so named by me because in one of its ravines the natives have found nuggets of gold.

The shores of the bay exhibited to our view on our first visit five distinct veins of coal, appearing on the surface and only requiring to be worked. The excellence of this material seemed doubtful to no one; but, notwithstanding its appearance, I resolved to put its quality to the proof, and I ordered about six tons to be taken on board the *Prony* and tried on her voyage to Port de France. This experiment being made on a sufficiently large quantity of it, although under unfavourable circumstances, the material having been taken from the surface, produced the most satisfactory results, and demonstrated that the coal of New Caledonia is equal to the best English coal and will even bear comparison with that of Cardiff. It burns well, supplies a great deal of caloric, yielding very little residue or smoke.

If, at so many different places, the bay presents on the surface of its soil an excellent coal, easily obtained, what may we not expect from a country which presents everywhere the same appearance, when examined by competent persons. But this is not my only reason for considering this portion of New Caledonia destined to a brilliant and prosperous future when its colonization has been established; for the territory in the neighbourhood of the bay wears an aspect of rare fertility. The valleys are deep and fertilized by rivers, the banks of which are covered with very rich vegetation; the mountains, though lofty, have a declivity which permits of cultivation half way to their summits, while their base is washed by the sea and not bounded by mangrove plains. Water is plentiful, and the forests of the interior are rich in gigantic trees, fit for building, that could be felled and conveyed to the bay by proper means.

The anchorage of Morare is, unfortunately, quite open to wind and sea from S.S.W. to S.E.; and the experience we had of it during the few days we stayed there convinced me that, in its present state, it could not be more than a place of call, and that it would be necessary, to make it a harbour for unloading, to unite, by rocks dropped between them, the chain of reefs to seaward from the point of the principal coal mine. This work would be exceedingly easy to perform, one of the channels to be filled up being only about 200 metres long and, at most, six metres deep; and the other thirty metres long and two or three metres deep. Besides, the Port de France is at so short a distance from it, and the communications from one bay to the other would be so quick across the isthmus which divides them, that it might almost be said this latter port is connected with the Bay of Morare.

Allured by the riches of the country, the abundance and excellence of the water, and the proximity of coal, I was strongly tempted to choose this bay for the position of our post of defence; but a single day with a fresh wind from W.S.W. obliged me to renounce it, by warning me of the little security its anchorage would afford in the bad season, and by presenting the prospect of frequent interruptions in the communications between the *Constantine* and her workmen.

This reason alone outweighed every other consideration. I left the anchorage of Morare, and returned to Port de France; where I immediately began the first works for establishment on an almost level point, at an elevation of about fifteen metres above the sea, and commanding, at the same time, the principal anchorage and the little channel of entrance.

My first work was the speedy erection of an hospital for the reception, as soon as possible, of our numerous sick; on whom the influence of the shore could not be otherwise than beneficial. The greater part of them were suffering from scorbutic affections, or from the consequences of a dry colic, which attacked us so severely on our entrance into the China Sea. To achieve this important object, I cast my eyes on the principal house in the Isle of Mou, the possession of which has been given up to me for a trifling payment. Thus I have been able to establish an hospital in the most healthy and airy part of the bay, removed from all cause of insalubrity, on a fertile and cheerful isthmus, bounded on one side by the open sea and on the other by the roadstead. I have already the satisfaction of seeing the good effects of the shore in a sensible improvement among the greater part of the sick, and I hope before long they will be in a condition to return on board.

Our foundation works began on the 25th of June with rainy weather, which has continued almost uninterruptedly from that time; nevertheless they have been carried forward with the rapidity which I ever expect from the good will maintained by the crew of the *Constantine*.

If my examination has been toilsome and difficult it leaves me at least the satisfaction of having caused the sovereignty of France to be acknowledged over almost the whole extent of New Caledonia: of having impressed all the tribes with a full sense of our power, as well as an entire confidence in our justice: of having restored or discovered magnificent treasures, of the existence of which we were ignorant in a land so little known, and compared with which even that of Sydney is scarcely equal.

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WESTERN AFRICA: ITS COAST, RESOURCES, AND TRADE.—By  
Thomas Miller, Commander H.M.S. "Crane."

(Concluded from page 296.)

H.M.S. *Crane*, Commander Miller, anchored off Lagos on the 2nd May, 1854, and immediately assumed charge of the division from Lieut. Young, commanding the *Antelope*. The *Arab*, under the temporary command of her Senior Lieutenant, had sailed for the Island of Princes, to complete water, a week previously.

I paid my official visit to the Consul on the 4th, and found the bar very smooth; it had, however, been bad for some days previous. I



was extremely glad to find everything at Lagos quiet, with every prospect of continuing so: Kosoko had given no trouble for some time. I was agreeably surprised to find so flourishing a trade in palm oil, with eleven sail at anchor in the roadstead.

The Consul had anticipated some disturbance at Badagry from the same Chief to whom Admiral Bruce addressed a letter on the 7th November, 1853,—Mawn by name. It appears that this Chief is not the legitimate ruler of Badagry; the Admiral, however, did not press on that point, but simply as to whether or not he acted honestly and faithfully up to the treaty for the suppression of the slave trade, reports having reached him that he not only assisted a notorious slave owner, Domingo Martinez, of Porto Novo, but likewise detained people who have from time to time been kidnapped from Lagos. Now, as the reports turn out correct, he must either be dismissed or severely punished, for so long as such a Chief is allowed to rule at Badagry, which is only thirty-five miles from Lagos, legal commerce must necessarily suffer. The Consul gave me to understand that the Badagry people were anxious to get rid of him, and as he is in a false position great hopes are entertained that they will compel him to leave the country and put a legitimate or some other ruler in his place.

I met Dr. Irving, R.N., on shore, who lately arrived here with an appointment as lay agent to the Church Missionary Society. He is a very intelligent and well informed gentleman. The *Dolphin* arrived in the evening from the North Division with the mails, the contract steamer *Faith* having broken down. I sent those for Fernando Po and the different rivers in the Bight of Biafre by the *Antelope*, sending the *Dolphin* back to her station, with orders to complete water at Princes. The *Athol*, store ship, was observed in the offing, but owing to the strong easterly current she did not anchor till late. I completed the *Crane* and *Antelope* to four months provisions from her, and dispatched the *Antelope* on the 6th, at daylight. On the 8th, there being no signs of the *Arab*, and desirous to dispatch the *Athol* to Ascension as speedily as possible, I took out of her 174 days provisions for 150 men and she sailed that same afternoon. The *Britomart* arrived from Ascension at 3h. p.m. on the following day *en route* for the Northern Division, and the *Arab* from Princes on the following morning; she made the passage in three days. A strong westerly current had prevailed all along the coast since the 6th. I completed her to three months, and sailed, in company with the *Britomart*, for a cruise to windward. We tried our sailing qualities and performed some evolutions together. *Britomart* showed herself superior in fine weather with a light or moderate breeze, but with a fresh breeze I should say nearly on a par, and when very fresh or strong *Crane* decidedly superior; fortunately we had the opportunity for verifying this, and we parted company during the night. I left the *Arab* to cruise between Lagos and Whydah till *Antelope's* return, when she takes from Porto Novo to Fishtown, and *Antelope* from Porto Novo to Lagos.

We encountered, during forenoon of the 12th, when between Badagry and Porto Novo, as heavy a tornado as I ever witnessed. We

took in everything and ran before it under a very small foretop-mast-stay-sail, under which, after the strength was over, she went seven knots. Its duration was an hour and a half. I anchored off Porto Novo next day, and boarded all the vessels at anchor—seven in number: four English, one French, one Portuguese, and one Austrian. I then stood close in to Appi Vista, boarding there one English, one Portuguese, and one Sardinian; and then into Jackin, boarding a Portuguese brig and an American ship at anchor there. When off Whydah I sent an officer to board the vessels at the anchorage, one English and three French. Exchanged colours, a few miles to windward, with an American brig running to leeward. Observed one vessel at anchor off Ahgwey and two off Little Popo. Came to for the night and boarded the said vessels—one Portuguese and two Dutch. Encountered while at anchor here a slight tornado. I was informed by the officer that boarded one of the Dutch vessels that the American brig *Carrier Pigeon* had lately been here, but being unable to procure slaves had taken in palm oil and sailed nearly full. The boarding officer was likewise showed a note on board the Portuguese brigantine at Ahgwey from the agent on shore, purporting that the American brig *Spread Eagle* was a very suspicious vessel and to report her as such to the cruisers. Fell in with the *Britomart* off Little Popo, and anchored at Quitta, in company, on the evening of the 17th, when one English and one Dutch were lading with palm oil. A Dutch schooner anchored for about an hour on the 18th, working to windward, and a Portuguese stood close in on the 21st from the southward, running to leeward. *Britomart* took in ten tons of water, by aid of *Crane's* casks, and sailed in company on the 22nd. *Crane* arrived off Accra on the 29th, having lost sight of the *Britomart* during p.m. of the 24th, in a squall from S.W., which caused her to bear up; the current was strong against us with very moderate sea breezes and rarely any from the land. I found the only way to make progress was by anchoring so soon as the sea breeze had finished, taking care not to get out of soundings.

I communicated with the English barque *Warrior* on the 28th, and found a Portuguese and an American barque at anchor off Accra. An English brig arrived on 31st; on which day I left, anchoring off Quitta on p.m. of 1st of June. I observed while at Accra general symptoms of dissatisfaction prevalent amongst the natives, having its origin in a tax called poll tax; indeed so unpopular is it and so likely is the enforcing of the same to lead to very serious disturbances that at present both parties are waiting the result of an appeal to the Home Government. I fell in with the *Arab* off Whydah on the 2nd June, but did not communicate till following morning, when I received our mail and the *Antelope's*; likewise instructions direct from the Admiralty to dispatch the *Arab* forthwith to Cuba. In consequence, I took all provisions over twenty-eight days out of her, mustered the ship, and dispatched her on the 4th, with instructions to call at Ascension for her Commander (Ogle), who was sick at hospital.

I am sorry to find that the Consul at Lagos apprehends fresh disturbances on the part of Kosoko, and that an American brig, the *Spread Eagle*, with whom I exchanged colours off Great Popo on the p.m. of 15th ult., left Whydah about noon the following day with some seven hundred slaves. I had stood in and boarded all the vessels at Whydah the previous day, and was off Ahgwey when the shipment took place. I had my boats away all the night of the 3rd watching the *Aguia*, a Portuguese schooner that came into St. Paul de Loando as prize to the *Spy* last autumn, but was fortunate enough to escape condemnation and is still under the same commander.

I stood towards Porto Novo on the 5th, and received information from the Consul that the *Aguia* intended shipping two hundred. Mercantile vessels are so numerous that I will now merely notice them occasionally if connected with any information worth recording. I anchored off Lagos on the 7th and found nine merchantmen at anchor. *Antelope* arrived next afternoon and *Plumper* in the evening of 9th from Ascension with Commander Ogle of the *Arab*, and bearing orders for the *Antelope* to proceed to Gibraltar forthwith. The *Plumper* did not anchor and was not detained by me longer than one hour: Commander Ogle returned in her to Ascension. The *Antelope*, after being mustered by me and discharging sundry provisions and stores, sailed on the following day for Gibraltar, with orders for touching at Sierra Leone for the purpose of Kroomen. A Court of Enquiry was held, on application from her Commander, by my order, on one of her Assistant Engineers; the proceedings of which were forwarded to the Commander-in-Chief of the Mediterranean.

The currents for the last few days have been extremely variable, the weather very uncertain, and the bar off the river entrance unusually bad. I sailed from Lagos on the 14th and came to in Clarence Cove, Fernando Po, on the 16th, when I received the melancholy intelligence that Mr. Beecroft, H.M. Consul for the Bight of Biafre, had departed this life on the 10th, and a Mr. Lynslager, Spanish Governor of the Island, had taken upon himself, by appointment of Mr. Beecroft, previous to his death, the duties of British Consul. I found that the *Britomart*, likewise the *Polyphemus*, from the South coast, had left a day or two previous to my arrival, the former having bore up hither on finding the water she took in at Quitta brackish. Completing water and fuel, I stood to sea on the 22nd, anchoring in Cockburn Cove on evening of 25th, an hour or two after the mail from England, by which several of the Niger expedition arrived, and as they expected to have found the *Pleiad*, steamer for the Niger expedition, waiting their arrival I detained the mail a few hours beyond her regulated time. She arrived on the night of the 28th; when, finding she was sadly in want of assistance, I felt it a duty to remain not only for the purpose of seeing her equipped with expedition but also to render every assistance in my power towards arranging some little difficulties that had occurred on the passage out. I entrusted the charge and command of the Government branch of the expedition to Dr.

Baikie, R.N., and I also deemed it advisable for the well conducting of the expedition to lend Mr. May, Acting Second-Master of the *Crane*, to it as a volunteer.

I quitted Fernando Po on the 7th of July, anchoring off Lagos on the 10th—an astonishing passage for the time of the year. It was 5h. p.m. when we left Fernando Po and at noon on the 10th I made the land near Badagry and had to run upwards of twenty miles to leeward, so as to anchor off Lagos at 5h. p.m., where I found five vessels at anchor. The wind during this short passage blew strong from the S.W., with constant heavy rain and strong north-westerly set; during the last twenty-four hours we were set N. 16° W. 35'. I remained at anchor till p.m. of the 12th but could have no communication with the shore owing to the bad surf. Anchored off Soo Loo on the following day and off Badagry the next day. There has been no communication with the shore for several days and our first communication here informed me that they were all at war. The Consul and most of the merchants of Lagos were here when I last visited Lagos. I was informed that the Consul had left on the 8th. I wayed on the 16th, boarded the vessels off Porto Novo and anchored off Whydah on the 18th. Boarding the vessels there, I found one of them to be the Portuguese schooner *Aguia*, nearly laden with palm oil, about to sail in a few days. I was glad of this as it proved the Consul's report of this vessel's being about to ship slaves erroneous. The surf had been so bad here that no communication with the shore had taken place for a fortnight.

On the 19th I boarded the vessels off Appi Vista, when I received information that the trade was stopped at Porto Novo on account of their war, and that a Portuguese schooner had shipped a cargo of slaves from Jackin a few days previous, during the night, also that the Portuguese schooner *Amelie* was a suspicious vessel. Anchored off Lagos in the evening and found five vessels in the roadstead; the weather was, however, far too rough and the surf too bad to admit of any communication with the shore. In consequence, early on the 21st, the shipping, excepting one English barque, slipped and put to sea, standing off and on day and night under easy sail. On the following p.m. the sea went down, a short change of tide took place, and communication with the shore soon became easy, which is always the case as regards the sea on a change of tide. The English barque *Warrior* drove close to the eastern surf, when she wisely slipped and came to near us outside.

I left Lagos on the 27th to cruise to windward. While boarding a vessel on the 30th, off Wydah, (the Portuguese schooner *Aguia*,) I learnt that Commodore Mayo, in the American frigate *Constitution*, had left for Lagos on the 27th, and that the French brig *César*, which was boarded by us off this place on the 15th last May, and had been condemned as unseaworthy by survey held on the 3rd of June, on an application from her Captain (Charles Roy) to the commanding officer of the *Arab*, had been sold, and got away, under Spanish colours, on the 26th with seven hundred slaves, just four hours before the Ameri-

can Commodore hove in sight. The Consul informed me ere quitting Lagos of the ill success of his visit to Badagry. I likewise received letters from well informed parties at Abbeokuta and Badagry: they appeared, without exception, very irate at the Consul's conduct, looking upon him as responsible for loss of life and all calamities. I anchored off Quitta on the 2nd of August; where I found the English barque *Watkins*. Left on the 5th, and boarded the Portuguese barque *Lindo Floo* to seaward when off Ahgwey; she was returning to Bahia, not being able to procure palm oil. Came to off Lagos on the 7th and found the *Dolphin* waiting my arrival, last from Ascension. She brought us provisions and orders for placing myself under the command of Commodore Adams. I took some provisions from her and, completing her water to eighteen tons, sent her, on the following day, to cruise between Little Popo and Porto Novo,—to rendezvous each Sunday off Whydah. I had an official visit from the Consul and was informed by him that the Chief Mawme had fled from Badagry and that, though the town had been burned, the place was in possession of the ex-Chiefs, which is very satisfactory to the Consul. I heard about this period of Mr. Souza's death, who had been all his life a great slave dealer.

Leaving the pinnace, with three weeks provisions, under Acting-Lieut. Gillson, off Lagos, I sailed on the 9th for Fernando Po, having but five days water on board. Anchored in George Bay on the night of the 12th; shifted to Goderich Bay the next day; completed water and left on the 15th. I received information from the Authorities at Fernando Po concerning the Spanish slave schooner, *Mercerdeta*, formerly *Oregon*, and decided on going into the Bonny to ascertain what Captain Hemingway, of the English ship *Roderick Dhu*, had to say in defence for taking forcible possession of this said schooner, and using her for his own private purposes after that she had been delivered over to a Captain Birkett, of the English ship *Belle*, for the British Authorities by her slave Captain; the full particulars of which, with her Spanish flag and the key of her hatches, had already been forwarded to me at Lagos by Lieut. Bedingfield, commanding the *Pluto*, attached to the South Division.

I anchored amongst the shipping in the Bonny on the 19th, received sundry articles from Captain Hemingway that had been removed by him from the schooner, also his written defence for such extraordinary conduct, and sailed on the 21st for the Benin, leaving an officer behind, with seven men, in the cutter to seize her should she come into the Bonny while I was seeking her in or off the Benin; off which river I came to on 24th and found the slave schooner had proceeded up the river two days previous for the purpose of trade, and as the weather was rough, the bar also bad, I deemed it best to leave on board of one of the large English traders, called the *Clifton*, a prize crew, under the Senior Lieutenant. Her Commander proffered me every assistance towards conveying them over the bar, when sufficiently smooth. I accordingly quitted for Lagos, Lieut. Forster being ordered to join me there as soon as possible. Arrived on the 27th; found the *Minr*

in the roadstead, last from Ascension. I immediately dispatched her to the Bonny for the party left behind there. The *Mercerdelta* arrived on the 29th, and sailed on the 1st September, under Acting Lieut. Gillson, for Sierra Leone. Her crew, from the *Roderick Dhu*, numbering thirteen, were received on board. The Senior Lieutenant, who brought her so far from the Benin, I was forced to remove and place in arrest for gross neglect of duty, slight intoxication, and making a false statement.

I find Lagos in a very unsettled state. The Consul feels assured that Kosoko has commenced hostilities, and that it is his intention, on the 6th, 7th, or 8th inst., to endeavour to repossess the place; and as I think there are ostensible grounds advanced for the same I intend on the *Minx's* return to attempt entering the river with her, accompanied by a considerable force from my own vessel.

On the 3rd I went on shore to concert measures with the King (Docemo) and the Consul for its defence. I had a grand military demonstration outside the walls on the 4th; formed the troops into three distinct battalions. The King met me on the field a little after 10h. a.m., according to agreement of previous day, and, after we had minutely inspected them, a *feu de joie* was fired, succeeded by a sham fight. King Docemo was well received and repeatedly cheered by the soldiers, whose force was, as near as I could ascertain, 2,000. On returning to the ship next day, finding no signs of the *Minx*, I applied to the Commander of the *Louisa*, schooner, belonging to Benin, to place his vessel at my disposal for the good of the service and convey a despatch to the *Dolphin* ordering her Commander to join me without delay. She sailed immediately, returning on the 9th, *Dolphin* in company. When, accompanied by Lieut. Webber, I went on shore and had interviews with the King and his chief Captain Achambang; supplying the Consul at the same time with twenty 6lb. shots from the *Dolphin*. On the 13th I mustered and inspected her, and on the 16th, the *Minx* arriving, sent her (*Dolphin*) on to Fernando Po to complete water.

On the 18th I embarked, with a party of thirty-five from my own ship, and crossed the Lagos bar, anchoring off the town; and on the following day, the Consul and several of the merchants joining me, I proceeded to Appi, Kosoko's stronghold, forty-five miles further up the Lagoon, anchoring off it on the 27th and leaving on the 29th; during which period Kosoko, his Caboceers, and Chiefs were induced to enter into an agreement with the Consul and myself to give up the slave trade and never again to disturb the peace of Lagos.

I rejoined my ship on the 4th of October, after an absence of sixteen days. *Minx* anchored off the bar on the 6th, and *Dolphin* returned from Fernando Po on the 8th.

I received communications from the Commodore whilst on this service; who has for some time been detained off Accra owing to hostilities and disturbances there, but he, having heard of Kosoko's intended attack on this place, felt very desirous of coming to my aid, though unable to say when he should do so.

Consequently, on the 9th, Lagos being all right, with every prospect of peace, I left in company with *Dolphin* to try and meet the Commodore. *Crane* came to off Quitta on the 14th, having lost sight of *Dolphin* on the morning of the 11th. Procured fresh stock and sailed the following evening for Accra, where the *Scourge*, with the broad pendant of Commodore Adams, was observed on the afternoon of the 17th. *Dolphin* did not arrive until p.m. of 22nd. The Commodore inspected and exercised the *Crane* at quarters on the 25th: on the p.m. of which day *Britomart* and *Ferret* arrived with troops from Sierra Leone, who were landed early next morning at Christiansborg Fort.

The men-of-war, five in number, having gone to night quarters the previous evening, firing three rounds blank, on the evening of the 28th I was ordered to proceed and shell the towns of Labbalee and Tassy; but while 'waying received instructions to wait till further orders: which was most fortunate, as Governor Hill received tidings from the rebels that same evening of their desire to treat with us and accept terms. The Commodore landed on the following morning, and affairs, to all appearances, being about to end in an amicable manner, he ordered me to sail in the evening for Lagos, where I anchored on the night of the 1st of November, having boarded most of the vessels on my passage. Found the *Minx* still inside the bar; so repaired on shore early next day to hold interviews with King Docemo and others, also to prepare for bringing the *Minx* outside; which vessel was suffering considerably from sickness.

I had the satisfaction of finding everything perfectly quiet and flourishing at Lagos, notwithstanding the temporary absence of the Consul and myself. The *Minx* was taken across the bar on the 3rd, and had a medical survey held on her. The *Mercerdeta* (*Crane's* prize), in charge of Acting Lieut. Gillson, arrived same day, leaving on the following for the Bonny in order to return the private cargo on board, as the Court refused to enter into the merits or demerits of the case, so far as their power of confiscating the property. The *Minx* sailed for Ascension on the 5th, with orders to complete water at Princes.

On the 10th I received a friendly message from Kosoko conveying his pleasure and readiness to meet the Commodore at Palaver Island, and that he would there attend to any suggestions he might propose.

I am rejoiced to find that little or no slaving is going on at present in the Bights. There have been no shipments from Whydah and its vicinity since the French brig *César* left, and the slave dealers appear in great tribulation, having heard that the *Spread Eagle* was lost, her Master and crew abandoning her; likewise the cargo of another vessel after being landed was seized upon by the authorities. One or two Spanish slave dealers of note have recently left the coast via Bahia for Cuba, to look after matters. Domingo Maostique and a Senhor Baieta, are the names of two of the said gentlemen. The legal traders are also quitting Whydah and settling themselves at Ahgwey and other places out of the reach of the King of Dahomey (whose exactions

under the slave trade regime are insupportable under the palm oil trade regime).

The *Scourge*, Commodore Adams, anchored off Lagos on the 15th of November, leaving next day for Princes to complete water returned on the 25th, and on the 27th, after communicating with King Docemo, *Scourge* and *Crane* sailed for Palma; the Consul and one or two of the merchants accompanied. Kosoko, his Caboceers and Chiefs, arrived there from Eppe on the 28th and on the 29th I went on shore on the part of the Commodore to pay a complimentary visit to Kosoko, after which I escorted Tappa, his Prime Minister, and Ettee, a Caboceer, with their retainers, on board the *Scourge*, where they were entertained and shown all over the ship.

The Commodore wrote through Tappa to Kosoko a letter confirming and approving of all I had lately done at Eppe, and promising friendship and protection to Kosoko so long as he remained faithful to his agreement.

On the Chiefs leaving the *Scourge*, a salute of eleven guns was fired. They then went on board the *Crane*, and thence to the shore, when, I regret to say, the surf being rather bad, Tapa, the Prime Minister, got capsized,—a good ducking, however, was all the ill effects thereof.

The Commodore sailed for Fernando Po and the South, and I returned to Lagos with the Consul and merchants, where I found our prize at anchor, she having returned from the Bonny, and heard of the safe return of the Niger Expedition to Fernando Po without a single casualty, of their having reached 240 miles further than had ever been attained before. Our prize being found unseaworthy, has been destroyed, and Acting Lieut. Gillson goes in the Mail Steamer to Sierra Leone, to have her condemned. I entered into a contract with Mr. Scala, a merchant on shore, to supply H.M. Cruizers at the rate of 8d. per pound with fresh meat and vegetables, and to put the same alongside.

The *Bacchante* arrived on the 8th, having, in consequence of getting aground in the Cameroons, and finding it necessary to repair some defects in the engines while in the Bonny, been detained. The Government Officers of the Niger Expedition en route home arrived in her. They had been at Fernando Po since the 7th of November. I have permitted Mr. May, Second Master of the *Crane*, who was lent from this ship to the Expedition, to go home in her in lieu of his joining me, in consequence of the very great assistance his services are towards completing the scientific work he has been so very instrumental in accomplishing.

I was informed by the *Bacchante* of disturbances having again broken out in the Bonny; and there are rumours of a barque being likely to attempt shipping a human cargo from Whydah; but I can as yet scarcely credit this latter intelligence. Some uneasiness has lately been felt as to a change on the part of Brazil as to her being likely once more to at least shelter if not encourage this odious traffic.

I sailed for Fernando Po to complete water this evening, and announce. 7.—VOL. XXIV. 2 z



chored in Clarence Cove on the 12th; left on the 16th and anchored off Quitta on the 27th, having made the land on previous day off Fish Town. The *Dolphin* was observed off Cape St. Paul, and she came to a few hours after. I completed to two months provisions, and filled up with water from her, dispatching her on the evening of the 28th to Whydah, where I intend meeting her on the 1st. She informed me that the *Antelope* had arrived and assumed the station assigned her between Lagos and Whydah. The Harmattan has set in unusually late this season.

I am sorry to find that human sacrifices, which are in direct violation of Art. 7 of our Treaty with Lagos, are still persisted in, and I have ascertained that the custom of sacrificing some of the wives and domestic slaves on the death of African Kings, has its origin in a superstitious belief that after death in this world they instantly pass into life in another world, where they require the services of those who had ministered to their comforts and importance in this. This superstition is by no means confined to this part of Africa alone, but I doubt its being carried out to so frightful an extent as in this great slave trade quarter.

Anchored off Whydah on the 1st, (*Dolphin* lying there,) her Commander had failed in procuring me the information I desired concerning a barge supposed to have come for slaves from Bahia. 'Wayed the following day and exercised the *Dolphin* at different evolutions; after which, leaving her to cruize, I proceeded to Lagos, just in time to save the homeward-bound mail. Left Lagos on the 9th to cruize to windward in search of the *Dolphin*, affairs at Lagos having become very critical, in consequence of certain notorious slave traders locating themselves there with King Docemo's tacit sanction. I found on reaching Whydah that the *Dolphin* had sailed a few hours previous; when proceeding to windward as far as Quittah, I returned, anchoring off Lagos on the 14th.—She has doubtless gone to Princes for water.

On the 18th, in consequence of serious disturbances on shore, the expulsion of the English, and the Consul's life being threatened, I sent the *Crane's* boats and Marines in, provisioned for three days, under Mr. Mudge, Acting Mate, to protect British life and property. They returned on the 21st, having, as a demonstration, done good service, and, coupled with my strong letters of remonstrance to the King, induced him to order the slave traders to quit, and to a peaceful state of affairs being at present restored.

The *Sylphide*, Hamburg schooner, which arrived here a few days ago, brought intelligence that eight vessels were on their way to the Bight of Benin, and that six more were fitting out for the same destination, for the purpose of shipping slaves for the Brazils, their cargoes being rum and tobacco. The Kings of Dahomey and Ashantee are reported on their march to attack Abbeokuta, consequently, unless the Bight squadron be greatly reinforced, the illicit traffic will soon be reestablished. Have of late been constantly under way, never losing sight of Lagos. Sent the Pinnacle on the 31st to cruize to windward as far as Whydah. *Pluto* arrived same day, having left the Commodore at Fernando Po, and *Philomel*, Comdr. M'Dowall Skene early on

the morning of the 2nd, unto whom I delivered over charge of the Bight Division.

The Abaki of Abbeokuta has lately made application for a Naval Officer to conduct the defence of his town. One thousand musket ball cartridges and 5000 percussion caps have been supplied to him from the *Crane's* magazine. I understand that the King of Porto Novo, who is tributary to the King of Dahomey, has already 2100 soldiers in the field,—on the march. It is to be presumed that the King of Lagos will assist the Egbas, who are the inhabitants of Abbeokuta; at least there can be no doubt that he will espouse their cause, dreading lest the fall of Abbeokuta should merely be a prelude to the destruction of Lagos, though his cooperation may turn out to be more passive than active.

The names of certain notorious slave dealers are,—Iambo, Machado, Marco, Carvalho, and Lennado.

[The life of the noted slave dealer Kyetan will be found in our volume for 1852.]

#### ISLANDS AND REEFS IN THE WESTERN PACIFIC OCEAN.—By H. M. Denham, Captain, R.N., H.M. Surveying Ship "*Herald*."

[The following substance of a letter to the Hydrographer of the Admiralty will be read with interest by our friends, and especially those acquainted with or about to visit the parts to which Captain Denham alludes. Some curious inaccuracies in the charts will be evident on the perusal of it, that seem, as usual, to have been the receptacle of imaginary as well as real dangers incorrectly placed, while a remarkable corroboration in the position of the Minerva Reef will be seen as given by an American whaler in our number for April last. The visit to the Solomon Islands, concerning the fate of the unfortunate Mr. Boyd, proved no less unsuccessful than that of H.M.S. *Serpent*, related by her Acting-Commander U. L. Hammet, in our last year's volume (February, March, and April numbers), except in eliciting a proof of the event of that gentleman's death. This visit of Captain Denham has, however, been fruitful in Hydrography, and although interrupted in his interesting and important survey of the Fiji Islands, which he was following with his usual zeal, contributions from the Solomon Islands will thus swell the amount of valuable additions made by this officer to our charts: showing that the accomplished maritime surveyor can gather fruits of industry important to his fellow seamen wherever chance may lead him in the wide field of hydrographic labour afforded by the ocean.—Ed.]

By June 28th, 1854, I had traversed a space embraced by thirty miles of latitude and ninety miles of longitude, so closely as to satisfy myself that a reef laid down in lat.  $31^{\circ} 27' S.$ , and long.  $178^{\circ} 0' E.$ , does not exist; our sounding efforts could not find bottom in 852 fathoms.

I then made for the easternmost position assigned to the Rosaretta Reef, lat.  $30^{\circ} 25' S.$ , longs.  $179^{\circ} 8'$  and  $179^{\circ} 15' E.$ ; and after giving

it a margin of thirty miles of latitude and sixty miles of longitude, and essaying for soundings in the vicinity, and eventually dropping the lead at the assigned spot to the depth of 930 fathoms without finding bottom, I was constrained to decide in my own mind that it was another of those fabulous dangers which stud the charts of these seas.

The seeking for and obtaining sufficient data for expunging these two reefs, brought me into the neighbourhood of the Kermadec Group, and as the space between those islands and the reported Vasques Island to the N.E., and the Minerva Reefs due North, forms the highway between Western America and our Australian Colonies, besides New Zealand, I set about determining the actual relative positions of the northernmost island of the Kermadec Group, and the northern limits of that passage.

It was not until the 24th of July that the then winter and boisterous season enabled me to conclude the survey of Sunday Island,\* the which I found offered three anchorages according to winds, and that water, vegetables, and poultry could be procured by whalers during the summer, i.e. the whaling, season. The Observation Spot in West Bay was found to be in lat.  $29^{\circ} 15' 30''$  S., long.  $177^{\circ} 54' 52''$  W. Variation  $11^{\circ} 18'$  E. High water, full and change, 6h.; rise 5 feet. Its maximum altitude is 1627 feet. Its only inhabitants consist of one family from New York, by the name of Halstead, and to whose humane disposition I shall ever feel indebted under the trying circumstances of my having to inter a beloved son close to their settlement.

Proceeding from Raoul or Sunday Island to the northward, I searched between the parallels of  $28^{\circ} 6'$  and  $28^{\circ} 30'$  S., and between the meridians of  $176^{\circ} 6'$  and  $178^{\circ} 24'$  W., for two islands laid down respectively in lat.  $28^{\circ} 30'$  S., long.  $176^{\circ} 50'$  W., and lat.  $28^{\circ} 14'$  S., long.  $178^{\circ} 13'$  W., and certainly such islands do not exist thereabouts. Nor could I trace a sign of Vasquez Island between the parallels of  $24^{\circ} 20'$  and  $26^{\circ} 30'$  S., intersected by the meridians of  $174^{\circ} 40'$  and  $177^{\circ} 40'$  W. Neither does the reef exist which is laid down in lat.  $26^{\circ} 2'$  S., long.  $177^{\circ} 0'$  W. I searched for this reef, its assigned position placing it right in the fairway between the Kermadec Group and Minerva Reefs, with the keenest anxiety over a space bounded by thirty miles of latitude and one hundred and fifty miles of longitude, trying for soundings throughout the space, and dropping the lead over the assigned spot into 400 fathoms without finding bottom.

I had worked my way up to the Minerva Reef region by the 10th of August. This region presented on the charts and in the catalogues of maritime positions a nest of reefs spreading between the parallels of  $23^{\circ} 30'$  and  $24^{\circ} 0'$  S., and the meridians of  $178^{\circ} 0'$  to  $180^{\circ} 0'$  W. This nest of reefs, under the several names of Minerva, Nicholson, and Favourite, I had the satisfaction of reducing to two positive reefs upon which I landed, surveyed, and fixed as the North and South Minervas, nineteen miles apart, uncovering at half tide, always show-

\* This appears to be the same as Raoul Island, by Captain Denham's remarks.

ing out by their breakers, and lie respectively in lat.  $23^{\circ} 37' 19''$  S., long.  $178^{\circ} 48' 58''$  W., and lat.  $23^{\circ} 56' 22''$  S., long.  $179^{\circ} 4' 16''$  W. I obtained soundings and brought up the bottom at 967 fathoms about midway between them. The greater part of this sounding consists of the shells of many microscopic species of Foramsensera. It also contains several specimens of a styliola or exescis, abundantly taken everywhere in the Pacific in the towing net. Mixed up with the sand there are a few fragments of dead slender cellefrosa, a piece of a bulla, one perfect and several imperfect plates of a balanus, and several minute detached crystals of smoky quartz, prismatic, and terminated by five-sided pyramids. This actual specimen of the bottom at 967 fathoms depth, will be forwarded by the first careful hand I can trust it to, with those brought up 300 miles off New Zealand. I found the tide-hour at these reefs to be the same, viz., eight o'clock, and the tidal rise measured six feet. The magnetic variation underwent no disturbance upon the reefs, but come out in confirmation of our ship observations, viz.,  $10^{\circ} 47'$  E. These reefs measure thus:—the North Minerva three and a half miles diameter North and South, and three miles across East and West. The Southern Minerva is two miles diameter from East to West, and one and a half miles across North and South, and both partake of the Atoll character.

By placing Sunday Island where it really is, by expunging the two reported islands sixty miles northward of it, by showing that Vasquez Island does not exist there, and by defining the actual number and positions of the Minerva Reefs, and by sweeping away that vigia between which I have referred to as assigned to lat.  $26^{\circ} 2'$  S., long.  $177^{\circ} 0'$  W., we widen that important but as yet unnamed passage nearly one hundred miles.

Having accomplished the foregoing positive as well as negative results, to the great relief of the future voyager, I was at liberty, on the 31st of August, to enter the Fiji Archipelago. Levuka Harbour, at the Island of Ovalau, invited me as the most tranquil position for rating chronometers, to adjust my recently traversed ground. But I could not forego seeking anchorages and obtaining sights, to add to our chain of meridian distances, as I passed the beautiful Islands of Moala and Angau. I did not find our safe-guards, the Missionaries, at these two islands; but we had the benefit of their wonderful influence through the native teachers whom they had sent. Therefore, while our astronomic data was being obtained, we procured refreshments, made acquaintance with those who will be glad to see us again, and, in tranquillity I could not have anticipated, we visited the heights, intersected the intervening reef, called Mum-bo-li-the, and surveyed the harbours Moala and Angau. The Harbour of Moala we make in  $18^{\circ} 32' 45''$  S.,  $179^{\circ} 57' 38''$  E.; and that of Angau  $17^{\circ} 59' 32''$  S.,  $179^{\circ} 13' 45''$  E.

On the way from Moala to Angau I placed the ship alongside of the intervening reef Mumbolithe, and, by boats, determined its features and relative position. It proved to be of coralline structure, awash at low water, presenting an oval rim: the smooth pool within not acces-

sible. It measures one mile by 0·6, and lies 5·8 miles S.  $18^{\circ}$  W. from the islet off the S.E. extreme of Angau, which places it in lat.  $18^{\circ} 14' 36''$  S., long.  $179^{\circ} 17' 50''$  E. Between this reef and the boundary reef of Angau, five miles and a half apart, I obtained soundings (coarse white coral grit) in 753 fathoms, each reef being so steep to as to give no soundings in 200 fathoms half a mile off.

Thus linking the islands, I found myself in the Harbour of Levuka, where a few white settlers, English and American, with their handy little coasting craft, presented a promising scene amidst a vast native population. Here I found the Missionary Station, anxiously and greetingly verified. We were looked upon as their friends and supporters, and, as no vessel of war of any nation had been there for nearly three years, I soon found my judicial services were solicited by English, American, and native traders, and by French as well as English Missionaries: in the course of which I esteemed myself fortunate, and you will be relieved to hear, that, so far from being embroiled, I elicited thanks.

Levuka Harbour was forthwith surveyed and the heights of Ovalau soon occupied to throw off the great trigonometrical diagram which was to be the basis of a vast field of work, comprising islands and reefs in countless array. But, after some progress, I was suddenly broke off, *i.e.* one month sooner than recruiting health and supplies at Sydney would have suggested, by a report that Mr. Boyd, of the *Wanderer* yacht, (of sad story in October, 1851,) was alive and had marked many trees at Guadalcana, Solomon Islands. Accordingly I left the Fiji Group on the 24th of November for the Solomon Islands.

Our sojourn at Ovalau had afforded us excellent opportunities for rating, and I always looked to clinching the longitude by a smart trade-wind run to Aneiteum, New Hebrides, on my way to Sydney, with which I last year (1853) satisfactorily settled Aneiteum and Isle of Pines. I therefore took Aneiteum in my way, accomplishing the run in four days. This meridian distance completed the circle and resolved the longitude of Levuka  $178^{\circ} 49' 45''$  E., while its latitude had been determined by us as  $17^{\circ} 40' 45''$  S.

At Aneiteum the Missionaries supplied us with as much flour and sugar as averted my placing the ship's company on short allowance while diverted from our previously contemplated route.

From Aneiteum I proceeded to Port Resolution, Tanna, with a hope of shipping an interpreter for the Solomon Group; as also that I longed for an opportunity of obtaining some counter observations from the volcano which I had, in 1853, intersected from Aneiteum and Footuna. I did not succeed as regarded the Interpreter, but I did obtain, with the able assistance of Mr. Smith, the true bearing data desired by Raper in his foot note to page 363 of his third edition, regarding the relative positions of Tanna, Aneiteum, and Erronan.

Without interpreter, but with good rates and departure and good hearts, I made for the Island of San Christoval; and, come what might of our errand of mercy, I determined to obtain some acceptable matter for your reception. We had many plans to organize, plenty to

occupy executive attention, but I could dedicate Mr. Smith to a course of operations; and so, both along the coasts and at the several anchorages of San Christoval and Guadalcana, the interests of hydrography were advanced. At San Christoval I surveyed the beautiful Harbour Makira, situated in lat.  $10^{\circ} 25' 23''$  S., long.  $161^{\circ} 26' 39''$  E., variation  $8^{\circ} 40'$  E., with its Cape Phillip in  $10^{\circ} 31' 23''$  S.,  $161^{\circ} 26' 35''$  E.; and of Guadalcana, its Cape Henslow was determined as in  $9^{\circ} 58' 42''$  S.,  $160^{\circ} 34' 55''$  E.; Cape Hunter  $9^{\circ} 49' 10''$  S.,  $159^{\circ} 47' 10''$  E.; while the fatal bay (Wanderer Bay), mouth of Boyd Creek, was settled as situated in  $9^{\circ} 41' 47''$  S.,  $159^{\circ} 39' 34''$  E., var.  $8^{\circ} 40'$  E.

Our exertions to ascertain Mr. Boyd's fate is necessarily the subject of a distinct report. In a word, we elicited that he was put to death within a day or two of his capture in October, 1851, that no where was his name engraven, except upon two trees at Makeira, San Christoval, where he was a month refitting and where I found his letters and other tokens, dated six days before he went to Guadalcana. The only trace I obtained of him at Guadalcana was his tomahawk, which I have. They offered me a quantity of bones as of *his*, but the comparative anatomy would not do.

While the natives were consistently agreeing in the death, they were equally so in denouncing the Chief who did the deed, and identified him so completely to my satisfaction that I heard without compunction that he had fallen under our fire, after dodging and slipping from our hands. Our restraining and refraining from any act of retribution except regarding the avowed murderer—burning no other house or destroying any canoe except his—gave such unmistakable evidence of our course of justice, and our two opportunities of saving parties of themselves when capsized amongst the sharks and their own people abandoning them, rendered our visit a fine preliminary to a good understanding with the Queen of England's flag and subjects.

I took such a course from the Solomon Group for Sydney as should cut up fresh ground. I satisfied myself that the Indispensable Reef of lat.  $12^{\circ} 12'$  S. does not stretch to  $161^{\circ} 30'$  E., as denoted on some of the charts. But I am enabled to state that a reef which was laid down by some pains-taking mariner in 1791 (in Arrowsmith's, though not in some other charts) does really exist. I anchored alongside of it for thirty-six hours, worked around its awash coral margin, contoured its bank of soundings, ascertained its dimensions to be half a mile by a quarter wide, and that it is situated in lat.  $21^{\circ} 0' 15''$  S., long.  $161^{\circ} 45' 9''$  E.

From this reef, which I call the Fairway because lying nearly midway between the Bellona Shoals and New Caledonia, I was obliged to make the best of my way to Sydney, to hurry my crew out of the effects of the tropical heat; which, with unavoidable privations, had placed one-fourth of us in the sick list.

[In our last year's volume (p. 365) will be found some former observations of Captain Denham's on Pacific Islands and dangers; and in the same volume his remarks on St. Paul Island, Indian Ocean.]

NOTES DURING A CRUIZE WITH THE BALTIC FLEET,—*in the Summer of 1854.*

(Continued from page 199.)

August 13th.—At 4.30 'wayed, with Gordon, and anchored under Langskar, East of Wardo, hoping to have a quiet Sunday; but church was scarcely over when *Hecla*, with *Stromboli*, (Admiral's flag in former,) was seen coming round North of Ado, an unfrequented route, and it was easy to prognosticate they would be soon on shore. In a very short time *Hecla* was reported to be hard and fast, and then I thought it my duty at once to go to her assistance; but to the East of Lesura the ground is all unknown, and a long reef of islands occupies the space which on the plan has twenty-eight fathoms of water. By the time, therefore, that I arrived the *Stromboli* had pulled her off, and we all anchored for the night, the French steamer joining company.

14th.—5h. a.m.—Signal to 'way and *Alban* to lead; but we had scarcely got our anchor before the whole three ships were on shore together, and what with the rocks and the vessels I could scarcely get near to help. At last, after two or three hours' labour, they all got off, and we had just anchored for breakfast when *Hecla* was again on shore. At length we made a fair start and crossed over to Kumblinge without further mishap. The troops had never been landed, but three Russian officers had been there in a steamer a week before; so we returned to our anchorage on North side of Bomarsund and found the upper fort or round tower had surrendered to a French battery of four 18-pounders and four mortars. Their plan of attack is said to have been most certain and systematic, and the amateurs used to go to the battery and smoke a quiet cigar; it was next to impossible for the shot from the tower to hit them; there was only a little hole above the sight to take aim, and a gun was fired every five minutes. By degrees, the chasseurs and marines, taking advantage of every tree and rock, got within fifty yards of the fort and prevented a gun from being loaded, and when the flag of truce was hoisted, in an instant, the hill was peopled with a medley group of naval and military officers, to whom the chasseurs handed their loaded rifles, marines, blue-jackets, and yachtsmen. But their terms being refused the flag of truce was hauled down, and the company, who had advanced to within ten yards of the fort, were politely requested to retire. Another hour's cannonading brought them to terms.

15th.—Went North to put a buoy on a rock, and afterwards into Tango Vick for wood. About noon, a heavy explosion to windward, which covered our decks with sand, and at 12h. the French ships fired a shotted salute at the batteries in honour of the Emperor's birthday. Returned to the North side of Bomarsund, and found one side of the upper battery blown down. Took cattle and provisions to *Gorgon*.

16th.—On our return to North of Bomarsund, found the Nottich

battery silenced by Captain Ramsay's 32-pounders. Received orders to lay the ship in such a position as to repeat signals from the Bomarsund division to the blockading ships to the N.E., while *Hecla* and *Leopard* went in to attack Presto fort, but I was ordered to keep out of gun shot. They anchored about 1,800 yards from the battery, but with a wooded point intervening, so that the men at the main deck guns could not see it. The consequence was that the firing, with the exception of a shell that had burst inside and a few shot sticking in the wall, was very bad,—most fell short or to leeward; and as the fort could only see their mast-heads, they did *Alban* the honour of directing their attention to her for the first half hour, but neither shot nor shell reached within a cable's length. The *Leopard* was struck several times. One gun appeared to carry further than the others. In about an hour they got tired of the little damage they were doing and steamed round to between Tafto and Presto, leaving the field to the *Alban*, when we began to try the length of our pivot gun. Having ascertained it could easily reach the fort, we anchored and went to dinner, as all the rest of the ships in Lumpar Bay did, intending to commence again afterwards. But on looking with the glass at the large fort I observed a man on one of the chimneys shaking, as I thought, a table cloth. This proved to be a flag of truce, and I immediately signaled "Enemy showing a flag of truce." The Presto fort hoisted a signal to the other and afterwards sent over an officer to capitulate, with the large one. I was soon on shore in the gig at Presto, just in time to see the prisoners march out and lay down their arms to a party of marines, French soldiers, and English sailors,—130 in all. Two or three were killed and three or four severely wounded. The fort was carefully built, but the outer coating alone was composed of granite, the interior was filled with rubble, and the arches of the casemates built of brick. It proved there were three tiers of guns, the upper one being in the roof, with a breast-work of masonry 2ft. 6in. high, the rest of wood, where a shell or two that had burst caused great havoc. There was abundance of meal and a deep well of water, so they could not have been easily starved out. My own impression is that three blockships, at four hundred yards, would breach one of these batteries in a quarter of an hour. Not more than two guns could be brought to bear upon any ship at one time, except when the one in the roof happened to be in the same direction.

17th.—We all landed to examine the state of the batteries. The upper round tower was in a state of ruin; one half had been blown down when the magazine exploded, and the other part so shaken that it was impossible to form an opinion as to the damage done by the French battery. I believe, however, the continual stream of rifle balls had more to do with its capture than the battery. The middle round tower (Nontal) had been splendidly breached by Captain Ramsay's three 32-pounders from the hill we reconnoitred on the morning Gen. Jones landed, but it was advanced about two hundred yards nearer than where we stood. The arches of the casemates were quite exposed, and with an hour or two of more practice the shot would have



gone right through the tower and cut it in two. The great battery Captains only were allowed to see, so I cannot speak as to the interior. Nothing would have been easier than to have breached it from the back when the towers were taken.

18th.—Captain Scott, in *Odin*, was ordered to take *Alban*, *Gorgon*, and *Driver* under his orders, and proceed on a secret mission to the East; ostensibly to make inquiries about certain gunboats said to be hidden in some of the islands to the eastward of Kumblinge. We, accordingly proceeded to Dagerby, where we heard pilots might be obtained, and anchored for the night. On landing, we found our fat friend, the custom house officer, had become quite impudent, and tried to prevent any pilots from coming on board: a few days' sojourn on board one of the ships on bread and water would be of great advantage.

19th.—'Wayed, and entered the Dagerby Channel, where the *Valorous* injured herself so much, *Alban* leading. Before long, the *Odin*, not keeping in wake, ran on shore; but was soon dragged off by moving guns and *Alban's* tugging astern. The track taken was West of Noto and Oen, and East of Mastraga; we then proceeded West of Saglinge Kumblinge, where the track is marked in the chart, but bare three fathoms could be found.

20th.—Having obtained another pilot and sounded out a passage to the East, we proceeded at 4h. a.m. and passed West of Bockholm and Engolen and then crossed over to Jungskar and Biorko, passing amongst numerous islands and rocks which have no existence in the charts. At 8.30 a.m. anchored for the day South of the Island of Korso in a perfect nest of rocks, which we were, happily, ignorant of at the time.

21st.—a.m.—'Wayed in *Alban* with pilots and Masters of the other ships to work out a passage to Berghamn; which we accomplished with some difficulty. Some of the men we took as pilots were very intelligent fellows, but not being accustomed to navigate anything larger than boats or sloops drawing six or seven feet water they had no idea whether such vessels as the *Gorgon*, drawing three fathoms, could pass. Berghamn is the place where the Government pilots reside; but, on landing we found that all, except a half daft superannuated one, had fled, leaving their wives and children to our tender mercies. At the head man's house, who is a shipowner and master, and well acquainted with the track to Abo, which was our destination, we found all the family and a respectably dressed man, who turned out to be a tailor. The master had gone to the fishery for a week; so we carried off the daft old pilot, the tailor, and the eldest son of the house, in the full expectation that when we returned the fishing excursion would be suddenly put an end to. By 3h. p.m. we were back to the squadron, under 'way; but, in steaming out, the *Gorgon* ran herself 2ft. 6in. up a rock, and this put an end to our proceedings for the night.

22nd.—3.30 a.m.—'Wayed, and did not stop at Berghamn, to the great distress of the little boy we had detained, but proceeded as fast

as we dared in these unknown seas towards Abo. At 2.30 a Russian steamer was observed ahead, when we asked permission to chase but soon lost sight of her as she disappeared down one of the narrow channels leading to Abo. In a short time the main entrance was made out, defended by a row of piles and a boom and chain. Behind the former, eight or nine veritable gunboats were discovered, painted grey outside and mounting two large guns each, manned with both soldiers and sailors. To approach them required great caution, as I had been told that there was a masked battery upon the S.W. point of Rumbaloe, and it was natural to suppose riflemen would be placed on the height of Lipsala, as we had received information that the Russians were aware of our coming. To make them discover themselves, therefore, directly the gunboats were within range we fired a shot; but the only thing this elicited was a return from the gunboats and a battery behind them on the S.E. part of Rumsaloe: the shot from which all fell short. We then advanced cautiously by the lead among the Islands of Cheapmans Ground, signaling, by our boards, the depth of water and sending Bull in the gig ahead; but none of the large ships thought it prudent to advance into such an intricate place, where, if they had taken the ground, the consequences might have been most serious. Having obtained the position marked in the plan, the *Alban* about one mile distant, we commenced firing shell, and after the first explosion the *Odin* made the signal "good." We were told afterwards that it burst over one of the westernmost boats and a gig with an officer directing the brigade. It appeared to create some sensation at the time, and the officer pulled away for the shore immediately. In the mean time, the other ships, having taken up positions near about the place marked in the plan, fired occasionally at the gunboats and into the woods to the N.W. of Little Beakholm; which produced a fire from two or three small masked batteries. After about seventeen hours' firing, without damage on our side, and the object of ascertaining the enemy's defences having been gained, the signal for discontinuing the action was made and the *Alban* was backed out stern first from her rather confined position. The ricochet firing of the gunboats was very good. Had there been a few thousand troops and three or four small steamers with us, we might have got possession of the Island of Beakholm and cut off some of the gunboats; but as our time of return was limited to Thursday, and not knowing how many times we might get on shore, Captain Scott thought it desirable to get on as fast as possible before dark. Although we had seen many of their batteries and gunboats and had gained as much knowledge as it was possible from our different positions, there was other information it was desirable to obtain, so I gave chase to the nearest market boat leaving Abo. The crew were very obstinate and would not heave to until a gun and several rifles were fired close to them. A woman and two men were in her, and, after some kind words, they told all they knew about the place. The woman became very communicative after a cup of tea and some presents of coffee and sugar, and said she was very frightened when she first came on board, but that now she would like to pay us a visit

every day, and that she had some daughters at home and if we came back again she would give us a dance. Everything at Abo had become so dear that she valued the little presents we had given her at fifteen roubles. At dark, we anchored to the West of the narrowest part of the channel, but not before *Odin* had given herself a little rub against the bottom.

23rd.—3.30.—Wayed, and hove to at Bergholm to land the daft pilot, tailor, and boy. The former appeared quite to recover his wits when the firing began, and there was no keeping the latter below though he was not above ten or eleven years old. On visiting the head pilot's house, nothing was left but three dogs and some nuts, so we continued our course to the westward, and anchored off the —— house at Ecklinge without any of the ships having touched the ground during the day.

24th.—4.30.—Wayed. The —— little daughter, having taken a fancy to the ship or the good things in it, came on board with her father for a cruise. On getting over towards Wardo, led the squadron through the new channel to the East of Bergo, and in going along pretty fast I observed the *Odin* give a broad heel over just where there ought to be eighteen fathoms water. She went over a rock, but, as it was blowing hard, we anchored for the night. This is about the third strong breeze we have experienced during the summer, that is from the beginning of June up to this time; the strength of any of them never exceeded six or seven, that is, in smooth water and good holding ground, the stream anchor and chain was just sufficient to hold the ship. During the same time there has not been above ten or twelve days of rain, yet the crops are beautiful and the grass quite green up to this date. The nights are now beginning to get cold, but fires are oppressive. The sea water is still pleasant to bathe in, but a month back it was nearly the temperature of new milk. The islands about this time are covered with ripe berries of various sorts. Raspberries and strawberries are over, but all the Scotch berries, blackberries, cranberries, and many others are brought off by the boats in basketsfull. Nuts are also very plentiful, but we did not observe any filberts amongst them.

25th.—After a good sleep, which we all much wanted, we wayed at 6-40, and proceeded to Bomarsund, where we found the fleet, with the exception of *Ajax*, *Penelope*, and French liners, which had sailed for Ledsund. The French troops were still on shore, dying by 50 a day of cholera, doing nothing but taking away the plunder, and living in miserable tents, instead of clearing and cleaning out the forts, where they might have resided in comfort. The powder is still lying about, and every now and then a man is blown into the air whilst he is amusing himself making a football of a Moorsom shell. At 6h. p.m. joined the fleet at Ledsund, and when Capt. Scott appeared before the Commander-in-Chief he would not believe that we had been at Abo, that place so infested with gunboats and so difficult of navigation, that no one thought it practicable: he was quite delighted with the reconnaissance, and set his mind on having some of the gunboats.

26th.—Every one is now looking out for something to be undertaken against Abo, and we are only waiting to consult the French and English Generals on the subject, who are expected from Sweaborg every hour. P.M., the Generals having arrived, Abo was decided against, and *Odin*, *Alban*, and *Gorgon* were put under Adml. Martin to go up the Gulf of Bothnia to stop the smuggling which is now going on between Sweden and Finland. The report by French General is, that Hango has been blown up by the Russians.

(*To be continued.*)

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REPORT from Commander Nolloth, of H.M.S. "*Frolic*," to Commodore Trotter, on his Examination of the Namaqualand Coast, south of the Orange River.

(Concluded from page 303.)

**HOMWOOD HARBOUR.**—The first view of Homewood Harbour, which is nearly circular, with receding sides rising to heights varying from 60 to 80 feet, suggests the idea of an enormous ancient amphitheatre. There is sufficient space on the South side, with about 12 feet water, for two small craft to lie, I think at all times, in safety, if secured to proper moorings; the bottom is rocky and uneven. The entrance is open to the westward and very narrow and difficult, having to be taken obliquely, as rocks project from the North side nearly half-way across. In very moderate weather, with a S.S.W. wind, there is frequently a heavy break right across. The South side is exceedingly well sheltered, the high southern side protecting it from the wind from that quarter, and the narrow entrance left by the rocks on the northern side being nearly shut in from the winds from the northward. The North side of the bay is rocky and shoal, and a sea is constantly sent into it by the slightest southerly wind, while the opposite is scarcely rippled by a strong breeze from that quarter. At about the middle of the bay a spur of rock runs out to a considerable extent towards the southern point; it has 9 or 10 feet alongside of it, and several large boats might load on its South side in perfectly smooth water. The beach at the bottom of the bay is of small shingle, and is conveniently steep for loading boats. The height of the side or wall in the rear of it must add considerably to the labour of landing and shipping goods, and must becalm outward bound craft from the occasional land winds of the morning. A good sea-breeze is required, to enter with safety; the "drawback" through an entrance so narrow in proportion to the water-space inside, must sometimes be very great: on inquiry of a person who has several times visited it in a coaster, I was informed that so great is the difficulty of getting out of Homewood Harbour that the average detention of a vessel, throughout the year, would probably be about eight days each trip; this detention, on such short

trips, as from Cape Town, would, if approaching to the truth, materially lessen the value of this place as a port of shipment.

A well has been sunk, to the depth of 20 feet, by the South African Mining Company, at about a quarter of a mile from the coast, and as, at 18 feet from the surface, moist clay, which tasted fresh, was obtained, it may be expected that if the task be resumed, water will be found.

Homewood Harbour is in lat.  $28^{\circ} 47'$  S., and long.  $16^{\circ} 39'$  E.

**HARRISON COVE.**—Harrison Cove is about 100 yards in width: its entrance, which is nearly of the same breadth, is open to the N.W., and has no reef. Being at the bottom of Peacock Roadstead, it receives considerable shelter from the south-westerly swell and winds. The bottom is rocky, and the soundings uneven, and although there is sufficient depth, it is not safe anchorage for even one small vessel; but in very fine weather a small craft might be induced to let go an anchor outside, with a long scope, and haul in for a few hours, for the convenience of loading. It is quite open to the N.W., and it may be therefore supposed that in North winds it would be frequently unavailable for boat-work; but during our stay it could have been almost always worked after the day of our arrival. The ledge of rocks before-mentioned entirely spoils a good even shingle beach, which is formed by high water at spring tides, and must render landing difficult, at all times, excepting at the small sandy spot; considering the great importance of a good landing-place for Peacock Roadstead, it may hereafter be thought worth while to remove this ledge; it consists generally of a few thin and nearly horizontal layers, and its removal therefore would be, perhaps, easily effected by blasting. There are also some loose rocks which materially interfere with the present small landing. A gradual slope, apparently caused by a run of water, leads down to the South and most quiet part of the Cove; it is nearly a continuation of the line of the beach, and its excavation would form a landing-place or dock for boats, which would be shut out from the direct action of the sea, as it would be under the lee of the cliffs on that side: the material of the slope, below the worn loose surface, seems fit for building-purposes. Close to, along the sea-cliff, is a good hard level ground.

I may mention, that having walked along the shore between the South point of Peacock Roadstead and Harrison Cove, where, from its receding, it appeared that a landing-place in southerly winds might exist, I met several narrow chasms open to the northward, in one of which the water flowed to the distance of 200 paces from the edge of the cliff; we had been obliged to put back in an attempt to reach the brig, yet the water within was almost undisturbed. Three of them were entered the next day: the weather was not favourable, but we pulled in and out of them without any difficulty. In one there was sufficient space to wind the whaler with her long steer-oar over the stern, and in another the crew lay on their oars several minutes without the necessity of any movement to keep the boat from the rocks; generally, several boats could have remained close to the steep rocks in

about seven feet water, with little or no effort to keep clear of them. Opposite these openings there is a proper depth and good bottom, at a convenient distance for dropping an anchor to haul out by; and probably it would, in southerly winds, often be better to use these places nearly abreast of the anchorage, than to warp loaded boats up to windward from Harrison Cove. In one or two places it appears that ore could be lowered by a derrick from a perpendicular or overhanging rock; in others that it could be slid down along wooden ways, placed on the sloping face of the rock, to a convenient spot near the boat. Ore might be kept in such spots above the reach of the sea, until the state of the weather permitted its removal. As it appeared to me that even crevices such as these might be occasionally useful, on the arrival of the Cape cutter *Diving-Bell*, I begged her master (who has had much experience at rough landing-places between the Cape and Ichaboe) to visit them with me, and he was good enough to do so, observing, (I quote his expression, as it serves to show that the circumstances were not favourable) "But there is a nasty bit of a swell in to-day," viz., more than usual, for I believe the swell is perpetual; and that he "did not intend to attempt Homewood to-day," to which he was bound. We entered two of them, and he agreed with me that they might be serviceable; although occasionally, on the falling of a wave, a considerable body of water poured over the rock on the sea-side of the entrance, there was always sufficient clear breadth for a boat to pull or to haul out in safety, and there was remarkably little either of "send" or "out-draught," both of which must be very great in northerly winds. At the further end of each, a quantity of drift-wood from the Orange River had collected. In the northerly winds which have formed these chasms, it is not probable that they would be often available.

Harrison Cove is in lat.  $28^{\circ} 46' S.$ , and long.  $16^{\circ} 40' E.$

On the 5th of December we wayed from Peacock Roadstead, and anchored about one and a quarter mile from Alexander Bay, where I landed. The wind was quite moderate from S.S.W., but as we approached the shore the swell was very heavy, rendering it unsafe for a low open boat. As we entered, the bar, which appeared smooth when we left the brig, broke nearly half across on the southern side, from which a reef extends.

I was enabled, by the kindness of Mr. M'Dougall, to ride along the coast to the Orange River. I saw no good landing-place for a boat on any part of the beach, nor any opening by which the river could be entered; the weather was fine, but a heavy surf broke across between the South end of the bar, which runs parallel with the coast, and the main.

**ALEXANDER BAY.**—Alexander Bay is considerably larger than Harrison Cove, which, in shape, it somewhat resembles; it has a good but rather too steep shingle beach, about 1,000 feet in length. The entrance is wide, the sides of the bay being nearly parallel, and it is open to the West, but some protection is afforded by a reef of low rocks, which stretch more than one-third across from its South ex-

treme. The bottom is rocky and uneven, and, although quite deep enough for small craft, it is not to be trusted.

A chain is stretched across from shore to shore, to which a coaster which occasionally visits the bay is moored; this perhaps would be the best way of securing small vessels in such places as Homewood and Hondeklip, where it might be still more conveniently arranged.

A long sunken reef extends seaward from the North point of the bay, over which it is said that the rollers sometimes break very heavily; about a mile and a half to the northward may be seen the surf on the sands off the mouth of the Orange River. The outer anchorage would appear to be very dangerous for boat-work in southerly winds, especially as vessels would generally consider it prudent not to anchor within at least a mile of the shore.

It may be seen, by the continuation inland of the line of sea-worn cliff on each side of the bay, that the latter was formerly of about twice its present depth. The space between the actual beach and the rocky cliff which formed the bottom of the ancient bay is filled up with sand. The nearest drinkable water is about  $4\frac{1}{2}$  miles distant, where the Orange River is fresh.

Alexander Bay is in lat.  $28^{\circ} 42'$  S., and long.  $16^{\circ} 37'$  E.

There is occasionally a strong set to the southward out of the Orange River; the *Frolic* tended to it twice off Peacock Roadstead, with a southerly wind. It is easily detected by the discolouration of the sea. The recollection of this before sending a boat from the ship to the shore may sometimes be useful.

On the 9th, the brig returned to the neighbourhood of Peacock Roadstead, where I rejoined her, having gone by land along the intermediate coast, on which I had been informed a frequently available landing-place existed; but the northern half is a rocky shore, and the remaining part consists of unapproachable rocky and sandy beaches.

Off the southern Twin, and apparently in the direction of its length, a sunken reef of rocks runs off to a considerable distance beyond the line joining the South point of Homewood Harbour and the point southward of the reef. It must be very dangerous to strangers, as frequently there is no break on it beyond a short distance from the shore. When abreast of the southern Twin and about three miles from the coast we experienced an exceedingly heavy ground swell, but without shoaling our soundings.

ROODEWAL BAY.—On the 9th of December we wayed, and on the 13th arrived off Roodewal, where we landed, crossing a smooth bay; the wind being light from the northward.

The bottom of the bay is bounded by a perpendicular cliff of red sandstone of about uniform height, 36 to 40 feet, surmounted by a sloping bank of white sand of nearly the same elevation. It is considerably deeper than Hondeklip, or Homewood, or Alexander Bay. It is open to the westward, and unprotected, excepting by a shoal rocky patch, which, while it frequently causes a heavy surf, nearly from point to point, diminishes considerably the force of the sea inside. The best and only clear passage is on the North side, near the shore.

Near the South point is a rock nearly awash: outside of this the least water found on the bar was 12 feet at low water spring tides, and, as will be seen by the soundings, deep water was carried across in several places. Difficulty and great delay were experienced in sounding on the shoalest parts of the bar, in order to ascertain the degree of safety with which, in a southerly wind, and a passable bar, a vessel might cross the latter in preference to taking the clear passage on the North side, and having to haul up for the anchorage, which would frequently be attended with difficulty. Immediately opposite the passage is a rocky shore, on which the sea generally breaks heavily.

The bar is very uncertain, even in fine weather, and in a few minutes presents the contrast between a calm and a gale, without any apparent cause; on one occasion, which I considered favourable for ascertaining the depth at an occasional break, it was only by fast pulling that the whaler was kept ahead of a high surf, which might have foundered a small vessel not battened down, and on another she was swamped on a spot which had shown no inclination to break for more than a quarter of an hour. The long sandy beach at the bottom of the bay is not good; at low water it is steep, and beyond this the sea, in the finest weather, takes a considerable range over a shelving shore; the best part of it is at the southern extreme, but even here we never succeeded in launching the boat without shipping water. At high water the sea must frequently reach the foot of the cliff, and there is not sufficient room for hauling up boats in bad weather. Adjoining the sand at the South extreme there is a rocky flat, covered at about half tide, which would perhaps be the best spot in the bay for loading boats, if the same means were adopted as at Ichaboe, and other places, viz., a platform upon tressles secured by a hawser fast to an anchor seaward, and set up by tackles on the shore. The small sandy beach on the North side is generally somewhat smoother, but it is not a good landing-place, even in fine weather with a northerly wind. Boats might be hauled up at its western extreme, where the cliff terminates.

During our stay of twelve days, vessels might always have lain in perfect safety in the bay, even when a very heavy surf broke across.

On the 19th, when it blew hard from S.S.W., as I wished to compare Roodewal with Hondeklip under the same circumstances, and to see the intervening coast, I walked to the latter bay. I found the inner anchorage rather smoother than that of Roodewal; but in both, the smallest open boat would have been secure. Hondeklip could not have been entered, but the sea was never seen to break across the northern passage of Roodewal; however, in small places like these, which in bad weather would seldom be attempted, this is perhaps only an apparent advantage, as the force of the sea is the more felt at the small anchorage space within. At Hondeklip, vessels inside could have been loaded with ease; at Roodewal the state of both beaches would have rendered the working of boats almost impracticable. At Roodewal there is a greater space for the force of the sea to expend itself between the bar and the inner anchorage than at Hondeklip, but this advantage seems balanced by the absence of any reef above water.



Although it appears that vessels might frequently anchor at Roodewal when they could not cross the bar of Hondeklip, I think it cannot be generally of such easy access; and it must, under ordinary circumstances, be more difficult to leave it, especially as the high wall in its rear must, in a great measure, deprive it of the morning land wind. Roodewal has rather greater anchorage space than Hondeklip, and deeper water, and may, perhaps, be considered of about equal safety: rollers, and heavy weather from the westward, must be very severely felt in both. Behind the cliffs are irregular hillocks of drift sand; the only suitable ground for building appears to be above the rocky shore on the North side, and a small space near the South extreme. In order to pass from one end of the bay to the other, the sand-hillocks must be crossed, or some steep rocks separating the two sandy beaches must be climbed.

Brackish water is found by digging near the shore.

The red cliff, with its crest of white sand, is easily recognized seaward, when bearing about East, and must make a good point of departure for vessels passing to the northward, where the different parts of the coast, throughout a considerable extent, are, owing to a great similarity of features, very difficult to be distinguished from each other.

The latitude of Roodewal is  $30^{\circ} 30' S.$ , and long.  $17^{\circ} 22' E.$

**SPOKE RIVER BAY.**—About a mile to the southward of Roodewal, the occasional river Spoke, debouches into a sandy bay, which receives considerable shelter from the S.W. from a patch of rocks which lies about half a mile from it; the soundings which were taken show an even bottom, gradually shoaling from about 13 fathoms at a short distance from the rocks; the bottom is sand, and from its connection with the Spoke River, it is probable that there is a thick layer of it; the blade of an oar was thrust about a foot into it. The beach, which was frequently watched, did not permit a landing during our stay at Roodewal. At about 100 yards from the shore there was always a considerable surf, immediately outside which is a depth of 7 or 8 feet. The only landing-place appeared to be on the rocky shore of the South side, about two or three hundred yards southward of the river, but even here it would be necessary to adopt some contrivance for the loading of boats, as at low water they would be unable to approach within some yards of the shore. The sandy beach is nearly a mile in length. If means could be found to work boats in this bay, and if its position be at all central with regard to mining districts, I think it would be an important anchorage for ocean vessels in the summer season, and it seems worthy of a longer and closer examination than I was enabled to bestow on it. It is quite unprotected from the N.W.

The rocks which break the force of the south-westerly swell, appear to be nine in number, this number of distinct breaks having been repeatedly counted; but in a fresh south-westerly breeze the breakers extend throughout the patch. The northernmost rock is S.  $38^{\circ} W.$  (by compass) one mile 800 yards from the South point of Roodewal Bay; it is only a few yards in extent, and has 6 and 7 fathoms around

it; from it the patch extends half a mile in a south-easterly direction towards the South point of Spoke River Bay, and is about a quarter of a mile in breadth, from 7 to 9 fathoms were obtained close along the outer edge of the surf. There appears to be also a clear passage of about a quarter of a mile, with a depth of 4 or 5 fathoms, between the southernmost rock and the South point of the bay. This patch of rocks frequently shows no break: in a fresh breeze from the N.N.W. there was a slight break, once in about 20 minutes, on the northernmost rock, the water being quite smooth to the southward of it; a fresh breeze from the S.S.W. causes a heavy surf on the whole patch. The soundings outside decrease very regularly from 20 fathoms, about three-quarters of a mile seaward of the rocks, to 8 or 9 fathoms within a few yards of them. About five miles South of Roodewal, and one and a half mile inland, is a beacon on one of the trigonometrical stations, used by the Astronomer Royal at the Cape, for measuring the arc of the meridian, and which, in clear weather, makes a very conspicuous sea-mark: it is on the naked granite top of a hill which rises rather abruptly on the North and South sides, the former being the steeper of the two. Mr. Maclear informs me that its exact position is lat.  $30^{\circ} 33' 7''$  S., and long.  $17^{\circ} 27' 37''$  E., and that the top of the beacon, a stone pile 14 feet high, is 636 feet above the level of the sea.

On the 26th of December we sailed for Table Bay.

If, in consequence of the opening of the mines, this part of the coast should become much visited, it might be worth while to lay down moorings, not only in the inner anchorages, but also outside, where the bottom is rocky: for working anchors, coir cables with a length of chain would appear preferable to wholly iron cables, on account of the continual swell. It might also be found advantageous to erect a few beacons on the shore, which presents in a remarkable degree very similar features; I have been informed that it is not uncommon for the few vessels which at present navigate the coast to overrun their distance when in sight of the land, and to heave to unnecessarily in a fog, after having seen a considerable extent of coast, no part of which has been identified. Hondeklip (Dogstone) owes its name to an isolated block of granite which rises 17 feet from the ground, at a few hundred yards from the shore, and which serves to point out its otherwise undistinguishable position; to make it still more conspicuous, this stone has been painted red. A mere chart of such a shore cannot be of great use to coasters, who do not often ascertain their position by astronomical observations.

Although the *Frolic's* visit to the coast in about the finest time of the year may have afforded us but little experience of its general character, yet as it is considered to be frequently unsafe at all seasons, it may be stated that, during our two months' absence, we have only experienced a close-reefed topsail breeze for a few hours on two occasions; that the land has never been a lee shore excepting in a light westerly wind of short duration; that, although we have had a considerable portion of foggy weather, which I am informed is most common at this season, it has been accompanied by calms or light winds,

which has enabled us to anchor, or to put the ship's head off the shore; that we met no irregular currents excepting in the vicinity of the Orange River; and that, with regard to rollers, which are said to be of frequent occurrence at all times of the year, and which must be very dangerous to vessels in the small open harbours, or anchored in bad holding-ground near the shore, our negative experience is satisfactory, as we have seen no rollers, properly so called.

Generally, excepting near the latitude of Peacock Roadstead, we found rocky bottom inside of 30 fathoms, and beyond this, a gradually increasing depth, with a tenacious green mud, to about 80 fathoms, at 15 or 16 miles from the shore.

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**HARBOURS OF KOK-SI-KON AND TAKAU-KON AT THE SOUTH-WEST END OF TAI-WAN OR FORMOZA.—By Mr. John Richards, Master Commanding H.M. Surveying Vessel "Saracen."**

[In the present dearth of information relating to the S.W. coast of Tai-wan, or Ilha Formoza of the Portuguese, the following notes on the Harbours of Kok-si-kon and Takau-kon, and some other well-determined positions, by Mr. John Richards, commanding H.M.S. *Saracen*, will be serviceable to seamen. It will be seen that the longitudes bring the coast about ten miles farther west than laid down in the Admiralty chart, taken by Dalrymple from a Dutch original.]

Feb. 24th 1855.—The wind failing at sunset I anchored for the night. At daylight next morning I dispatched an officer with the interpreter to obtain information, and from the report on his return I embarked a fisherman as pilot and entered the small harbour of Kok-si-kon.

Here we found sixteen sail of large junks, and as they occupied the best part of the anchorage we had to put up with an outside berth and imperfect shelter.

All this part of Formoza is fronted by sandbanks elevated only two or three feet above high water. They run in lines, generally parallel to the coast, from two cables to half a mile broad, and are pierced at every mile or so by narrow channels, depths varying from seven feet and under. There is no vegetation in sight from the western sand bar; the mainland of Formoza can only be seen in very clear weather from it, and the whole intermediate space seems to be an intricate mass of sand and mud banks and shallows, with occasional patches of sedge. These sandbanks are occupied by a few poor fishermen; whose miserable huts and bamboo rafts are the only relieving features of this dreary scene.

Port Kok-si-kon can only be distinguished by a stranger by three larger clumps of huts than can be found on any of the outer sandbanks, and by the number of large junks generally at anchor inside.

Ape Hill, to the southward, and the South Ponghu or Pescadores Island, to the westward, will be found useful marks to run in for the place. Kok-si-kon bears N. 21° W. thirty miles from Ape Hill, and E.b.S. 4 S. twenty-six miles from the South Pescadores [East?]. The old Dutch fort of Zelandia, built in 1684, is just in sight from the anchorage; from which it bears S. 42° E. seven miles and a half. I made the south point of the entrance to the port to be in lat. 23° 5' 52" N., long. 120° 5' E., var. 0° 33' W., high water, full and change, 11h. 30m., rise of tide at springs about three feet, but very irregular.

This port is the outlet of several small shallow streams which here unite and form a channel through the mass of sandbanks fronting the coast. This channel or port runs N.E. and S.W., and, taking the three fathom line as its boundary inside, is three quarters of a mile long and only two cables broad, with  $4\frac{1}{2}$  fathoms in the middle; it is, therefore, necessary to moor N.W. and S.E. The bar has twelve feet at low water springs. The deepest part is generally marked by the natives with bamboos; but, as the channel is both wide and straight and the bottom remarkably even, it is by no means difficult of access for vessels of twelve or thirteen feet, at high water. The *Saracen* sailed in with a draught of 13 ft. 2 in., but then the sea was remarkably smooth, and I think that generally vessels drawing over thirteen feet should not attempt to enter, particularly with any swell on. The tide from the bar inside sets fairly through the channel—its greatest strength about a knot. Outside the bar, the flood sets to the northward, along the coast, the ebb to the southward; its strength varies in different positions, running with much greater velocity off the West sand bar or the edge of the deep water than in the shoal water right off Tai-wan, where it is occasionally variable in strength and direction.

Fresh water is procured from the town of Tai-wan-fu, and if a vessel should only require this article she will do better by anchoring at once off the town, about three quarters of a mile from the shore; where, in  $5\frac{1}{2}$  fathoms, with the old Dutch fort bearing N.E., she will find capital anchorage and good shelter, from December to March. During the rest of the year the chances of S.W. winds would render this position unsafe, and vessels should of course anchor farther out.

At the distance of a mile and three quarters N.W. of the old Dutch fort of Zelandia there is a large clump of trees on the outer sand bar.

The ruins of the fort are about two-thirds of a mile inside the sand, about sixty feet above the sea level, and the only conspicuous landmark in this neighbourhood; they can be seen eight or nine miles from a ship's deck. The principal town of the island, Tai-wan-fu, lies two miles S.E. from the Dutch fort, and large junks trading to the place in the N.E. monsoon generally anchor off the fort and send their cargoes by this route to the city.

Here the main land of Formosa approaches within a mile of the sand bars fronting the coast, and, although it is generally marshy and flat, it is cultivated with rice, &c. The sand bars are also occasionally clothed with bushes and grass and are densely populated by fishermen, who appear to be well fed and clothed and a happy and contented people. These fishermen pursue their vocation generally in divisions under the direction of particular Chiefs, and their rafts hauled upon the beach, placed in tiers on their sides, form a feature in the appearance of the coast. Whenever we landed we were treated with the greatest civility and deference, and our surveying marks although sometimes made of an article most tempting to them (white calico) were never in one case interfered with.

There is no remarkable feature in the coast until you are within eight miles of Ape Hill, where commence some low mud cliffs, and there is also a small piece of table land about a mile inland. The coast between the old Dutch fort and Ape Hill is nearly a straight line of beach, pierced by four small streams, navigable only for boats.

Ape Hill, called by the natives Ta-kuu, bears S.  $14^{\circ}$  E.  $22\frac{1}{2}$  miles from the Dutch fort. It appears like a truncated cone, on a North and South bearing. It is 1,085 feet high, sloping towards the land side, and appearing at a distance like an island. Its apex I made in lat.  $22^{\circ} 88' 3''$  N., long.  $120^{\circ} 16' 30''$  E. Four miles and a half N.E. of Ape Hill is another remarkable hill, which, from its resemblance to a huge whale sleeping on the water, I named "Whale-back." Then, N.N.E., twelve miles, there is a small triangular shaped hill and a large detached piece of table land, resembling a quoin on a North and

South bearing. These are the only landmarks on this part of the coast (which is all very low), and of these Ape Hill is the most useful, as standing out on the coast line. It is frequently seen distinctly when all the others are shrouded in mist.

This hill is one vast block of coral, and, although resembling the crater of a volcano in the peculiar form of its apex, I could not discover any traces of volcanic action. From its summit to the southward it descends in a gradual though somewhat rugged slope and terminates in a huge nearly level block of a mole-like appearance, which, jutting through the beach to seaward for about 300 yards, forms a sheltered anchorage for small vessels in the strength of the N.E. monsoon. This mole is separated from Ape Hill by a deep chasm fifty fathoms wide, and within this is the little harbour of Ta-kou-kon.

The S.W. part of the mole (a steep cliff) I named Saracen Head. It bears S.S.E. thirty-four miles from West Point, and thirty-two miles from Gull Point, on the same line of bearings. It is in lat.  $22^{\circ} 36' 15''$  N., long.  $120^{\circ} 16' 41''$  E., var.  $0^{\circ} 34' W.$

The inlet of Ta-kau-kon has a narrow bar, of eleven feet depth at low water, extending from the South side of the entrance, curving to the N.W. and N.N.W. in the direction of Ape Hill; but directly this is passed the water deepens to four, six, and nine fathoms just within the port.

The entrance, though narrow, is steep to and perfectly safe of approach, but unfortunately the anchorage within is so very confined that there is no room for a vessel to swing; it is, therefore, necessary to moor head and stern. The tides are also rather strong when near the springs; but this anchorage is susceptible of great improvement at small expense, and as Formosa is opened to commercial enterprise this place must advance in importance.

The coast included between the points of our late survey we found perfectly safe of approach.

The following are the prices we paid for refreshments:—water, very good, but cannot be obtained in any large quantity, from the difficulty of transport, at 50 cents per sixteen picul, eighty cattys, or one ton; bullocks, 4 to 6 dolls., according to size; pigs, 1 to 5 dolls., according to size; fowls, 1 doll. to 1 doll. 75 cents per dozen; ducks, 50 to 75 cents per dozen; eggs, 300 per doll.; rice, 1 doll. 25 cents to 1 doll. 75 cents per picul; sugar, 1 doll. 25 cents to 2 dolls. 50 cents per picul. Fish and vegetables at a very low rate.

*Meridian Distance measured from Kowloon Point, Hong Kong, to Observatory Point, Kok-si-kon, between February 13th and 26th.*

	h.	m.	s.	
Chronometer <i>d</i>	0	23	41.54	From February 13th to 22nd smooth water and
„ <i>a</i>	0	23	37.90	even temperature. On the 22nd heavy gale
„ <i>b</i>	0	23	30.68	and sudden increase of temperature: for which
„ <i>c</i>	0	23	37.11	reason the Kowloon rate was taken up to the
„ <i>e</i>	0	23	49.07	22nd and the Kok-si-kon rate was brought
				back from 26th.
			196.30	
Mean	0	23	39.26	Port Kok-si-kon East of Kowloon Point.
			46.78	Saracen Head East of Kok-si-kon.
	0	24	25.99	Saracen Head, Ape Hill, E. of Kowloon Point.
	7	36	40.76	E. Longitude of Kowloon Point.

$120^{\circ} 16' 41'' = 8 \quad 1 \quad 6.75$  E. Longitude of Saracen Head, Ape Hill.

Saracen Head is given according to this measurement.

*Meridian Distance measured between Saracen Head, Ape Hill, and Kowloon Point, between March 28th and April 7th.*

Chronometer <i>d</i>	0 24 23·69	} double value.
	23·69	
„ <i>a</i>	0 24 26·24	In this measurement we had fine weather and even temperature, and, as the chronometers performed well, double value has been given to this measurement.
„ <i>b</i>	0 24 20·69	
„ <i>c</i>	0 24 28·49	
	<hr/>	
	117·80	
	<hr/>	
Mean	0 24 23·56	Saracen Head E. of Kowloon Point, returning
	0 24 23·56	„ „ „ „
	0 24 25·99	„ „ „ „ going.
	<hr/>	
	13·11	
	<hr/>	
Mean result	0 24 24·37	Saracen Head, East of Kowloon Point.
	7 36 40·76	E. Longitude of Kowloon Point.

120° 16' 17" = 8 1 5·13 E. Longitude of Saracen Head.

Mean latitude Observatory Point, Kok-si-kon, sixty-six observations ..... 23° 5' 59" N.  
 Mean latitude Saracen Head, Ape Hill, sixty-six observations 22° 36' 14" N.  
 JOHN RICHARDS, Master R.N.,  
 In charge of the China Survey.

**THE BARBAROUS TREATMENT OF A FLAG OF TRUCE AT HANGO IN THE MASSACRE OF THE GREATER PART OF A BOAT'S CREW BY THE RUSSIANS.—Report of Captain Fanshawe.**

H.M. steam-ship *Cossack*, Nargen Islands, June 6th, 1855.

Sir,—It is with the deepest concern that I have to report to you the destruction of a cutter's crew and the officers who went into Hango with a flag of truce yesterday, the 6th instant, in order to land the three prisoners who had been taken with some merchant vessels by H.M.S. *Cossack* and *Esk*, and also four others to whom I gave a passage to Nargen, they having received their liberty from the prize officers of the vessels captured by H.M. steam-ship *Magicienne*.

The ship having arrived off Hango Island yesterday forenoon, the boat was dispatched at 11h. a.m. in charge of Lieut. Geneste, with orders to land the above persons, and to return without delay, taking care that no one straggled from the boat. The officers' stewards were allowed to go in the boat on the same conditions, as was also, at his request, Mr. Easton, Surgeon of this ship.

The enclosed statement of what occurred on the boat's approaching the shore is that of the only man who has returned alive, and I have every reason to believe it correct.

Finding that the boat did not duly return, I sent the First Lieutenant, at about 4.30 p.m. in the gig, also with a flag of truce, to ascertain the cause of the delay; and as neither had returned at the close of the day, I anchored with this ship and the *Esk* in the inner roads.

The gig returned about 8.30, after a long search, having discovered the cutter

hauled within a small jetty, and containing the bodies of two or three of her crew.

It being then late, I made arrangements that the ships should 'way at 2.30 a.m. and take positions as close to the inner village and telegraph station as possible; and as I then supposed that the rest of the crew and officers had been made prisoners, I proposed to send in a letter to the nearest military authority demanding that they and the boat should be given up.

But whilst getting under 'way the cutter was observed to leave the shore with one man at the stern, who was endeavouring to scull her out. I therefore immediately sent a boat to her assistance, which brought her on board, and she was found to contain the dead bodies of four of the crew, which were riddled with musket balls.

The man who came out in the boat made the accompanying statement of the details of this atrocious massacre; he is very dangerously wounded in the right arm and shoulder, and was left for dead in the boat; but the account he gives of what he saw before he was struck down is clear and consistent, viz.: that on the boat reaching the jetty, Lieut. Geneste, Mr. Easton, Surgeon, Mr. Sullivan, Master's-Assistant, and the Russian prisoners stepped on shore, and advanced a few paces, Lieut. Geneste carrying and waving the flag of truce. On their landing, a large party of soldiers, commanded by an officer who spoke English, appeared suddenly, and advanced in a threatening manner. The officer then pointed to the flag of truce, and claimed its protection, and also endeavoured to explain the reason of their landing, but of no avail. A volley of musketry was immediately fired at them, which killed them, and also some or all of the Russian prisoners. Volleys were then fired into the boat, by which all were struck down, and the assailants then rushed into the boat and threw most of the bodies overboard, and then removed the arms and ammunition which were stowed underneath.

Neither before nor during this indiscriminate slaughter was any resistance made, nor hostile intention shown by the boat's crew with the flag of truce, the muskets that were in the boat not having been loaded, and being in the bottom of the boat; and therefore there appeared to be nothing to justify this barbarous infringement of the usages of war.

I therefore opened fire with both ships upon the place, at about six hundred yards' distance; but it was not returned either with rifles or artillery; and a thick fog having come on shortly afterwards, I ceased firing, and withdrew the ships, the position which they were in not being one in which they could with safety remain at anchor.

I enclose herewith the names of the officers and men who have met their deaths on this occasion.—I have, &c.

E. G. FANSHAWE.

Rear-Admiral Hon. R. S. Dundas, C.B.

*Officers and Crew of the Cutter.*

Louis Geneste, Lieutenant, age 25.

R. T. Easton, Surgeon, age 39.

Charles Sullivan, Master's Assistant, age 21.

\*Edward Thompson, leading seaman, age 24.

\*William Linn, Captain's steward, age 32.

John Lorton, Midshipman's steward, age 22.

William H. Hanks, gun-room steward, age 34.

\*Benjamin Smith, A.B., age 23.

\*James Cornwell, ordinary, age 21.

\* These were found dead in the cutter, and buried at sea.

James Gliddon, A.B., age 27.  
 George Boyle, ordinary, age 20.  
 William Roskelly, ordinary, age 20.  
 Thomas Stokes, ordinary, age 23.  
 John Haughey, stoker, age 24.  
 Francis George, ordinary, age 20.  
 Owen Francis, A.B., age 24.

Liberated prisoners.—John Lunstronn, age 50; Theodore Lunstronn, boy about 11; A. F. Loonberg, age 21; and four other Russian prisoners, names unknown.

From a further report:—The boat was found to be completely riddled above the water line; it was lucky she escaped without a hole through the bottom, as she would have filled. It was evident that the Russians intended to have left none to tell the tale, but it has pleased Providence to ordain it otherwise. The ships fired a few shots and rockets at the telegraph, but a fog coming on they were obliged to haul into deeper water. There were no troops seen; the cowardly ruffians had evidently gone away. It was not thought prudent to attempt to get the remaining bodies.

*Hampshire Advertiser.*

#### THE EXPEDITION TO THE SEA OF AZOF.

The expedition to the Sea of Azof has been attended hitherto with complete success. A master-mind has arisen at length to handle the war in the proper manner. We have got on the backbone of the enemy. We have been fruitlessly pounding at his head of brass—but are now tripping up his heel of clay. Strange has been the obtuseness of our Generals. What civilians discovered long ago, the military authorities have neglected until the present time. *Break out* of Balaklava was the unprofessional idea long since. Let that pass: we are now going a-head, and “Hope bestrides the favouring breeze.” Welcome news, communicated, we can easily believe, with very sincere “pleasure” by Ministers, and received with equal gratification by a desponding public, has greeted us day by day during the past week, and has found our appetite for it undiminished by the repetition. Kertch, Yenikaleh, Berdianski, Arabat, and Yenichek or Genitchi, have been visited in succession by the Allied squadron, and the result has been a vast destruction of the stores accumulated by the enemy, a serious crippling of his means of transport, and a loss to him of materials of war not unimportant. The Allies have destroyed or captured, in corn and flour, 6,000,000 of rations, or supplies for an army of 200,000 men for a month; they have sunk and burnt 240 merchantmen used in conveying food to the Russian forces in the Crimea; they have caused the destruction of four war steamers, and have captured from ninety to one hundred guns. And—what is most surprising—all this has been done at the cost to us of one man wounded! Kertch and Yenikaleh, the two forts commanding the entrance of the Sea of Azof, were occupied by our land force “without a casualty.” The shipping at Berdianski, on the northern coast of the sea, and at Arabat, near its south-western extremity, was destroyed by our fleet with equal impunity. At last, in a combined attack upon the forts and stores at Genitchi, which commands the entrance to the Putrid Sea from the Sea of Azof, a single sailor was hurt.



For once the Russians seem to have been taken off their guard, and have shown a numerical weakness which the displays at Gamla-Carleby, at Petropaulovski, and in the White Sea, had not led us to anticipate. This is the more remarkable, as, by the sailing of the former expedition, which was recalled, full warning had been given to the enemy, and ample time allowed him to accumulate troops at the points threatened.

The only explanation that can be given of the facts (besides the palpable one—that *the Russians are really scant of men in the South*) is that, on the occasion of the original expedition to the Crimea, the very transparency of our tactics deceived the foe, who could not believe that we should so manifestly indicate the object of our menace, if we seriously intended to put it in force.

At this stage of our narrative it will be the advisable course, we think, to introduce the Government despatches, published by authority.

“The squadron in the Sea of Azof had appeared before Genitchi, landed a body of seamen and marines, and, after driving the Russian force from the place, had destroyed all the depots and vessels laden with corn and supplies for the army. One man only was wounded.

“Since entering the Sea of Azof, four steamers of war and 240 vessels employed in conveying supplies to the Russian army in the Crimea, have been destroyed.”

Lord Panmure announced to the press that he had received the following telegraphic intelligence from Lord Raglan, dated the 2nd of June:—

“Naval operations under Admiral Lyons in the Sea of Azof continue to be permanently successful.

“Enemy driven by bombardment from Genitchi. Ninety vessels found there, laden with supplies for the army destroyed.”

The *Moniteur* published a despatch from General Pelissier, dated June 1st:

“We have exploded two mines before the Flagstaff Battery, the second of which did much damage.

“The engineers have discovered in the ravine leading to Careening Bay a line of twenty-four cases of powder, at equal distances, and buried beneath a slight covering of earth. Each case is fitted with an apparatus which causes the explosion of the gunpowder by the mere pressure of the foot.

“We have taken the town of Stranychi, at the entrance of the Putrid Sea, burnt a month’s rations of the whole Russian army, and destroyed the shipping.

“There was no resistance offered by the enemy.

“No loss to the Allies.”

The gallant Commander-in-Chief of our Allies has since thus described the deadly contrivances that have been detected through the vigilance of his engineers:—

“In the ravine of Careening Bay, in advance of our works, our engineers discovered a transverse line of twenty-four cubic cases filled with gunpowder, each forty centimetres thick in the inside, placed at equal distances, and buried just beneath the sod; each case, containing one-fiftieth of a kilogramme of powder, is covered with a fulminating apparatus, which would explode by the simple pressure of the foot. These cases have been taken up by our engineers.”

The French engineers had likewise sprung two mines in front of the Flagstaff Bastion, and the second explosion had caused considerable damage to the enemy.

*Royal Albert*, Straits of Kerch, May 26th, 1856.

Sir,—I have great pleasure in requesting you to inform the Lords Commissioners of the Admiralty that the Allied forces are masters of the Straits of Kerch, and that they have in the Sea of Azof a powerful steam flotilla, of light draught of water, capable of cutting off the enemy's supplies, and harassing him at all points; and, moreover, that the means are at hand for sending in a vast number of the gunboats of the lighter draught, if it should be found desirable to do so.

My letter of the 22nd inst. will have informed their Lordships that an Allied expedition, consisting of 15,000 men of all arms, and five batteries of artillery, were then on the point of leaving the anchorage off Sebastopol, for Kerch, and my message by electric telegraph will have announced the complete success of that expedition; but it now remains for me to give an account of our proceedings for their Lordships' information.

The fleet, which consisted of H.M.S. *Royal Albert*, *Hannibal*, *Algiers*, *Agamemnon*, *St. Jean d'Acre*, *Princess Royal*, *Sidon*, *Valourous*, *Leopard*, *Tribune*, *Simoom*, *Furious*, *Highflyer*, *Terrible*, *Miranda*, *Sphinx*, *Spitfire*, *Gladiator*, *Vesuvius*, *Curlew*, *Swallow*, *Caradoc*, *Stromboli*, *Ardent*, *Medina*, *Wrangler*, *Viper*, *Lynx*, *Recruit*, *Arrow*, *Banshee*, *Snake*, *Beagle*, and a French fleet of nearly equal force, under the command of my very gallant and energetic colleague, Vice-Admiral Bruat, assembled off the Straits of Kerch at early dawn on the birthday of Her Most Gracious Majesty the Queen, and both armies and navies confidently anticipated a successful celebration of that auspicious day. The fleets steamed rapidly up to Kameish, where the army landed under cover of the guns of the steam-frigates, and immediately ascended the heights without opposition, whilst the steamers of light draught of water pushed on towards Kerch and Yanikale; and the enemy, apparently taken by surprise at the rapidity of these movements, and at the imposing appearance of the expedition, blew up his fortifications on both sides of the Straits, mounting not less than fifty guns (new and of heavy calibre), which have fallen into our possession, and retired after having destroyed three steamers and several other heavily armed vessels, as well as large quantities of provisions, ammunition, and stores, thus leaving us masters of the entrance into the Sea of Azof, without our having sustained any loss whatever.

As the disembarkation was unopposed, in consequence of the fire of the steam-frigates having arrested the advance of the enemy, there was no field for the gallantry that animated every one in the expedition; but the duties they had to perform were very arduous, and I should be doing injustice to them and to my own feelings if I were not to say that no Commander-in-Chief was ever more ably assisted than I am by the Captains and those under their command—one and all follow the admirable example of the zealous and talented second in command, Rear-Admiral Stewart, and they could not possibly do better. There was, however, an incident during the day that called forth the admiration of both fleets, and which deserves to be particularly noticed. Lieut. M'Killop, whose gun-vessel, the *Snake*, was not employed like the others in landing troops, dashed past the forts after an enemy's steamer, and although he soon found himself engaged not only with her but also with two others who came to her support, he persevered, and by the cleverness and extreme rapidity of his manœuvres, prevented the escape of all three, and they were subsequently destroyed by the enemy, and the *Snake* had not a man hurt, though shot passed through the vessel.

Yesterday, Admiral Bruat and I accompanied the combined steam flotilla (*Miranda*, *Vesuvius*, *Curlew*, *Swallow*, *Stromboli*, *Ardent*, *Medina*, *Wrangler*, *Viper*, *Lynx*, *Recruit*, *Arrow*, *Snake*, *Beagle*, and five French steam-vessel) into the Sea of Azof, and dispatched them, under the orders of Captain

Lyons, of the *Miranda*, on the interesting and important service they have before them.

Had this expedition been deferred but a short time longer there would have been many and great difficulties to overcome, for the enemy were actively employed in strengthening the sea defences, and in replacing the sunken vessels which had been carried away by the current during the winter months.

Of the forty vessels sunk last year some still remain, and a French steamer touched upon one of them yesterday. It appears that the enemy did not succeed in destroying the coals, either at Kertch or Yenikale, so that about 17,000 tons remain, which will be available for our steamers.

It will be evident to their Lordships that the rapid operations which I have had the honour and happiness to describe to them could not have been brought to so satisfactory a conclusion if the most perfect understanding and the most hearty good-will towards each other, had not prevailed throughout the Allied fleets and armies.

I am, &c.

EDMUND LYONS.

Rear-Admiral and Commander-in-Chief.

The Secretary to the Admiralty, London.

Admiralty, June 6th.

With reference to the above despatch, Lieut. Henry Frederick M'Killop will be promoted to the rank of Commander as soon as he shall have completed the sea time required to qualify him for that rank.—*Hants Advertiser*.

**VEGETABLES IN THE CRIMEA.**—By a recent report from Balaklava, we find that Edwards' Preserved Potato is being extensively used among the troops with good effect, particularly among the corps where scurvy prevails. This confirms the high estimation generally entertained of this useful vegetable.

#### RUSSIA.

It is becoming visible in Russia, that the resources of the country are beginning to feel the drain of war to greater extent than we suppose, or than could be divined from anything published by Russian authority. It was generally believed that the Russian Government could command new legions of men to almost any amount; it is now known that men are beginning to fail, and that in this, only the second year of war, the extraordinary levies it has been compelled to make, have so exhausted the supply, that its practicable limit will soon be reached. The fact that the military force in the neighbourhood of Riga and the provinces nearest the metropolis has been drawn from the most distant parts of the empire, even from Asia,—that it is a strangely mixed and half trained body of men,—seems to indicate that the regular army cannot spare a corps for the military defence of the coast, on which a formidable fleet is hovering with a full command of the sea. It is also known here with certainty, that public feeling in St. Petersburg is becoming daily more depressed. At this moment those who are in a position to know what is doing, and what can be done in the South, consider Sebastopol as good as lost, and admit that its possession by the Russian garrison is now a question of days,—that any protracted defence is not to be expected. Possibly the effect of the late oper-

ations is better estimated in the capital than on the spot itself. The people, the bulk of the city population, is growing discontented, the diversion of the stream of commerce is producing privations, and there is a general rise of price in all the necessaries of life. The presence of the hostile fleet off Cronstadt, has also its effect on the general feeling. Sebastopol was thought impregnable, yet its surrender or capture is anticipated; and fears are beginning to be felt as to what may possibly happen with Cronstadt. Altogether there exists much anxiety, and confidence is shaken. The colonus has brass and iron enough in its frame, but, as it is compelled to continued motion, may it not begin to feel that it has feet of clay.

The official reports of the state of Sebastopol received at St. Petersburg at the beginning of this month, no longer exhibit the same satisfactory picture of things as previous to the last bombardment. The South side of the town has suffered very considerably; a number of houses are piles of ruins, of others only the external walls are distinguishable; the theatre, which is endeared to the Russians by so many recollections, has ceased to exist. The northern portion of the town has by no means suffered so much, but yet there is hardly a house there the walls or roof of which have not been perforated by grenade, shell, ball, or rocket, or the window panes and frames of which have not been destroyed by fragments of exploding shells. The inhabitants of Sebastopol have, however, by no means deserted the town; with few exceptions, they continue to occupy their houses, even though battered. In the shops and warehouses traffic is represented as being kept up with little diminution; even the hotels were not shut. The only promenade which is left the fashionable world in those parts, is the new Boulevard in the neighbourhood of Kasarski's monument, from which there is a fine view, on the one side, of the surrounding mountains, with the allied camp, its trenches, and its fortifications; on the other side, over the sea, with the allied fleets keeping ward and watch over the Crimea. On the northern side steamers and boats are seen all day and all night plying to and from the Catherine Harbour, laden with gabions, fascines, balls, shells, powder, and *matériel de guerre* of all sorts; while on the landing places stores of cannon and carriages, mortars, beams, and other artillery materials, are piled up. The Emperor has allotted 200,000 silver roubles for the current and 100,000 for the following year, to be applied to the benefit of the sailors engaged in the defence of Sebastopol; the moneys are to be derived from the surplus of the St. Petersburg and Moscow funds.

*United Service Gazette, 25th June.*

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### THE KANE RELIEF EXPEDITION.

The third expedition from New York for the Arctic regions is now nearly in readiness to sail on its benevolent mission. The two vessels purchased for the purpose have not yet been named, but have been strengthened and otherwise prepared for northern service. The larger is known as the barque *Eringo*, registering 327 tons, and was purchased for 17,000 dollars. Her consort is a propeller of 250 tons, which cost 80,000 dollars, and will arrive here from Philadelphia in a day or two. The former is now receiving her provisions and stores, and will be complete this week. Both are expected to sail by the 1st proximo, steering direct for the coast of Greenland, and continuing northward to Smith Sound.

The original expedition from this city, under Dr. Kane, fitted out under the auspices of our generous townsman, Henry Grinnell, Esq., consisted of the *Advance* and *Rescue*, sailed on its northern voyage in the year 1850, and re-

turned the year following. Not despairing of ultimate success, the *Advance* was again despatched, under the command of Dr. Kane, in 1853, and it is for her relief that the present expedition is fitting out. The *Advance* is the property of Mr. Grinnell, and her crew and officers, numbering sixteen men, are still under his pay. In the expedition now noticed, the entire expense is borne by the Government.

The protracted absence of Dr. Kane affords no conclusive evidence of danger or misfortune; but being left entirely alone in his icy solitude, by the return, within the last few months, of the numerous expeditions sent in search of Sir John Franklin, any needed assistance, to be of avail, must be despatched at once. Congress therefore appropriated 150,000 dollars, (which will probably exceed the amount required,) and authorized the Secretary of the Navy "to despatch a suitable naval or other steamer, and, if necessary, a tender, to the Arctic Seas, for the purpose of rescuing or affording relief to 'the intrepid American navigator.'" The Congressional resolutions conferring this authority provide "that such steamer and tender shall be officered and manned by volunteers from the Navy, and others who may declare their willingness to be so engaged." We yesterday visited the naval station at Brooklyn, and were pleased to learn that the Secretary of the Navy and officers of the yard are disposed to fit out the expedition in the best possible manner, and take a deep interest in its progress and success. The orders are that it shall be amply provided with two years' rations, and which, with the extras, will suffice for a cruise of fully three years. The provisions in preparation consist chiefly of pemmican, or concentrated meat, besides soups, Borden's patent meat biscuit, lime-juice, (antiscorbutic,) pickles, &c. The supplies will include something like 20,000 pounds of dried meats and soups, and 15,000 pounds of preserved vegetables. The provisions for officers and sailors will be of the best quality. The pemmican is the same article with which the Kane Expedition was provided, and a sample reserved for examination, after being kept for two years in this warm climate, was recently examined and found to be as sweet and nutritious as when put up. The quantity of beef required for this expedition was 4,000 lbs., (rump pieces,) which, upon being divested of fatty portions, were cut into thin steaks, taken to a malt-kiln and thoroughly dried. By this process its weight was reduced to 1,300 lbs. It was then chopped fine by the apparatus employed by sausage makers, kneaded up with 1,000 lbs. good lard, with a small addition of sugar and currants. Then being hermetically sealed in tin cases, it is in shipping order. The vessel will also take out a large supply of clothing adapted to a northern climate. Among other things, 500 pairs of stockings have been provided. In travelling on foot, it is customary to wear three pairs at a time, and cover the whole with canvas boots. The two vessels will carry out 300 tons of Pittston (Pa.) anthracite coal, for the use of the propellers and for ordinary consumption. Should more be needed, abundant supplies can be obtained at Disco, on the coast of Greenland, where Inglefield, the English navigator, found it to exist in abundance, it being only necessary to dig it out from the shore.

We were shown at the shops at the Navy Yard, 70 ice anchors, of different sizes, to be used in anchoring the vessels, or warping up through the lanes of ice. They are little else than angular hooks, to be sunk in holes drilled in the ice. Some weigh as much as 70 or 80 pounds, but the majority are of about 15 pounds weight. In addition, there are ten sledges, four of which are about eleven feet in length, to be drawn by dogs or with ropes. They are sharp at each end, after the pattern adopted by the British Admiralty, and are shod with iron. In excursions over the ice, they will be manned by an officer and six men.

The barque, as fitted for sea, is worthy of examination. Without, the hull is covered with 2½ inch planking, and armed with iron from the bows to the

main chains. Forward she is completely sheathed, from the bulwarks to the keel. Within, timbers, knees, and kelsons, have been introduced, to effectually protect her from collision with icebergs, or from lateral pressure. The bows especially are filled with timbers, and divided off into a water-tight compartment. The rudder is so arranged that it can be instantly unshipped, and triced up under the stern. The vessel is also furnished with four pumps; so that every possible precaution seems to have been taken to ensure her safety. The officers' quarters are completely lined with cork, to absorb moisture, and the seamen are well provided for, in a house on deck; or, should they prefer, they have snug quarters below. The barque is a fine new vessel, having made only two trips to Rio, and is a fast sailer.

The number of men going out in this expedition, will be forty-seven, including four officers to each vessel. Contrary to anticipations, not the least difficulty is experienced in procuring men, and of the best quality. Many good seamen are out of employ, from the return of recent government vessels and the inactive state of the shipping business; and the expedition will be supplied with a *personnel* of rare excellence. Only two have been accepted from those who went out on former expeditions, though several have offered. As fast as accepted, they are put on board the receiving ship *North Carolina*. Only one officer and the physicians remain to be selected, though none has as yet been formally appointed. The list now stands as follows:—

Lieut. H. J. Hartstene, formerly commander of the steam-ship *Illinois*, to command the expedition.

Lieut. Chas. C. Simms, to command the tender.

Passed Midshipmen — Watson, Smith, Wm. S. Lovell, Josepb P. Fyffe, and 1st Assistant Engineer, Harman Newell.

One of the surgeons is a younger son of Judge Kane, of Philadelphia, Dr. John K. Kane, who joins in the search for his brother. Mr. Lovell was one of the officers in the expedition under Lieut. De Haven.

This truly humane and philanthropic endeavour to relieve those who nobly volunteered for the rescue of the lost Sir John Franklin, deserves and will receive the warm sympathies and best wishes of all whose esteem is worth possessing.—*New York Journal of Commerce*, May 8th.

#### CAPTURE OF THE BRIG "CONFERENCE" BY PIRATES.

The following is extracted from a letter received by the owners of the above vessel, dated Gibraltar, May 18th, from the Master:—

The *Conference* was taken by pirates on the 2nd of May, off the coast of Barbary. We left the Downs on the 17th of April. After a fine run down channel, we took our departure from the Lizard Light on the 20th of April. After a fine passage across the Bay of Biscay, on the 28th we rounded Cape St. Vincent, and on the 30th we passed Europa Light, with a strong westerly breeze, and every appearance of a prosperous voyage. On the same afternoon the wind veered to the eastward, and on the next day the wind continued from the E.S.E. At 6h. p.m. it became calm, and so continued all night.

At daylight on the 2nd of May, we were within twenty and twenty-five miles to the westward of Cape Tres Forcas, and about sixteen miles off the land. I observed two boats rowing from land, which I supposed might be fishermen. Shortly after I observed, with the glass, three more boats put off, out from a creek or river. The two first lay to on their oars until they joined company; they then came in the direction of our ship, which was still lying nearly be-

calmed. It never crossed my mind that they were pirates and armed until they continued so long rowing in the same direction. On their coming nearer to us, I observed the boats to be very large and crowded with men; I then heartily wished for a breeze. I kept the watch at their respective duties still hoping for a breeze; but, alas! my hopes were blasted.

When at about a quarter of a mile's distance, they opened a tremendous fire upon us, apparently with very large swivel guns, and our boat was then turned up on the long-boat. The crew now thought it high time to endeavour to save our lives if possible. Accordingly, the boat was in a few minutes launched over the side; we all got into her and rowed to the north-eastward. The crew were a fresh and young men, with the exception of the cook, who fell in the hurry and broke one of his ribs. Getting him out of the fore-castle nearly cost us all our lives, and gave them time to gain considerably upon us. However, I steered the boat, as long as possible keeping the ship between us and their guns. So soon as they opened us clear of the ship, they kept pulling, continuing a constant fire on our boat. Their headmost boat kept the chase, till when about five or six hundred yards near us it gave up pursuit, after giving us a shot which was not an arm's length from the boat. The shouts of the ruffians when they thought they were gaining upon us were hideous, but we were not to be intimidated and our crew pulled well.

After getting clear of them, we hoisted on our oars, in order that I might observe their movements with the glass. As soon as they got on board the *Conference*, the helm was put up, with the ship's head for the land. We watched our good old vessel as long as it was prudent to do so. We think there could not be less than two hundred men in the pirates' boats. We then remained exposed on the open sea, without any kind of provision; neither a drink of water nor a piece of bread at our command, a hot sun beating upon us, and almost without any clothes to cover us. We saved nothing but a wooden steering compass and a spy-glass. The pirates would probably take everything out of our ship that was useful to them, and then scuttle her, because, it being only about ninety miles from Gibraltar, they would expect a man-of-war to be dispatched in pursuit; but, unfortunately, our very long passage afterwards to Gibraltar gave them plenty of time to carry their views into effect.

After we had rowed about another hour to the north-eastward, we got sight of a vessel bearing about North of us; the oars were immediately double-manned, and all our strength put on. At 4h. p.m. we got up with the vessel, and glad we were as we neared her, in the hopes of our being taken on board, and receiving at least a small supply of water and bread, in order to keep us alive, as we had made up our minds to steer for Gibraltar. However, when we got alongside we found no one to make an appearance, and we went on board and found the ship had been abandoned by her crew. I observed a boat rowing to the northward of us, and it struck me that it might be the crew of the ship we had boarded. I then got the ship's burgee and hoisted it at the peak end, in order that it might be seen, and if they were the crew they might return to their ship. Shortly afterwards I lost sight of the boat. There was at the time a light air from the westward, and the ship's head going towards the land; we therefore sounded the pumps and found only nineteen inches of water in the well. I then took command of her, trimmed the yards and put the vessel's head to the northward. There were at this time a barque and a schooner on our lee-bow, distant about eight miles. It struck me the crew might have seen our boat and mistaken us for pirates, and that they might have got on board the barque. What could be the cause of their leaving the vessel we could not imagine; but perhaps they had seen the smoke from the pirates' craft when they were firing at us; it being then calm the smoke from the fire-arms would ascend to a great height. From the papers on board we found this vessel to be the *Lively*, of Stockton, James Napier, Master.

We arrived at Gibraltar on the 18th, after a long and severe passage, with the loss of foretop-mast. Immediately on arrival at Gibraltar I applied to the Captain of the port to induce him to send a man-of-war to recover, if possible, the *Conférence*; but he informed me he could not do so for two reasons: first, he had only one war steamer, and it was impossible to spare her; and, in the second place, if he had been able to comply with my request, it would be of no use, as such a length of time had elapsed since our ship fell into the hands of the pirates. I therefore may, I suppose, conclude that our ship is totally lost.

*Hants Advertiser.*

## NAUTICAL NOTICES.

### PARTICULARS OF LIGHTS RECENTLY ESTABLISHED.

(Continued from p. 276.)

Name.	Position.	F. or R.	Ht. in Feet.	Dist. in Mls.	Remarks on the Lights.
17. St. Paul, Brazil.	Morro.	R.	276	20	Est. 3rd May. Duration of light 15 seconds, but within 12 miles a faint light still visible, beyond it eclipsed for 45 seconds, in 13° 21' S., 38° 54' 8" W.
18. Chiptona, Spain.	Church Twr.	F.	70	8	Est. 1st May. On South Point of Entrance of River Guadalquivir. Bears from N.W. part of Salmedina Shoal E.b.S. $\frac{1}{4}$ S 1.1 mile, in 36° 44' 2" N., 6° 25' 8" W.
19. Delaware, U. States.	Breakwater.	Pf.			Est. 10th May. Intervals of flashes not given. In lieu of the red fixed light.
Cleveland, Ohio.	N.W. extrm. of E. Pier.	Pf.	50	13	Est. (not said). Flashes every minute. Tower cast iron. White.
20. Cadiz, Spain.	Castle San Sebastian.	Pf.	143	19	Est. 1st June. Flashes red at 2 minute intervals. In lieu of the revolving light.
21. Sn Francisco, California.	Fort Point.	F.	52	13	Est. 21st March. South side of Entrance of Harbour. In 37° 49' 5" N., 122° 27' 5" W.
Iditto.	Point Bonita.	F.	200	20	Est. 1st May. North side of Entrance of Harbour. In 37° 49' 2" N., 122° 30' 8" W.
22. Beaufort Hb. N. Car. U. States.	Fort Macon.	F.	50	12	Est. 20th May. In red tower 200 yards behind Fort Macon. Lights three-fourths of horizon. Fort flagstaff in 34° 41' 7" N., 76° 40' W.
Beacon Light.	near former.		30	10	Est. 20th May. Quarter of a mile from tower, and S.E. $\frac{1}{4}$ E. with former outer buoy of the bar. Beacon white.
23. Bass River, Mass. U.S.	Vineyard Bd. N. side.	F.	40	10	Est. 1st May. Vis. from East to West by South. To clear breakwater, bring the light to bear N.b.E. Vessels from East before running for anchorage should bring it to bear N.W.
Patuxent Riv. Chesap. By	Cove Point.	Pf.			Est. 15th June. A flash every minute and a half. In lieu of the fixed light.
24. Trapani, Sicily.	Colombaja.	Pf.	139	14	Est. 8th Feb. A flash every three minutes.
Isla Vulcano.	Pt. Rosario.	Pf.	485	14	Est. 8th March. A flash every three minutes.

F. Fixed. Pf. Fixed and Flashing. R. Evolving. I. Intermitting. Est. Established.



## NAVIGATION OF THE KENMARE RIVER.—BUOYS REQUIRED.

Ballinskelligs Bay, 2nd June, 1855.

Sir,—In obedience to your command, expressed in conversation at the Hydrographic Office, that I should inform you of the number and position of buoys and beacons that might be requisite to render the navigation safe of the Kenmare Estuary, I beg to state that, were it and the harbours in it places of resort for many vessels, or likely to become so, a great number would be required to make the navigation perfectly safe, especially as there are no pilots whatever on the Irish coast who are acquainted with it. But in its present unfrequented condition—the trade being confined to one small timber vessel in the year, an occasional collier, and small coasters, with the presence, at intervals far between, of a vessel driven into it by stress of weather—I conceive that it would only deserve to have the more particular dangers marked.

Outlying westward of the Island of Inishfarnard, on the South side, at the distance of fully half a mile, is a most dangerous rock, called Stickeen, covered with only seven feet water at low water: it would be a formidable danger were the place much frequented. If a buoy would remain in position west of it it would be useful; but I scarcely think that, with the heaviest moorings, it could withstand the immense sea which rolls in with winter gales.

The little harbour called Ballycrovane, on the South side, is a place of great security for vessels of moderate size, when once within it. It is the constant rendezvous of the five schooners belonging to the copper mines of Ballydonagan or Allihies. The approach to this little haven is flanked with a great number of dangers, near which I conceive buoys could not long remain, as the Atlantic roll upon them is prodigious, and the guidance to the place must be confined to a good chart or pilot; moreover the marks for the fairway, which is wide, are excellent.

There is at the South side of the narrow entrance of this harbour of Ballycrovane a small rock outstanding from the shore, called Gurteen, which just covers at high water. It would be well to mark it with a perch.

The roadstead and little inner harbour of Sneem, were they places of much resort, would require several buoys. I cannot, however, much recommend the place on account of the great extent of rocky bottom which prevails, the bad configuration of the islands which defend the roadstead on the west, and the unsafe nature of the shores around.

The little inner harbour of Sneem is not capacious nor well shaped; but it contains an extensive natural dock, formed by the eastern prongs of the Island of Garmish, in which a vessel of considerable size would be quite secure by taking the ground on very deep mud of the softest description, and where she would be waterborne from eight to eleven feet at low water of spring tides. I therefore think that, as both the points which form the entrance of the inner harbour of Sneem are exceedingly blind and run off bad under water, a small stone beacon on each of them should be placed. The entrance of the inner harbour of Sneem is always quite invisible at night.

If Sneem Roadstead were a place likely to be much used, a buoy off the outer eastern prong of Iniskeragh and another off the outer danger of Bullig Point of Rosdohan Island would be useful. The Cottoner Rock, in the narrow channel North of Sherky, might also be marked by a buoy.

The best security in the Harbour of Kilmakilloge is in the arm on the western side, called Collorus. The entrance to this inner anchorage is rendered very narrow (one cable) by an extensive stony spit, on which is but twelve feet water, extending N.W. from Spanish Island to two-thirds of the distance across towards Collorus Point. I think that a buoy should be placed at end of the stony spit mentioned; more especially as the inner point of Collorus,

which it approaches, runs bad under water, leaving between them, as previously mentioned, a passage of about one cable wide, with four to five fathoms.

The wide entrance of Kilmakilloge is vitiated by bad rocks (Book Rocks), the last of a series of bad rocks which extend from the green precipice at East side to one half the breadth across. A buoy should be placed West of the Book Rocks. Were the Harbour of Kilmakilloge much frequented, many buoys would be required in addition to the two mentioned, but I don't think that at present they should be called for.

Although the internal part of Ardroom Harbour is excellent, as to depth, holding ground, and shelter, nevertheless the great barrier which obstructs its entrance is chequered by so many rocks and reefs that a great number of buoys and perches would be necessary to make it at all navigable; and which I do not consider it would be desirable to place at present,—as it is totally unfrequented. Moreover, although this great barrier were thoroughly buoyed, &c., the place could not be taken with safety without a good pilot, and no pilots exist for it.

The upper part of Kenmare River, above the conspicuous modern castle of Dromore, offers some extensive anchorages, with good holding ground, which should be considered safe. The approach thereto is, however, obstructed by several dangers; the chief of which is the Maiden Rock, with 2½ feet water at low water springs.

The Maiden Rock is a most formidable danger—the worst in the Kenmare River—and, if it were possible, should have a conspicuous perch or beacon; but I fear that the size and configuration of the summit of the rock would scarcely admit it,—the highest part being a very small pinnacle, though rising from an extensive base in deep water. Most certainly, however, the rock should be marked by a buoy on its West side, for it lies right in the fairway of the navigation, abreast Rossmore Island. The Maiden Rock lies at about one-third the apparent breadth across from Rossmore Island on the North side. And abreast of it, at one-third the apparent breadth from the South shore, lie also dangerous sunk rocks, with from eight to ten feet water over them at low water. These rocks are at the termination of much foul ground, extending westward from Leighillann Point, northward of Ardea castle ruins, and should also be marked with a buoy.

Between Blackwater River and the large modern castle of Dromore, and occupying the central portion of the estuary, is a very extensive ridge of limestone bottom, called Lackeen, with various depths on it of irregular bottom; and North and South of it along each shore are deep and wide passages with seven to eight fathoms water.

On the West end of this Lackeen ridge are high heads with as little as nine and ten feet water at low water. These heads lie in the middle of the apparent fairway and just eastward of the valley of the Blackwater. I have heard that one of H.M. steam-frigates—either *Retribution* or *Odin*—grounded for a short time on the Lackeen Rocks whilst steaming up the fairway, when employed in the famine relief service. A buoy should be placed on the West side of them.

About half a mile eastward of the Lackeen Rocks and nearly two cables and a half northward of Reenaveagh Point, on the South shore, is a very small head of rock, with thirteen feet water (Hallissy Rock) rising from the deep water around. It should be marked, as it is in the fairway and immediately to the eastward of it is a great expanse of fair anchorage for the largest ships.

About two miles eastward of the valley of the Blackwater the fairway of the navigation is greatly narrowed by the Seal Rocks, on the North side, and Horse or Brennel Island on the South side. The outer or little Seal Rock is marked with a very small indistinct perch; as is likewise the outermost rock

at N.E. end of Horse or Brennel Island. These little perches should be replaced by large and conspicuous ones, and the outlying sunk rock from Horse Island (Bat Rock, four feet,) should be buoyed.

Immediately eastward of the narrows of Horse Island and Seal Rock is the wide expanse or Roadstead called Deenish Island anchorage: the uppermost anchorage for large vessels of the Kenmare River. It is capacious and safe, with good holding ground, and with twenty to twenty-four feet depth, over muddy bottom. At the North side of this capacious anchorage is a small sunk rock, (Bowling Rock, four feet,) which might be marked. It is, however, well out of the fairway, and not of great importance.

Should the Kenmare Estuary be a place of trade or much resort hereafter many more buoys, beacons, &c., might become necessary.

Of the dangers mentioned, those that most urgently and immediately require to be marked are the Maiden Rock, Lackeen Rock, Hollissy Rock, and Bat Rock, and the small and indistinct perches on the little Seal Rock, and on Horse or Brennel Island should be exchanged for efficient ones.

I have the honour to, be &c.,

W. H. CHURCH, Commander and Surveyor.

Captain Washington, R.N., F.R.S., Hydrographer.

**HOUSES OF REFUGE TO THE EAST OF SAUGOR ISLAND.**—Houses of Refuge for shipwrecked mariners thrown on shore on the sea face of the Sundurbunds have been put up as follows.

1.—Erected to the North of Jackson Grove on Sayers Point, forming the eastern entrance to Channel Creek or Lacan Channel. It is on an extensive plain, covered with short grass, inside or to the eastward of some high sand-hills, that line the shore, and is painted red.

2.—Erected at the eastern entrance to the Subtermokey River, 400 yards to the northward of the point that forms Bulcherry Island, and 200 yards from high water mark. It is in the midst of the thick low jungle, and is painted white.

3.—Erected at the eastern entrance to the Jurnera River, 200 yards to the North of the point that forms from the entrance of the Jurnera River, 400 yards to the westward of the point that forms from the entrance to the Subtermokey, and 200 yards from high water mark. This House is painted black.

In each House there is a supply of biscuit and water, which will be easily found by reading the instructions put up in each, which also give other directions that will be useful. A Catamaran is attached to each House.

**SAUGOR ISLAND LIGHT.**—The following information, in the absence of any other, regarding the new Light on Saugor Island, will be of importance to seamen.

A new iron Light was erected on Saugor Island in 1851, in lat. 21° 38' 43" N., and long. 17° 39' West of Fort William. The Tower of the Lighthouse is 70 feet above high water mark, to the top of the Lantern 12 feet, roofed with copper. The Light illuminating 120° of the horizon, and consists of fourteen Argand lamps. It is what is called a reciprocating or flash light, and is about 200 yards from low water mark. The Electric Telegraph extends from this to Calcutta, by which vessels are reported on showing their number, or any communication required. Fresh provisions and water can be obtained from the superintendent of this Lighthouse.

**RIVER HOOGHLY. SAUGOR ISLAND. EASTERN CHANNEL LIGHTS.**—The following Lights will be shown in future by the Vessels doing duty as Lightvessels in the Eastern Channel and Pilots Ridge Station.

Every alternate half hour the Lightvessel in the Eastern Channel will burn a Blue light, and a Maroon at quarter of an hour.

The Lightvessel on the Pilots Ridge Station will burn a Blue light and a Maroon every alternate half hour.

Master Attendant's Office, March 27th, 1853.

On and after the 15th of June, a White light will be exhibited at the Mast-head of the Eastern Channel Lightvessel, in place of the Red light hitherto exhibited.

M. A. Office, Calcutta, June 13th, 1854.

### NEW BOOKS.

**PRACTICAL METEOROLOGY.**—By *John Drew, Ph. D., F.R.S., &c.*—London, Van Voorst, 1855.

In these days of more than ordinary attention to meteorological pursuits, a little manual like this before us, illustrative of the results of observations, the most approved mode of obtaining them, and the instruments by which they are acquired, is a very desirable work, when all these things are lucidly explained and properly illustrated. We have thus collected in a small compass the best information and the best mode of applying it on all occasions, in fact the amateur meteorologist goes to his work with the information he requires for turning his attention to the best account.

The author has divided the whole subject into three parts, the first of which he calls the Introduction, treating on the constitution, chemical and mechanical properties of the atmosphere, the effects on it of heat and cold, and the laws which regulate its expansion, contraction, the phenomena of latent and specific heat, evaporation and other qualities, which he explains in a concise and clear manner. When arriving at the height and colour of the atmosphere, he comes to Part 2, subdivided into four parts wherein he treats on the thermometer, the hygrometer, the barometer, and the electric condition of the air, explaining the instruments and the manner of using them, in order to ascertain these various conditions at any time we please; and he concludes with Part 3, showing the present state of meteorological science in England.

Of all the sciences, perhaps that of meteorology has most followers, for every one would be weather-wise; besides, its first laws appear so easy and enticing,—and again, the few and not costly instruments by which observations may be made, induce many persons to turn their attention to a subject which of all others is, perhaps, the most widely extensive, the most volatile and capacious, and hence the most difficult to penetrate and turn to good account of the whole range of the sciences.

What, for instance, regulates the variety in the seasons which we experience in our island home? has the prevalence of cold northerly winds, which have so much delayed our summer, arisen from natural causes, or the bombardment of Sebastopol, and how? With all our beautiful instruments and our careful observations, we are as yet but at the threshold of this interesting but profound science, one, however, to which the little manual before us is a most valuable introduction, comprehending as it does not only an explanation of the phenomena to be observed, but a little treatise on the instruments with which to ob-

serve them, and giving in many cases the results of the observations already made at our principal observatories. Our foreign meteorologists are already producing the result of their labours in the shape of quarto pages, running as yet to a moderate extent; the next step is to class and map them, and then to study them for those hidden laws, those golden rules, which, like the ore in the mine, lie deeply concealed, but which, like those of the hurricane, will some day be brought to light and turned to account by some master mind, as electrical science already has been in complete protection of our ships from lightning.

Returning to the little manual before us, we can safely assure our readers, that it will not only assist them in the choice of instruments, but tell them also how to observe meteorological phenomena, and that it contains, in the small space of a pocket volume, all the information they can desire on the vast subject of practical meteorology.

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**STEAM ROUTES ACROSS THE ATLANTIC.**--*Laws proposed for Steamers by Lieut. F. Maury.*

In our January number appears the first proposal of R. B. Forbes, Esq., of Boston, for the adoption of distinct tracks for steamers passing and repassing across the Atlantic, with the view of reducing the collisions which have so frequently occurred of late. To observe the Rules of the Road even on a large scale, cannot but be serviceable in assisting to prevent such calamities as have happened, and it becomes the duty of all of us to assist in establishing so wholesome a law as that proposed. Lieut. Maury having collected the Logs of the several steam-vessels in making the passage, has traced out two routes of about twenty to twenty-five miles broad, the northern one for vessels from Europe, and that to the South for those from America, diverging gradually from each other off Cape Clear to the Banks of Newfoundland, where they separate about 120 miles from each other. Here the southern home route from Halifax to Europe will cross the northern out one to New York, it being the business of the home steamer from Halifax to get into the southern route by it to make her passage. Lieut. Maury has advanced much good reasoning, showing the advantages of adopting these routes, and we propose in another number to print his letter entire.

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**REWARD FOR ARCTIC SERVICES.**

Mr. Mackinnon, M.P. for Lymington, deserves the thanks of the profession for the able manner in which he has introduced the claim of Capt. McClure and his gallant companions to the House of Commons. On Wednesday night he brought the subject of a reward under the notice of the House, and obtained the appointment of a Select Committee to consider it. We trust the report of that committee will lead to a liberal grant being made to those successful explorers of the icy regions. The question of a North-West Passage has been fairly solved, and Polar expeditions are, we hope, set at rest for ever. To Capt. McClure's intrepidity and energy the chief merit belongs, and although the Act of Parliament, offering a reward of £20,000 for the discovery of a communication between the North Atlantic and Pacific Oceans, has ceased to be in force, we trust the case is such as will warrant the payment of that sum to those who have so miraculously escaped the imminent deadly perils attendant

on the undertaking. The intrinsic value of the discovery is, we grant, nothing. The passage will probably never again be attempted, and its existence is of no moment whatever, but it has this negative value, that it will render all such expeditions needless for the future. Life and property will not again be risked in fruitless researches, and the country will, at least, be saved the votes which, for many years past, have been taken in the Navy Estimates for Arctic explorations. A morning cotemporary remarks:—

The old Parliamentary offer of £20,000, which was held out as a bait to the adventurous between 1745 and 1828, had not, unfortunately been renewed. Strictly speaking, therefore, nothing can be claimed on this score. It has, however, been the custom to bestow a reward either in honour or money, or in both, upon all persons who have distinguished themselves upon these perilous expeditions. Sir Edward Parry, who reached 110° West longitude, received £5,000 and knighthood. Sir John Ross was rewarded in a similar manner for his discoveries in Boothia Felix. Sir G. Back was knighted on his return from Hud-on Bay; so was Sir John Richardson. Sir James C. Ross received the same honour for his adventurous expedition to the Antarctic Seas. Now, it would be difficult to say that Capt. McClure was not, equally with these distinguished Officers, entitled to honour and reward.—*United Service Gazette*.

**THE WRECK OF THE "JOHN."**—The wreck of the emigrant ship *John* on the Manacles Rocks, on the coast of Cornwall, and the melancholy loss of life which ensued, formed the subject of the first proceedings instituted by the Board of Trade under the new Merchant Shipping Act. The Owners were proceeded against for the recovery of damages, for distribution among the relatives of those who lost their lives on the occasion. We have authority to state that the Owners, considering, after the investigation which took place before the magistrates at Falmouth, that it would be inexpedient to incur the expense of an inquiry before the sheriff of Cornwall and a special jury, which had been summoned for the purpose, have made proposals to the Board of Trade for staying the proceedings. The board has come to an arrangement with the Owners, in accordance with which the latter have placed at the disposal of the Board of Trade a sum sufficient to meet all just claims within the terms of the Act, and to give security for such further sums as may be hereafter required in full satisfaction of the same.—*Morning Chronicle*.

**INFERNAL MACHINES.**—Our Allies have discovered in two pits, a couple of destructive machines of rather a novel character. They each consisted of a large square box, connected with which was a small tube and separate chamber. The box was buried in the ground, the tube was partly exposed. On making a careful examination, the tube which, as far as met the eye, consisted of brass or other metal, was found to contain another tube made of glass. This inner glass tube and the chamber, or reservoir, connected with it, contained a powerful mineral acid. The larger box was filled with gunpowder, rammed in tightly, and at the part where the metal tube entered, was fixed a match, armed with a composition containing a great proportion of chlorate of potash. The intention manifestly was that the troops entering the pit, should, by treading on the metal tube, which was made thin and pliable, bend it and break the glass within it. The acid then set free would flow along the metal tube, and on coming into contact with the chlorate of potash match, would cause it to ignite, when an explosion of the gunpowder mine would follow. The same principle of ignition was commonly employed in the early days of lucifer matches. To prevent the gunpowder in the wooden box from becoming damp, it was enclosed in a second wooden case, and the interspace between the outer and inner box was filled with pitch or some dark bituminous matter.

*Daily News.*

**WRECK OF THE "IRON AGE."**—Captain Brown of the *Iron Age*, wrecked at Cape Northumberland, some eighty miles hence, arrived in Portland on the 5th of March. Captain Brown attributes the disaster to a deviation of the compasses, the ship being an iron one. At noon of the 1st, according to his observations of both latitude and longitude (the correctness of the latter he had an opportunity of verifying by a schooner spoken that day), the ship was 100 miles off any land. He was going East by the compass, but from the point at which the ship struck it appeared evident she must have been going in reality N.E., or even more northerly, so much were the compasses in error. Lights were seen, both inside and outside the ship's course, a little before 11h. (these were supposed to be passing ships,) and five minutes after the ship struck. The Captain succeeded in persuading all hands to remain in the ship until daylight; by which time she had driven over the reef, and all were enabled to land in safety.—*Portland Guardian*.

NEW AND CORRECTED CHARTS, &c.

*Published by the Hydrographic Office, Admiralty, and Sold by J. D. Potter, 31, Poultry, and 11, King Street, Tower Hill.*

SCOTLAND, West Coast, Sheet 9, The Minch, Capt. Otter, R.N., 1849	2	0
BALTIC SEA, Limfjerd, Danish Survey, 1850-	-	2 0
BLACK SEA, Odessa Bay, Russian Survey, 1830	-	1 0
" " Karatch, Kamiesh, and Peshana Bays, Capt. T. Spratt, R.N., 1855	-	-
" " Kertch Strait, Russian Survey, 1828	-	1 0
NORTH AMERICA, West Coast, Sitka or New Arkhangel, Capt. Tassilieff, 1850	-	1 0
KAMSCHATKA, ASIA, Sea of Ochotsk, with a Plan of Port Ain, Russian Surveys, 1851	-	3 0
" " Amur Gulf, Capt. Tabienkoff, 1849	-	1 0
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AUSTRALIA, East Coast, Sheets 16, 17, 18, and 20, Captains Blackwood and O. Stanley, R.N., 1848	-	each 2 6
" " " " Sheets 19 and 21, Ditto.	-	each 4 0

EDWARD DUNSTERVILLE, Master, R.N.

*Hydrographic Office, Admiralty, June 23rd, 1855.*

TO CORRESPONDENTS.

The packet on the Hooghly reached us late for our present number. The tides in our next.

The papers from Ramsgate in our next.

THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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AUGUST, 1855.

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THE ORIGIN AND NATURE OF OUR SHINGLE BEACHES,—*Considered  
by Capt. K. B. Martin, Ramsgate.*

The annual waste of the chalk barrier of the Isle of Thanet is prodigious at all the most salient points. Land has gone away from the estate of Sir Moses Montefiore, at East Cliff Lodge, at the rate of two feet per annual average ever since I have known it, which is now nearly half a century; and in my remembrance infantry paraded by companies in front of the garden wall, in presence of H.R.H. the Princess Caroline of Wales, then the guest of Admiral Lord Keith. Wall after wall has been renewed only to be precipitated in the restless tide, and when an eminent engineer was consulted as to the practicability of protecting those cliffs by breakwater and groins, the ascertained expense would have been more than the value of the estate itself!

Again, about twelve years only have elapsed since a foot road and promenade were given to the public from the Mount Albion estate, and a wall built within it to circumscribe the esplanade for an intended crescent. Twelve posts, to shut out equestrians, were placed at either end of the said promenade, at two feet six inches apart. This winter has seen the last of those posts and pathway, and next year's storms may, possibly, invade the wall itself; which, only a few years ago, was thirty feet from the edge of the precipice! Such are the assaults of the restless surge along this much exposed line, from Ramsgate eastward! Adjacent to Sir Moses Montefiore's land is the pathway



through the cliff in the little valley called Dumpton Stairs, where, during the last century, stood the ruin of an old fort, composed of flint and Roman brick, and where Roman coins are constantly found. The dangerous shoal called the Colbourn (or Koll-burn), terminating in a curve with the Dyke and Quern Shoals, and supposed to indicate, as thus named, a derivation from departed locales, similar to such derivations of names in the Pan Sand, Whitestaple Street, and others. The curious may now purchase, if they please, a veritable specimen of the said querns, or hand mills used by the Roman soldiery, found at the foot of these wasting cliffs during the past month.

The geologist and engineer looks at this enormous waste and, very naturally, inquires, "What has become of the debris?" Of the softer portions we will say something at a future time,—our subject now is the silicious formation which interlaces the chalk and which might ere this have encircled this island with an impenetrable belt of imperishable material, and formed a barrier against the ever encroaching sea!

This question is soon answered, although it appears to have been lost sight of by all the savans, as geologists or engineers, who have investigated the subject, probably because they did not reside in the locality. This debris, from time immemorial, has been seized on with the greatest avidity and carried away. Flints are too valuable to be allowed to remain at rest, and it is with difficulty that the owners of the estates prevent the flint-gatherers from digging them out of the face of the chalk, and thus accelerating its fall. Were it possible to bring back the flints which have been carried from the shore, we might (not irreligiously) say to the wasting waters, "Here shall thy proud waves be staid!" Where are they? Richborough proclaims through many centuries to the inquirer, "Here in my massive ruins, in solitary grandeur, behold the spoils of ocean." Flints the principal material, with parallels of Roman brick merely to bind the concrete mass. Examine the earlier churches, with their lancelated windows and defensive towers, Saxon or Norman, imperishable flint,—fit emblem of the doctrine they were intended to support. And, even in our own day, a beautiful specimen has been erected at Broadstairs of a modern church, by the good Captain Gouch, entirely of flints. Turn the eye then to the seaside towns and it continually rests upon flint! Walk into the country: garden walls, barns, farm houses, and every kind of building partakes of this gift of each man's property for the benefit of his fellow! The carriage jolts you in your seat, you look out and you have encountered a mass of flints! and at a short distance a cart has just shot down its freight—a ton of flint just brought from the margin of the sea! The roads are mended with flint; the streets are macadamised with that which should progressively form our shingle beaches and circumscribe the main, and control its angry billows as they break upon the shore. Even while I am writing this, I have only to go out and day by day I may see from seven to ten carts constantly engaged; the labourers scratching out the flints from the recently projected falls. Who would fancy such an attributable value

to so apparently mean a material? A rattling noise suggests the ready reply! A vessel at the quay is taking in a hundred tons of flints for the glass and china manufactories in distant parts of England! So, then, our light comes to us through flint, and our toilet table is resplendent with flint! And if this material had been *valueless*, my conviction is our promontories would have been comparatively safe and Thanet Isle preserved!

Having perused Redman's interesting pamphlet, which he kindly did me the honour to send me, on alluvial formations and local changes, and seeing the desire of the writer to elicit information for the general benefit of that noble profession of which he is a member, I felt that even an old sailor might contribute his mite; and I was further encouraged to do so by the observation of the President of the Society as Chairman when the paper was read. "The President then expressed a hope that the excellent example set by Mr. Redman would be followed by many of the members; most of whom had it in their power to contribute papers of great interest if they only recorded the observations made in the prosecution of their daily avocations." I have not the honour of being a Civil Engineer, but, remembering the exhortation of the poet,

"How few there are, in this, our world below,  
But can some small good offices bestow,  
And he who gives the little in his power,  
The world acquits \_\_\_\_\_"

I proceed to offer some additional observations on the origin and nature of our shingle beaches, impressed upon my mind by long experience.

We have none of the yellow argilo silicious nodules at Ramsgate which are found from Shingle-end gradually, but very slowly, invading Sandwich Flats; and if the flint boulders precipitated by our cliffs had been allowed to remain they would have presented very distinct features to the Dover shingle. Nor can I believe that those deposits have originated in the falls of the chalk precipices, but I incline to Rear-Admiral Beechey's theory, that they have been brought into position by the confluence of those mighty agencies which, sweeping around our sea girt country, constitute upon our coast "the meeting of the tides."

The arguments advanced relative to the Isle of Thanet are equally applicable to all the chalk formations upon the coast. The walls and fortifications at Dover, towers, castles, churches, the priory and adjacent convent of Le Maison Dieu, frown in the black silicates thrown down by the chalk; and if the chalk boatmen at Beechey Head, who load for the limekilns, were asked if they threw away the flints? they would soon reply in the negative,—they are much too valuable for building purposes or the glass factory.

I will here offer a passing remark for further elucidation by the naturalist. A mass of flint dug out of the cliff is perfectly homogeneous, and its cleavage without those cells which a similar mass dredged up from the submarine chalk stratum exhibits. In the latter specimens minute drillings have pierced and perforated them through and

through. The value of the first is a third more than the other, because, say the glass-founders, they contain a greater proportion of silicate of lime. Do, then, those minute pholæ, or animalculæ, by the secretion of a powerful acid, bore through this adamantine substance, which requires diamond dust in the lapidary's lathe to enable him to perform a similar operation? And do they appropriate the silicate of lime which they extract to their own nutrition or the formation of their rasping shell? It is a question replete with interest.

Many species of the seed-bearing algæ attach themselves very strongly to these submarine flints, striking their fibrous roots into the apertures thus prepared for them; and in the summer months, immediately preceding fructification, the seed vessels become inflated with air to such an extent, that they lift boulders of very considerable weight and are seen drifting away to other localities with the stream of tide; and, as they are semi-buoyant and travel near the ground, we can account for the manner in which many of our chalk ridges or shoals in these localities are capped with these erratic boulders, thus arrested in their transit by higher ground and its accompanying eddies.

I trust that I have thus far submitted evidence that the geological features of our coast are not what they would have been if the operation of natural causes had remained undisturbed. Had our promontories been protected and preserved from such lavish waste, the bays, indentations, and havens, with embouchures of our rivers, might have been very different to what they are. It might have influenced, in a degree, the formation of those spits of shingle which are now engaging so much attention. Let us examine them, independent of any particular theory, by what we may daily witness of cause and effect, and by that amusing investigation "analogy." The coast from Shingle-end, near Sandwich, to Brighton is belted with the bright clay colour nodules of argilo silicious pebbles, from the size of an apple to the smallest gravel. (The sea sand I believe to be a different material, of different origin; I believe it to be the borings of the myriads of the vermes tribe, in their everlasting attacks and destruction of crustacea, shells, and rocks.) I have before observed that the shingle beach contains a very small proportion of the silicates or flints of the chalk or carboniferous series; and as to the gault formation which forms a very insignificant portion between Dover and Folkstone, they decompose rapidly when exposed to moisture, as I have found by specimens in my collection—crumbled into a powder! The colour which generally prevails in the shingle beaches appears to me to indicate that the thermal springs by which they were formed had, while holding silix in solution, permeated a bed of argil or clay, and, as a natural consequence given to them its colour; and where ferruginous clay has been interposed it has imparted the beautiful hues which some of them are known to possess. Where, then, is it probable that we may search with success for their anti-types? for similar diluvial mounds, as I think we may venture to call them, terminating at their base in clay pits or gravel? The tunnel at Highgate yielded very similar shingle,

with most beautiful and perfect specimens of fossil crustacea. We cross the valley of the Thames upon patches of clay, gravel, and shingle. We find a series of mounds carrying us onwards from Greenwich Hill towards the coast,—all argilo silicious nodules. The railway cuttings exhibit them in every stage of development; till we launch upon the waters to trace the continuation of similar geological features there. The dredgers bring to shore mammoth bones (of which I have gigantic specimens), and these rested in diluvial clay, gravel, and shingle, which stretches into our smallest valleys on the margin of the sea. A mammoth reposed beneath the houses in King Street, Ramsgate: of which George Fairholme, Esq., secured one of the molares, and myself another—exceedingly perfect specimens! Such also are the submarine valleys existing in the British Channel; and I have for many years purchased from the fishermen these medals, as Mantle calls them, of a former world, or antediluvian relics.

Let us look into the shingle beach a little closer. When I was a schoolboy at Dover, we used to pick out from among it what we called alabaster stones, and taking them to a shop in the town, exchanged them for marbles. I imagine they were collected for a lapidary. Now these pebbles were derived evidently from a very distant source, and associated with them were others, which, cut into facets, were similar to the Brighton pebbles, many of which equal in polish and brilliancy the topazine and caringorum.

I have for very many years collected fossils from our chalk pits and cliffs, and from the falls; but I have never yet found them throw down anything at all similar to the clay-colour argilo-silicious shingle beach which skirts their foot. It cannot be from our chalk cliffs that we derive, not only the present extensive spits of shingle, but the enormous quantities which have been thrown in by the sea from age to age, and are seen protruding through fertile pastures in our filled up havens, and upon accumulated mounds of which many of our villages are built. We must not take a limited view of these extraordinary changes. The uneducated peasant, who sees the rabbits' burrow surrounded at its mouth by oyster shells, and knows that the busy little miner has thrown them out from beneath, declares that it must have been true that vessels sailed where he drives his flock! The labourer who sinks a well in Minster valley and finds the substratum agreeing with the traditions of his ancestors, as he throws out the sea beach, is satisfied that it is no idle tale that he has heard relative to the Sea Kings having anchored there, and given their village the name of *Fleete!* Or that the pauper monks of St. Nicholas at Wade were ferrymen!\*

We repeat the question,—Where then are we to look for the inexhaustible magazine which has supplied and still supplies all this material? I believe it is to be found in the geological features of the extensive area of the British Channel. I believe that the tidal streams

\* The railway cuttings at Grove Ferry are deeply interesting to the geologist.

exercise a mechanical as well as perpetual disturbance, and that what they put in motion in the deepest water and in the whole strength of the tide, is as mechanically propelled towards the shores and deposited *in situ* in the weaker streams and their eddies. To form an estimate of great things by small, we have no sand or gravel at Ramsgate where the tide has no obstruction. The chalk bottom is scoured as clean as a pavement right into the edge of the stream of fair tide; but a thousand feet of pier wall projected into the sea at a right angle with the tide, has created a magnificent esplanade of bathing sands, where (in the memory of people now living) the sea broke against the face of that cliff in front of which are now to be seen the habitations of our summer visitors.

Is it not to be regretted that these changes are so little attended to and recorded, if only for the gratification of those inquiring minds who may succeed us in this ever changing scene?

To proceed:—in navigating the British Channel, the deep sea lead will show us not only the elevations and depressions colateral with the hills and valleys of ancient lands, but its arming of tallow (in pilots water) brings up to view sand, shells, clay, stones, and fossils, the fac-similes of similar mounds and valleys on shore!

Now let us place the chart before us. We will draw a line from the Bill of Portland to Cape La Hague. The substratum we shall find is a continuation of similar alternations with the adjacent lands; clay, sand, argilo-silicious stones, and gravel. Now observe the direction of the tidal arrows and the configuration of opposing shores, and I think the conclusion will be, that any erratic substance moving along the ocean bed must be gradually travelling towards and in the direction of the English coast. Consider the vertical rise on that side of the Channel\* upon which the prodigious volume of the great tidal wave first impinges on the flood, and rushes past the Channel Islands with the impetuosity of a race, and gradually diminishing in its force, as it approaches its opposite marginal boundary deposits the moving shingle in its more tranquil waters and corresponding eddies. Perhaps it may be said, we are going out of our way to establish the course of this migratory shingle,—why should it not keep the mid-channel? Like all old Tars, we will go back to our chart, and keep these travellers company along the bed of the British Channel. We strike soundings upon pebbles and gravel in 40 fathoms water abreast of and twenty-five miles distant from the Isle of Wight, and in a distance of only ten miles in a direct course, we sound again in 30 fathoms. Here is a mound of sixty feet in altitude rising gradually from a submarine valley. We proceed, and keeping the same parallel with the shores till abreast of Beachy Head, we have again 35 fathoms on a bottom of clay and argilo-silicious pebbles. We are now approaching that phenomenon of shingle, Dungeness, and having crossed another submarine valley, twenty-five miles in extent, similar to and abreast of the Weald of Kent, we drop the lead again in twenty fathoms water, or a rise of

\* Vertical rise at Channel Islands 30 to 40 feet (as influenced by winds), and at Dover 15 to 20 feet.

ninety feet; and from these soundings a gradually inclined plane, with slight alterations, takes us into the Narrows, and also into the *Meeting of the Tides!*

Turning to the German Ocean, we find the tidal arrows of flood diverging from its expansive bosom towards this mysterious confluence in the Narrow Seas, and in their near approach passing over similar diluvial soil, out of which our Norfolk friends have dredged up a large collection of fossil remains, the counterpart of our own.

At high water the whole volume discharged from the Thames unites with the Up-Channel stream of flood, and turns it off athwart the North Sand-head of the Goodwin; and it is not till half ebb that the receding waters from the British and Belgian rivers can by any possibility unite. Still keeping the eye upon the configuration of the Belgian and Gallic shores, with the outfalls of their rivers accelerating the ocean tides, I think it is clear that the meeting of all these powerful agencies mechanically take the direction of the accumulated shingle at Dungeness. Allow an offing of ten miles from the headlands for the stream of tide, and draw a line parallel to the shore from Ostend to Blanc Nez, and that line continued will strike on the peninsula of Dungeness. Then from Cape de Caux to Blanc Nez extend another parallel for the stream clear of the eddies of that deep indentation of the French coast, and at a similar offing from each headland, and this parallel line will unite with the other at Dungeness; and thus it appears to me that any moving bodies brought within the influence of this confluence of waters will be precipitated *tangentially* on the shores of the British coasts, and in the greatest abundance at Dungeness; therefore are not these accumulations due to the *meeting of the tides* and the configuration of the shores on the Continental side of the Narrow Seas. Probably that great man, Smeaton, when he asserted, that much of this shingle came from the Eastward, had contemplated the passage of the Northern Stream over those diluvial submarine deposits which lie contiguous to the Norfolk coast, and the entrance to the Thames, precipitating whatever they bore along into the confluence of the streams, agreeably also, I believe, with the acute and close investigations of Rear-Adml. Beechey on *Tidal Influences*; and these opinions will be greatly strengthened by an investigation as to the prevailing winds in these latitudes. I find by my Official Journal the following results:—

In seven consecutive years, there are 1574 days of Westerly winds against 981 of Easterly tendency. Let us contemplate this effect on the confluence of these restless waters.\* I have remarked for many years previous to the Hurricane Theory, that in heavy gales while a *Southwester* raged on the *South-East coast*, the Shipping Register from the *North-East coast* reported the storms in the German Ocean generally from *North-West*. Here then in the Narrow Seas these undulations meet, propelled from the North-West along the shores of

\* The autumn of 1854, and spring of 1855, have been rare exceptions to the general rule, and it would be instructive to survey the shoals during the summer, and mark the changes which may have taken place.

the North Sea; and from the South-West along the extensive area of the British Channel. Sea following sea in heavy storms in shallow water and the narrow channels between the submarine mounds agitating the vagrant shingle, which, from its peculiar smoothness, thus rounded by attrition, is easily set in motion by such a powerful disturbing power, and especially that in such a medium submerged bodies lose much of their density, and in very deep water become semi-buoyant.

Now as regards the gradual progression of the shingle to the eastward along the margin of the Narrow Seas, I think a little observation will convince us, that conjointly with the prevalence of westerly winds, the tides are in this instance the *prima facie* agent, as we must not lose sight of that peculiar feature in the Narrow Seas,—*the tide and half tide* (in pilots' language). From causes then,—not yet satisfactorily elucidated as to their primeval origin,—the stream of flood running eastward increases in its strength at high water, and continues to run easterly till *half ebb*, and while the water is receding from the shore, *ergo*, the mass of shingle which is acted on by the flood is left high and dry upon the full before the western tide turns, and as a natural consequence, the great mass of the shingle is out of the influence or reach of that reactionary stream which might carry it back again in a westerly direction; and besides which, the flood stream having greater volume, has more momentum in its action on moving bodies.

It is well to remember this fact in carrying out groins into a tide-way, as it makes all the difference in the relative levels whether the stream turns at high water or at any intermediate interval of rise and fall. What a proof was given of this in the extension of the Folkstone Pier. I suggested to his Grace the Lord Warden that in strict justice they should have had some assistance from Dover, for if the horn of that pier at Folkstone was projected at a right angle to the shore and tide a sufficient distance, there would be no shingle bar at Dover Harbour, the shingle would be completely checked at Folkstone. It was so extended, and I have since regaled myself at that splendid terminus hotel on the very site of a bathing-place where I have plunged into the sea as a boy. This projection, with the railway groins and the new Admiralty Pier at Dover, is something in effect like restoring the ancient features of the coast, where the sea had advanced upon the headlands and the shore; you project new moles and advance upon the sea, and stop the shingle and accumulate it on certain points; powerful eddies are formed, which suck the shingle out of the bays, and, as at Dover, the sea makes an effort to reenter its ancient locale and haven, and if not counteracted would in time march into the valley and up to Crab-hole (Crabble) and to Watersend.\*

It is both interesting and amusing to watch the effect of the advancing and receding surge on these shingle beaches under the influence

\* See *Oral Tradition of the Cinque Ports*, republished in the *Nautical Magazine* for 1850.

of a strong breeze, as they break on and lash the shore, the inclined plane constitutes a natural sieve in itself; the large boulders offering most resistance and struck by the moving power preserve their momentum longest, and are driven to the top of the inclined plane or fall. The next in size as the wave recedes fall through the interstices, and so on in regular gradation, till at the very foot of the beach the fine gravel remains, terminating in a still more minute disintegration and in sea sand; another proof of the unerring operation of natural causes and their effects, and how beautifully developed are the proofs of tidal action in many of the sand-stones and conglomerates, evidencing the existence of primeval seas similar to our own.

I have thus made the only returns in my power to a Civil Engineer for the kind consideration which induced him to send me his pamphlet; admiring the indefatigable perseverance with which he has examined so extensive a line of coast.

**NAUTICAL REMARKS ON THE HOOGLHY.—By Capt. Hon. J. B. Elliot.**

*Madras to the Sandheads, River Hooghly, Jan.\* 17th to 30th, 1854.*

I was advised by men of experience in the Calcutta trade to have nothing to do with the coast, but stand well over to the east before tacking. The wind, however, favouring the starboard tack, when we were three or four days out, this advice was disregarded, and we got within forty or fifty miles of the coast again, tacking occasionally as the wind favoured us. It appears we did well, arriving at the Sand-head sooner than a clipper vessel that left Madras three days before

\* At this time of year a southerly current may be reckoned on along this coast, but it is said to slacken towards the end of January; and we found, so soon as the end of February and beginning of March, on our return to Trincomalee, that it was already strong to the north.

At Madras, a time ball has been established over the Master-Attendant's office, in electric connection with the observatory. The ball is hoisted up five minutes before one o'clock, and is dropped at one p.m., observatory mean time. The observatory is two miles and a quarter west of the Master-Attendant's flag-staff. This is useful in a place like Madras, where landing to get comparisons or to take sights is attended with inconvenience. Water, said to be very good, may be procured here: it is brought alongside in casks.

The Flash light, which is shown from the new lighthouse on Madras beach, at a height of 132 feet above the sea is a very powerful one, and may be seen at a long distance in clear weather.

We anchored in  $9\frac{1}{2}$  fathoms, with the light bearing N.W.b.W.  $\frac{1}{4}$  W., and on our next visit in  $8\frac{1}{2}$  fathoms, with the light N.W.b.W. I would not recommend anchoring to the south of that. The merchant shipping lie more to the north; but it is well to keep clear of their ground, on account of the innumerable anchors left in that part of the road.



us. She stood well to the east, getting down to lat.  $9^{\circ}$  N. in doing so. We were never south of  $11^{\circ} 30'$  N. She had strong breezes; which partly made up for the greater distance she travelled, as we had nothing but very light winds from N.E. (or from N.N.E. to E.N.E.) and, for a few hours before making the Sandhead, southerly.

The water was like a mill pond all the passage, and, the sky being clear for observations, there was no difficulty or anxiety in making the pilot or light vessel at the Sandhead. In the south-west monsoon it is very different work. The light on Point Palmyra is then the object to make; from whence the soundings are a guide till a pilot is picked up on the pilot ground. The pilot vessels are brigs of 200 or 300 tons, to be found either at anchor or cruising at the entrance of the Eastern Channel during the north-east monsoon, or from 15th Sept. to 15th March. During the south-west monsoon their station is the pilot's ridge, where a light vessel is then also placed.

We found the light in the East Channel to be shown from one of the pilot brigs, in the absence of the proper vessel, then under repair. The light, described as "a bright red light," was, as shown by her, a very indifferent one—apparently a common lantern; but the blue light which she burns at each hour, and the maroon or torch at the half hours, are of more service.

The pilot vessels at anchor also showed lights.

#### *River Hooghly.—Month of February.*

The sands and shoals about the channel are constantly altering, and the danger to a ship if she takes the ground is so great that much caution is necessary in navigating the river. The pilots are a superior class of men, on whom dependence may be placed. But I found it difficult to ascertain from them, or rather from the uncommunicative pilot we first took on board, what a ship of the *Sybille's* class could do with safety:—Whether it was easy or advisable to take her up the river? How long before or after the spring tides we might count upon being able to move her over the shoals, &c.? The following remarks may, therefore, be useful to those who have no knowledge of the river:—

There is no shoal or difficulty in the channel till after passing the upper floating light. The Gaspar channel, which lies between that light and Saugor roads, is a flat, six or seven miles in length, with one spot, which the pilots do not count upon clearing, of twelve feet at low water spring tides. A commanding breeze is necessary to insure keeping in the channel. We passed down the channel some days after the spring tides had begun to take off, and, keeping clear of the twelve feet shoal, had never less than four fathoms water; but the pilot considered we were fortunate in getting down without the assistance of steam. It must be remembered that during the south-west monsoon there may be much sea here.

#### *Saugor Roads.*

This was, formerly, the place the indiamen lay to take in their cargoes, and ships drawing twenty-two feet have still to complete their

loading here. The harbour regulations prohibit the pilots from moving a ship drawing twenty two feet water above Saugor; and a ship drawing twenty feet is not to be taken above Kedgerree, except with the assistance of steam.

When the weather permits, there is a daily communication by dawk boat to Kedgerree, and thence by dawk to Calcutta.

The electric telegraph, now open from Calcutta to Kedgerree, was to be completed to Saugor a few months after our visit.

Water cannot be procured at Saugor, nor are provisions to be had.

Between Saugor and Kedgerree is Lloyd channel, which has only eleven feet at low water, and is a bad flat for heavy ships to pass. The channel is narrow, and the tide sets across it. At high water spring tides we carried a quarter less four (full) through it. At neap tides the pilots would not have taken the *Sybille* down the channel; and, before we arrived, several vessels, being rather late in the spring in passing down the river, were detained at Kedgerree, for want of water in Lloyd channel, till the following spring tides.

At Kedgerree we anchored off the lighthouse. Having been told we could water at Kedgerree, I landed to see the tanks. The water in them is dirty and bad. The casks must be rolled to the tanks to fill, and the landing is through deep mud, except at high water. The process would, therefore, be slow and the result most unsatisfactory.

We had two boat loads of water brought to the ship at Kedgerree from Calcutta, the casks being lent from the commissariat. We also got fresh beef and vegetables from Calcutta, boats bringing it down the river. Beef can be procured at Kedgerree.

I was told we might water at Mud point and at Diamond harbour; but I would prefer getting it from Calcutta, where it is filtered.

We went no higher than Kedgerree, but from that to Diamond harbour there are no shoals so bad as Lloyd channel. A ship that gets to Kedgerree may, therefore, go further. The *James* and *Mary*, above Diamond harbour, is the worst part of the river. A ship of this class may be taken up to the town, but, at this time of the year, the water being low, at some little risk. Under favourable circumstances, the descent of the river must occupy several days, and the height of spring tides be taken advantage of.

The steam tugs are not of sufficient power, their heaviest being from 80 to 110 horse-power. Their rate of hire is 350 rupees per day; they will not tow for less, but frequently bargain for more when they are much in request.

My experience of the river was in the fine but dry season, when the water is low. During the rains the water is deeper, and the navigation near the town probably easier; but below Kedgerree the sea and swell from the south-west monsoon may more than counter-balance the advantage of increased depth.

*From the Sandhead to Madras, Feb. 18th to 25th, 1854.*

As I had been led to expect, we had very light winds all the way to Madras, but, as they remained aft, we made the passage in a week

—a good run for the time of year. Giving Point Palmyra a berth of forty miles, we never approached the coast till making Madras.

The daily veering of the wind was remarkably regular, (and being contrary to the general laws of land and sea breezes we were probably beyond their influence,) drawing to the northward or more off shore in the morning, and becoming easterly in the evening:—the port studding-sails drawing at night, the starboard ones by day.

The currents were irregular during this passage, as we had found them a few weeks before in going over the same ground, when bound to the north. I therefore annex the daily set we experienced each way, with the temperature of the water, &c.

*From Madras to Calcutta.*

Date.	Lat. N.	Long. E.	Current.		Winds.		Temperature.	
			Direction.	Dist.	Direction.	F.	Air.	Sea.
Jan. 17	Madras	80 27	o		N.N.W.	2	76	o
" 18	13 0	81 14	W.	11	N.E.b.E.	3	75	79
" 19	12 22	82 34	S. 26 W.	9	N.E.	4	72	80
" 20	11 31	84 7	S. 34 W.	17	N.E.b.N.	3	72	80
" 21	11 35	85 32	S. 17 W.	16	N.E.	3	75	80
" 22	13 57	84 34	N. 42 W.	16	N.E.b.E.	4	72	78
" 23	16 16	84 17	S. 76 W.	4	E.N.E.	4	70	78
" 24	16 46	84 38	S. 13 W.	9	E.N.E.	3	70	79
" 25	17 49	85 54	N. 37 W.	17	E.b.S. to N.E.	1	70	79
" 26	18 32	86 9	N. 37 E.	40	N.E.b.N.	2	69	77
" 27	18 32	87 10	S. 58 E.	30	N.E.b.E.	3	70	78
" 28	19 27	87 35	S. 32 E.	19	N.N.E.	2	69	77·5
" 29	19 38	88 7	E.	7	N.b.E.	2	67·5	76
" 30	20 49	88 29	N. 16 W.	16	N.	2	69·5	76
" 31	River Hooghly				S.	2		

*From Calcutta to Madras.*

Date.	Lat. N.	Long. E.	Current.		Winds.		Temperature.	
			Direction.	Dist.	Direction.	F.	Air.	Sea.
Feb. 18	River Hooghly		o				o	o
" 19	20 3	87 44	S.	11	N.N.E.	3	69	76
" 20	19 15	86 44	N. 79 W.	15	N.N.W.	2	71	76·5
" 21	17 47	85 55	S. 63 E.	25	N.	3	72·5	78·5
" 22	16 59	84 41	N. 19 E.	20	N.b.W.	3	74	78
" 23	16 13	83 16	N.	20	N.E.	3	75	80
" 24	14 45	81 40	N. 22 E.	13	N.E.	3	74	80
" 25	13 21	80 34	N. 17 W.	7	N.E.	2	75	80
" 26	Madras Roads							

Tide Table River Hooghly.

Place.	Full or Chan.		Springs.			Neaps.			Quar-ter Day.		Neaps.			Springs.																
	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.	h.	m.														
Calcutta . . . . .	2	30	3	18	4	6	4	54	6	30	7	18	8	6	8	54	11	18	12	6	12	54	1	42						
Ackra . . . . .	2	0	2	48	3	36	4	24	5	12	6	36	7	36	8	24	9	12	10	0	48	11	36	12	1	12				
Budge-Budge . . . . .	1	48	2	36	3	24	4	12	5	0	5	48	6	36	7	24	8	12	9	0	9	48	10	36	11	24	12	1	0	
Mozapore . . . . .	1	27	2	15	3	3	51	4	39	5	27	6	15	7	3	7	51	8	39	9	27	10	15	11	3	11	51	12	39	
Fulta . . . . .	1	0	1	48	2	36	3	24	4	12	5	0	5	48	6	36	7	24	8	12	9	0	9	48	10	36	11	24	12	12
Hooghly Point. . . . .	12	30	1	18	2	6	2	54	3	42	4	30	5	18	6	6	54	7	42	8	30	9	18	10	6	10	54	11	42	
Diamond Harbour . . . . .	12	0	12	48	1	36	2	24	3	12	4	0	4	48	5	36	6	24	7	12	8	0	8	48	9	36	10	24	11	12
Culpee . . . . .	11	30	12	18	1	6	1	54	2	42	3	30	4	18	5	6	54	6	42	7	30	8	18	9	6	9	54	10	42	
Mud Point . . . . .	11	0	11	48	12	36	1	24	2	12	3	0	3	48	4	36	5	24	6	12	7	0	7	48	8	36	9	24	10	12
Cowkolly . . . . .	10	30	11	18	12	6	12	54	1	42	2	30	3	18	4	6	54	5	42	6	30	7	18	8	6	8	54	9	42	
Saugor Anchoring Buoy . . . . .	10	0	10	48	11	36	12	24	1	12	2	0	2	48	3	36	4	24	5	12	6	0	6	48	7	36	8	24	9	12
Spit Buoy . . . . .	9	30	10	18	11	6	11	54	12	42	1	30	2	18	3	6	54	4	42	5	30	6	18	7	6	7	54	8	42	
Outer Floating Light . . . . .	9	0	9	48	10	36	11	24	12	12	1	0	1	48	2	36	3	24	4	12	5	0	5	48	6	36	7	24	8	12
Pilot Ridge Buoy. . . . .	8	45	9	33	10	21	11	9	11	57	12	45	1	33	2	21	3	9	8	57	4	45	5	33	6	21	7	9	7	57
False Point Lighthouse . . . . .	8	30	9	18	10	6	10	54	11	42	12	30	1	18	2	6	54	3	42	4	30	5	18	6	6	6	54	7	42	
Moon's Age.																0	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Moon's Age.																15	16	17	18	19	20	21	22	23	24	25	26	27	28	29

The time of high water is that at which it is supposed to have reached its greatest altitude and it will begin to fall, though the tide will continue to run up about another hour. The turn at low water is that at which it is supposed to have reached its greatest depression and it will begin to rise, though the tide will continue to run down a little more than an hour.

*Distances of Places in the River Hooghly from Fort William, in Geographical Miles.*

	Miles.		Miles.
Kidderpoor Docks.....	1·0	Diamond Harbour Post Office.....	43·0
Garden House.....	2·9	Kantye-bariah Point.....	46·1
Rajgunj.....	5·5	Kulpee Pagoda.....	49·6
Moonee Kolly Point.....	7·6	Rangafulla Obelisk.....	53·4
Jar Makers.....	9·1	Middle Point.....	55·8
Fort Gloucester.....	12·5	Silver Tree Obelisk.....	58·3
Oolabarlah.....	16·5	Mud Point.....	61·5
Moyapoor Magazine.....	18·6	Hedgerer, N.W.....	69·1
Sister Trees, Roypoor.....	22·0	Cowkolly, W.N.W.....	72·1
Hog River Creek.....	23·3	Middleton Point East.....	83·6
Pookoorcaah, Hog River Point.....	25·8	Saugor Anchoring Buoy.....	86·9
Fulta House.....	28·6	Upper Gasper Buoy.....	90·5
Fulta Point.....	30·5	Lower Gasper Buoy.....	94·4
Neely Kol, or Anchoring Creek.....	32·5	Spit Buoy, W.S.W.....	103·4
Hooghly Point.....	34·7	Reef Buoy, W.S.W.....	112·4
Luff Point.....	37·9	Outer Floating Light Buoy.....	119·0

To the above useful remarks of Capt. Elliot we have added the foregoing tide table for the Hooghly, and distances of places from Fort William at Calcutta, along with the following remarks on the tides, received from a Correspondent,—all of which cannot but prove useful to vessels.

Strong sets or currents are caused in the S.W. monsoon, in the freshes, by the great quantity of water then accumulated by the heavy rains and driven out of the different rivers into the sea, carrying a greater body of water to the eastward in the S.W. monsoon than in the N.E. The highest rate is from four to six knots per hour at the Outer or Eastern Channel light-vessel, and at the Gaspar light three to four knots per hour, decreasing to the northward. The set or current begins with a strong breeze or gale in the same direction with the wind, and continues the whole of the gale: the highest rate is when the gale commences. The set or current has been known to commence twenty-four to forty-eight hours before a gale,\* and last from six to seven days. In the heavy gale of October, 1838, it commenced three days before the gale came on and continued till the gale was over; the gale lasted thirty-six hours. As the gale breaks so does the set, or shortly afterwards if it is not of long duration. The current has been known to set from the westward to the eastward with the wind as it shifted suddenly from east to west. In the S.W. monsoon, with a S.E. gale, the set is strongest. No gales of wind take place without this current. Vessels are often lost in the Bay of Bengal by not making proper allowance for the different sets and tides.

*Directions for Saugor.*—From the Eastern Channel light-vessel to the upper Gaspar Channel light-vessel is N.N.W., distance twenty-four miles. As a general rule, the red buoys are kept on the port or western side, and the black buoys on the starboard or eastern side. From the Gaspar light to the northward of the upper Gaspar buoy the course is N.N.W., distance three miles and three quarters; when haul up and cross the Gaspar Sand W.N.W., nearly two miles, keeping about half a cable's length to the South of the Gaspar buoy; then N.W.b.W. } W. up Saugor Roads about nine miles, or to the new anchorage.

With the wind at East or West, there is generally a strong set, (with a square-rigged vessel it is impossible to get in or out,) when it is considered

[\* This remark applies also to the China Sea commonly, and was instanced at the loss of H.M.S. *Reynard*, related in this work, and which took place in 1851.—ED.]

best to stand to the southward until the wind shifts. When vessels have got too far to the northward, missed the pilot station, and mistaken the Gaspar light for the Eastern Channel light-vessel, by attention to the lead, a good look-out, and accurate chart, with these courses she will be enabled to run into Saugor on half flood and anchor; where communication can be made by signal for a pilot to be supplied, when the message will be sent up by the electric telegraph from Saugor Island to Calcutta.

Vessels have often gone up the Western Channel to the northward and mistaken it for the Eastern Channel. In 1848 the *Belleisle*, of Glasgow, struck, at night, on the reef head, passages bore from Gaspar light W.S.W.; in February, 1851, the *John Leech*, of Liverpool, and in September, 1854, the *Maranam* and *Anne Cropper* also struck, at night, on the same place, and the four ships were lost. The South Channel buoy, laid in eleven fathoms, lat.  $21^{\circ} 9' N$ , long.  $88^{\circ} 41' E$ , (mud,) shows the entrance of the Western Channel when the Eastern Channel light bears E.N.E., distance twelve miles. On the same parallel of latitude in the Eastern Channel, in its centre, there is only ten fathoms, (mud and sand with bright specks like steel filings,) thus making a distinction between the two channels.

Lacams Channel, though navigable for small vessels, is never used. It is formed by Subtermookey or Light-house Sand on its eastern side and a parallel ridge of sand on its western side. Between the tails of those two sands it is nine miles wide. The tail of the Subtermookey, in seven fathoms, bears E.b.N. from the Eastern Channel Light, distance twenty-one miles. Should the vessel be near the entrance of this channel, stand to the South, in twenty fathoms, and sight the Eastern Channel light-vessel; when a course can be shaped up the Eastern Channel.

In the S.W. monsoon on the flood with a strong breeze there is always a heavy ground swell in the Gaspar. Do not anchor with chain. Should the wind shift in going in, and cannot lay in, stand to the southward.

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**MEMOIR ON THE TRADE TO THE WEST COAST OF AFRICA NORTHWARD OF THE EQUATOR,—from the River Gambia to Onim or Lagos.\*—By Don Jacinto Pereira Carneiro.**

A commercial speculation to the West Coast of Africa Northward of the Equator, must not be undertaken with the idea that the entire cargo of a vessel dispatched there can be bartered away at a single point on the coast, even when the articles which comprise it are adapted to the wants of the country, for there is no probability of finding a quantity of produce in return sufficient to constitute an equivalent to it in value.

Persons engaging in trading voyages to that part of the Continent, must be prepared to sail along the entire length of the Coast, touching chiefly at those places where there are European establishments, and commencing with the River Gambia or Sierra Leone. This is the direction taken by all American, French, Hamburguese, and English

\* Translated from a paper in the *Boletim e Annuae do Conselho Ultramarino*. Lisboa, 1854.

vessels which trade to those countries, some of them extending their trips to the South of the Equator, and calculating on their lasting a year.

Steering their course to Cape St. Mary, at the mouth of the River Gambia, or to Sierra Leone, articles exported from Portugal will be met with there, such as different varieties of wine in small barrels, and bottled preserves of various kinds, but especially vegetables and fruit, both preserved and dry, pease, potatoes, wheaten flour, small cakes, (*bolaxinhas*,) biscuits, &c. At those ports the importation of spirits, muskets, gunpowder, and warlike stores of any description, is prohibited; but this is not the case at the other establishments on the coast, where the same articles are admitted, and, with tobacco in the leaf from America, and in rolls from Bahia, constitute the chief portion of the cargo of a vessel.

These articles are there exchanged for the produce of the country, money, or bills of exchange on England. The articles exported consist of ginger, "mendobi," (Guinea grains, a species of seed,) palm oil, some ivory, and a wood used for dyeing called camwood, and which is worth in England fifteen pounds sterling, a little more or less, per ton.

Articles imported into Sierra Leone are charged with an *ad valorem* duty of five per cent on the invoice price; and this is generally paid by the purchaser. Those exported are liable to a duty of five shillings per ton. The anchorage dues are fifty shillings each trip: the pilotage five shillings for every foot of water the vessel draws.

Vessels visiting that coast take on board at Sierra Leone, or on the coast of Malagueta, between Cape Mesurado and Cape Palmas, some black sailors, called Kroomen, who are of great use in doing the heavy work on board and for boat service, thus saving the European seamen from exposing themselves too much to the sun's rays, &c. (literally, the inclemencies of the climate). The services of these Kroomen are recompensed with two or three pieces of cotton cloth per month each. Their chief food is rice, which may be purchased at a very cheap rate on the coast of Malagueta;—the price of a "krou" (a measure of capacity weighing about thirty pounds) being a fathom and a half of cotton cloth, or any other article or articles of proportionate value.

In order to undertake such a voyage with advantage, the coast should be visited from the month of October until May, during which time the strong S.W. winds called *ventanias*, (literally, heavy gales,) do not blow; for during the season when they are prevalent communication with the shore is difficult and frequently dangerous, on account of the heavy sea breaking on the coast, which affords no sheltered roadstead, or safe anchorage or landing-place, and where vessels run the risk of losing their anchors.

If on leaving the port of Sierra Leone the vessel touches at the villages on the coast of Malagueta, (Grain Coast,) the articles principally received in barter there are rice and millet; the Master may, however, happen to meet with some ivory, palm oil, and camwood, especially at the town of Monrovia, which is situated at a short distance to the westward of Cape Mesurado. This town is the capital of the republic

of Liberia, and inhabited by mulatto and black emigrants from America, who are independent of the mother country, the republic being under the joint protection of the United States, England, and France.

All barter on the coast, excepting at Monrovia, must be carried on onboard by means of the native brokers, and in canoes from the shore. The Masters must refrain from landing, in order that they may avoid many claims for presents and "custom," which will be made upon them by the chiefs and heads of the villages without offering any equivalent in return.

The population of the towns all along the coast, even beyond Cape Palmas, is composed of brokers, who transact business (or make bargains) with the natives in the interior; there even being markets or fairs at certain places at a distance from the sea-side. They therefore endeavour to induce the Masters, by making them a thousand promises, to entrust their goods to them for the purpose of bartering them at these fairs. This mode of doing business, however, which is only advisable at the factories established at the principal places on the coast, is always unprofitable, for the brokers never meet their engagements by delivering the whole of the articles agreed upon, and the masters who recover most from those to whom they have given credit, lose at least thirty per cent.

At all places where there are no European establishments, business is always preceded by an understanding as to the "custom" to be given, and its payment. The "custom" is the present which the master has to give to the chief or chiefs of the village, in order that he may be allowed to trade in the country. It may be considered equivalent to our port dues, and is agreed on according to the probable amount of business to be done.

The navigation along the coast of Malagueta, and even along that adjoining it, can be continued at a short distance from the shore; it is only at Cape Palmas that there is a shoal, which must be avoided. It is advisable to sail along in this way, as it enables the master to reconnoitre the villages or towns where business can be done; and this can be ascertained, where other data are wanting, by the canoes from the shore, which come off to all passing vessels. Otherwise, the land being low and level, there is an almost total absence of distinguishing land-marks.

After leaving Monrovia, or Cape Monte, which is eighteen leagues to the N.W. of it, many villages will be met with, as far as Cape Palmas, the principal ones being Great Bassa, Little Bassa, Novo Cesto, Sauguin, Krou-setre, &c., where the same articles I have mentioned are to be found. At Sierra Leone, and on the coast of Malagueta, the pepper-tree, called *malagueta*, is cultivated on an extensive scale, and its fruit, (Guinea pepper,) after being dried, is purchased in large quantities by the Americans, and imported into the United States.

All along the coast, and as far as Cape Lahoo, beyond Cape Palmas, the monetary standard is termed a bar. The bar is considered to be



of the value of half a dollar, but the standard itself is an imaginary one. Articles of import, as well as of export, are estimated by this standard for the purposes of bar; thus a piece of "renir" handkerchiefs is considered to be worth six bars; a piece of "bajutapos," six bars; a musket, six bars; two bottles of rum, one bar; a pound of gunpowder, &c.

English muskets, gunpowder, rum, and tobacco, are, as I have already mentioned, the principal articles of traffic on the whole of the coast as far as Onim at the bottom of the Bight of Benin. As regards tobacco, however, an extraordinary difference prevails between that section of the coast reaching to Accra, and that adjoining it as far as Onim. In the former portion leaf tobacco in long leaves is preferred; in the latter the natives will take no other than that in rolls from Bahia, weighing two arrobes and packed in leather.

The articles of export are sold by a measure of capacity, which varies according to the locality and the articles themselves. The measure is called a "krou;" thus a krou of palm oil holds four gallons English wine measure, and weighs thirty pounds; a krou of rice weighs from twenty-five to thirty pounds. It is necessary, however, before closing a bargain, to ascertain the weight of a krou of the different articles, and agree for its value in bars.

After doubling Cape Palmas it is not prudent for a vessel to approach too near the coast; it is even advisable that she should lose sight of it until she reaches Cape Lahor, in order to avoid all communication with the natives dwelling in the vicinity of the river St. Andrew, who are wont to sally out in large canoes to attack and plunder such vessels as they imagine to be defenceless. At this place vessels could obtain a supply of fresh provisions.

After passing this section of the coast the next places worth mentioning are two considerable towns called Jaque Lahoo and Jaque Jaque, which are situated at the extremity of the bight formed by Cape Palmas and Cape Three Points. At these towns commences the trade in gold-dust; here also a considerable quantity of palm oil and some ivory are to be found. At these places great facility for trading exists, in consequence of the number of vessels which resort to this part of the coast; but it is always imperative to place no faith in the promises of the Negroes, for when they can they do not scruple to cheat and deceive. This observation is applicable to the whole of the coast. The Negroes acknowledge that the whites possess great intelligence; to deceive them then is in their opinion a proof of great skill.

After passing these towns the European settlements commence. The first are Great Bassam and Assine, belonging to France, and situated at the mouths of the rivers of the same names. At these places it is only casually that any business can be done,—the whole of the trade in the gold-dust, there found in abundance, being absorbed by the French factories,—nothing is lost however by touching there in the fine season.

Five leagues to the West of Cape Three Points, is the small Dutch

fort of Axem, and on the other side of the same cape is the English port of Dickscove. At both of these places some exchanges may be effected.

From Cape Lahoo to Accra and to all the European settlements on the coast, the monetary standard is the "ake" (ackie) of gold-dust, which weighs half a drachm English, and is worth a dollar (?). The krou on this part of the coast is almost double that assigned to it on the coast of Malagueta, averaging fifty pounds, a little more or less.

Between Dickscove and the castle of St George of the Mine (S. Jorge da Mina) are situated the small forts of Secunde, Sanca, and Commendo, and whilst passing them a vessel may do a little barter.

Quitting Commendo, we come to the first large European settlement, viz., the Castle of St. George da Mina, belonging to Holland. The castle is a Portuguese structure, and was formerly the most important of our (the Portuguese) colonies on this coast. Next to it is Cape Coast Castle, belonging to England, and situated in sight of the former. At these two places some business may be done; but it must be in goods not of English manufacture, for the great numbers of vessels of that nation engaged in trade on that coast, supply the market with all goods intended for that and the interior; deposits of English merchandize being formed for the purpose at Cape Coast Castle. Therefore it is only rum, (*cachaça*,) wine, and provisions of the same description as those already mentioned as suitable for Sierra Leone, and which England cannot furnish at a cheap rate, that any business can be done. Some exchanges may however be advantageously made for goods and earthenware, with which to complete an invoice assortment for trading along the remainder of the coast.

At the Castello da Mina the anchorage dues are twelve dollars each trip, without any import or export duties. At Cape Coast Castle the anchorage dues are twenty-five shillings, and the duties on goods imported are half per cent ad valorem on the invoice prices; on those exported there are none.

The next place to Cape Coast Castle is Annamaboo, a small English fort, formerly abandoned, but where for some years past trade has been again in some degree developed. To this fort succeed others in ruins, at which few operations can be carried out, excepting at Winebah and Assam. Millet is found in abundance at these places, as well as palm oil and gold-dust.

Proceeding along the coast, we come to the great English settlement of Accra, where they have at present two fortresses. The first, that of St. James, was built by them many years since; the second, that of Christianburg, was purchased by them from Denmark, together with all its possessions on that coast, in the year 1850.

Then follow the small settlements of Ningo, after passing which Cape St. Paul, a little to the East of Rio da Volta (lit. Return River) is doubled.

Generally those places where vessels may expect to transact business of any consequence between Cape Three Points and Cape St. Paul, are, the Castello da Mina, Cape Coast Castle, and Accra.

The other settlements and the Negro towns must be touched at by way of experiment, to ascertain whether any barter can be done or not. It sometimes happens that good business is done at those places which are of inferior importance and none at the larger.

From Cape St. Paul to Onim or Lagos many Negro towns or villages are met with, stationed all along the coast, that is for an extent of fifty leagues. These communicate with each other by means of the lake situated at no great distance inland from the beach, and then the trade converges to the principal points, which are Quita, Popo-pequeno, Ajuda, Porto Novo, and Onim.

The trade which formerly flourished at all these places, was that in slaves; but for some years past that in palm oil or *den-den* has greatly developed itself, the quantity produced amounting annually to more than seven thousand tons, which are shipped to America, France, and England.

On this section of the coast there are no European establishments properly so called; but at Ajuda, Porto Novo, and Onim, there are factories; and Europeans are also resident in the country, who traffic with vessels, as they do at those establishments.

In the Negro villages between Cape St. Paul and Popo-pequeno provisions are to be obtained in abundance and at an exceedingly cheap rate.

On the strip of coast between Cape Three Points and Cape St. Paul communication can always be kept up with the shore at all the establishments where there are forts, for they all have sheltered and secure places for landing in boats. On the coast, however, between the cape last-mentioned and the Benin River, it is at all times impossible to land, excepting in canoes constructed expressly for the purpose, for along the whole extent of this part of the coast stretches a sand-bank, at the distance of one hundred fathoms, a little more or less, from the shore, and the heavy surf on it prevents all intercourse with it in any other way, even so that in the season of the heavy gales (*ventanias*) many days (sometimes three weeks) elapse during which the communication is altogether interrupted. Canoes of this description are employed in unloading and loading vessels at all the places I have just named.

At Ajuda, Porto Novo, and Onim considerable business may be done; even entire cargoes can be exchanged for palm oil.

Masters of vessels experienced in the trade to that coast, and acquainted with the capacity and means of those persons who are resident in the country, sell their wares to those individuals who enjoy the greatest amount of credit, payable in from three to six months, and retrace their steps along the coast at the expiration of the time allowed, in order to receive what is due to them. But, in order to be able to do this with safety, great practice in the trade is necessary, as well as a special acquaintance with the persons thus trusted.

The Americans, especially, take cargoes adapted to the trade along the whole of the coast, including St. Thomas and Prince Islands as well as the coast to the South, Loanda and Ambris, and leaving the

goods sold on credit, in the way I have stated, at the various places to the North and at the islands in question, complete the sale or dispose of the remainder of their cargoes on the South coast; where they remain trading during the time that the heavy gales last on that to the northward and until the period for collection arrives.

Each section of the coast has a monetary standard and a measure of capacity of its own. I have only given an idea of those in use on the Malagueta coast (the bar and the krou of thirty pounds) and on that portion from Cape Lahoo to Accra (the ake (ackie) and the krou of fifty pounds). On the remainder of the coast, however, the standard of value and the measure of capacity are widely different. Business is carried on there by means of an imaginary coin termed an ounce (onca). One roll of tobacco of two arrobes, a barrel of gunpowder, weighing twenty-five pounds, a piece of cotton stuff, twenty-eight yards in length, are held to be worth an ounce; but if the article be of greater value, for instance a pipe of rum, which is worth twenty ounces, the price is raised to the number of ounces agreed upon.

For articles of inferior value, the ounce is divided into cabecas (beads). The cabecas are large or small and represented by cowries. The ounce, then, is equivalent to four large or eight small cabecas; the large cabeca is divided into twenty hens (gallinhas), the small one into ten; the hen into five toques (lit. touches); the toque into forty cowries; so that the ounce, according to what I have stated, is equivalent to 16,000 cowries. The cabecas, gallinhas, and toques are used in making small purchases and in defraying petty expenses.

The measure of capacity by which the negroes sell palm oil and other articles, such as flour, millet, beans, &c., is called curba, a species of tub, basket, or earthen pot, (sic lit.), and varies according to the locality. The curba of Ajuda contains eighteen gallons and costs one to two ounces. The curba of Onim contains seven gallons and a half, and costs two to four large cabecas. But these prices vary considerably, according to the abundance or scarcity of the oil and of the articles to be exchanged for it.

The monetary standards and measures of capacity which I have mentioned as in use at the different places on the coast are employed in the trade with the negroes. With Europeans, however, or with the mulatto or black residents, considered as white, business is conducted in European coin, weights, and measures. In general, those in use are the hard dollar and English weights and measures,—the ake of gold-dust being retained because it is in reality worth a hard dollar. The price of palm oil in these transactions is a dollar for three gallons, or one shilling and sixpence per gallon.

The trade of the Benin, Braz, Bonny, Calabar, and Camaroon Rivers is all in palm oil, and carried on exclusively by the English. In these rivers they do not fear any competition from other nations, for the natives on their banks and in the interior are accustomed to goods of English manufacture, got up expressly to please their tastes, not only for the trade in slaves, in which these goods were formerly

exclusively used, but likewise now in that of palm oil, and, consequently, other countries have endeavoured in vain to derive a profit from the introduction of their own fabrics. In addition to these impediments, the climate is the most unhealthy on the whole coast of Africa: so much so that the entire crews of some vessels have died there, and the Captains of the men-of-war on the station have been obliged to put sailors from their own ships on board, in order to enable them to return to Europe.

The trade of St. Thomas and Prince Islands, although it has been developed of late years, scarcely offers, as yet, any great inducement to a speculator; for the produce of those islands has remained stationary as regards quantity, the natives not having extended their cultivation. So long as the growth of the coffee plant is not extended by a supply of negro labour, of which they stand so much in need; so long as the cultivation of the sugar-cane (for the production of rum and sugar) is not encouraged by the introduction of capital and labour; the amount of commercial transactions will remain the same and too much competition will only tend to occasion losses to persons engaging in speculative trips to those places.

By the table of annual imports and exports, that is, the average of 1850-1-2, an exact idea may be formed of what I have said, and of what may be ventured upon as regards trade with those islands.

I conclude by annexing a list of the principal goods adapted to the trade of the coast; thus publishing the result of the experience acquired during a residence of some years. I also add a note in which is stated the prices of some articles, taking the bar, the ake, and the ounce as standards of value.

It is to be observed that the names of all the cotton goods are English, and it happens that some of the fabrics imported by the natives, and which are made in imitation of the English ones, retain the same names.

*List of the principal articles suited to the trade on the West Coast of Africa, from Cape Monte to Onim or Lagos.*

Rum (eachaca).	Iron, in bars.
American leaf tobacco (long leaves).	Small mirrors.
English muskets, Tower guns and dam guns (sic).	Woollen caps.
Coarse gunpowder, in 25lb. barrels.	Knives with heavy handles (?).
Shag tobacco from Bahía, in rolls of two arrobes weight.	Beads.
Brass basins, with broad brims.	Fine and coarse coral.
Small iron pots (trivets).	English earthen and glass ware.
	Matchets (sugar-cane knives).

*Cotton Fabrics.*

Tom-Coffee, in pieces of 15 handkerchiefs	Bajutapos ditto.
Satin streeps (satin stripes?).	Chiloes ditto.
Glasgow damasks.	Remoes, pieces of 16 handkerchiefs.
Siamese ditto.	Madapalams, of 28 yards.
Nicanees ditto.	Raw cottons (domestics), same length.

*Note of the prices of some articles, taking the bar as the standard.*

1 Piece of Nicanees . . . 7 bars.	50 Flints . . . . . 1 bar.
1 „ Bajutapos . . . 7 do.	2 Bottles of Rum. . . . . 1 do.
1 „ Remoes . . . 7 do.	2 Woollen caps . . . . . 1 do.
1 „ Chiloes . . . 7 do.	1 Pound of gunpowder . . . 1 do.
1 Musket . . . . . 6 do.	1 Bar of iron, weighing 12lbs. 1 do.
1 Brass basin . . . . . 2 do.	5 Heads of tobacco . . . . . 1 do.
1 Iron pot . . . . . 1 do.	

*Prices of some articles, taking the ake as the standard.*

1 Piece of satin streeps . . 2½ akes.	1 Gallon of rum . . . . . 1 ake.
1 „ Madapolams . . . 2½ do.	1 Barrel of powder . . . . . 2½ do.
1 „ Tom-coffee . . . 1½ do.	Beads, per bunch . . 1 and 2 do.
100lbs. of leaf tobacco . . 16 do.	Fine and large coral, per
1 Roll of shag tobacco . . 8 do.	thread . . . . . 20 and 25 do.

*Prices of some articles taking the ounce as a standard.*

1 Pipe of rum . . . . . 20 ounces.	1 „ Madapolams, do. 1 ounce.
100 Pounds of leaf tobacco 2 do.	1 „ striped calico, do. 1 do.
1 roll of shag tobacco . . 1 do.	Earthen and glass ware
1 Barrel of gunpowder, . . . . . 1 do.	(plates, glasses, basins,
25lbs. weight . . . . . 1 do.	pitchers, mugs, &c.) . . 1 do.
1 English musket . . . . . 1 do.	Fine coral, according to
1 Piece of domestics, 28 . . . . . 1 do.	size, . . per lb. 2 to 20 do.

## NOTES DURING A CRUIZE WITH THE BALTIC FLEET,—in the Summer of 1854.

(Concluded from page 365.)

August 30th.—Commander-in-Chief sent for me to say I was to take Russian women and children to the Island of Karpo, near Abo. At 10h. *Odin*, with flag, *Lightning*, and *Alban* left for Bomarsund; where we found *Edinburgh* in a good position for proving the effect of her broadside on the large fort. Landed and got into the fort—Sir Charles being there, no opposition was made. On examining the casemates inside, I could not find that the least injury had been done by shot or shell, nor the mark of a rifle ball, except in the rear, about the officers' quarters. The roof was much torn by shot and shell, and the interior of the fort was cut up. Immense quantities of clothes, helmets, and coats (all quite new) were destroyed and trampled under foot. Live shells were still lying about in all directions, and a great quantity of meal, in matting bags, was in the lower stories. In the afternoon, notice was given that the Presto Fort was about to be blown up; and a beautiful sight it was. There were three or four mines, with about 5,000lbs. of powder, and the whole building was turned upside down, or, rather, inside out. A quantity of the larger stones

were thrown into the Presto Channel, and the bricks and debris covered nearly the whole of the peninsula on which it stood.

31st.—At 10h. Nottich Fort, the middle round tower, was blown up. Two large portions (about half) came down, leaving about quarter of the circle standing. During the day, the live shells kept exploding; and in the evening another mine was sprung, which brought down one of the segments, leaving the remainder a picturesque ruin. Our ladies not being ready to embark, I walked over the works in progress and was struck with the enormous extent of them. Half way between the large fortress on the beach and the upper round tower is another, the base of which was laid and the foundation commenced,—this was to have been connected with the large fort,—and on the other side was a large casemated barrack, with embrasures for twenty-one guns, to be connected by other works to the upper tower. Acres of well dressed granite, voissoirs of the arches of the embrasures, and piles of brick and lime were lying about in all directions, showing that thousands of men must have been employed about the work and that in another year or two Bomarsund would have been impregnable. No doubt it was intended as a place of resort for the Russian fleet, if not an arsenal.

September 1st.—Towards dusk, to the astonishment of all, a small Russian steamer, with a flag of truce flying, was found at anchor in the middle of the fleet. She was an unarmed vessel with the transport flag and pendant, commanded by a Lieutenant, and with a Secretary or Junior Lord of the Admiralty on board. His story was that, having waited at Korpo two days, he came on to see what had become of the wives and children of the prisoners he had expected to find at Korpo. The Commander-in-Chief declared he had violated the flag of truce by coming into Bomarsund without authority, and said he had a good mind to send him to England.

2nd.—Sir Charles ordered *Alban* to Korpo with the Russian steamer; where the women were all collected on board her. I found she was an iron boat, built in the River Thames, and the Commander said he could take 100 persons, but there did not appear to be any place except a large saloon, well furnished. They all appeared anxious about getting back, as they evidently knew they had done wrong. Collected about forty men, women, and children; amongst whom were the Greek Priest, a Captain and Lieutenant of Cossacks wives and children; the others could not make up their minds about leaving. At 7h. p.m. the principal fort was blown up, or rather destroyed, as the mines were not strong enough to blow it down altogether. A portion was left for Admiral Chads to experimentalize on, but the whole roof was burnt. It was by far the most beautiful sight; the mines being of different strength, the material of different descriptions, and the explosions not being simultaneous, gave time to study and enjoy the whole. A light air blew off the land and the stench was so horrid where we lay that I was glad to get on shore and take a weather view of the burning mass. We took up a position about three hundred yards in the rear, on an elevation looking down into the

fort. The night was dark and gave full effect to the glare of the burning barracks and immense quantities of firewood piled up in the casemates. The copper-coloured moon was faintly seen through the smoke, reflecting her rays on the waters of Lumpur Bay, and the watch fires of the French camp, glimmering on the side of the hills, made, altogether, a picture well worthy the study of any artist. But what made the thing more grand was the continual explosion of the gigantic shells, re-echoing back from the wooded shores of Presto, the firing of the dismounted guns, the crackling of the rafters and partition walls as they gave way. So awful and sublime was the effect that we could scarcely tear ourselves away from the spot, though our position was anything but safe, none of the mines in the rear battery having exploded.

3rd.—Shells and mines going off nearly all night, and in the morning the powerful looking battery of Bomarsund was converted into a picturesque ruin. It must have been a sad sight for our Russian friends; when the first explosion took place, they were all on deck watching with intense interest, but in an instant afterwards not a soul was to be seen on deck, they had all disappeared:—they came to gain information and saw more than they wished to see. In the afternoon, the poor people got into the forts, looking for any things that were not destroyed, when a mine exploded and buried two of them in the ruins. Received orders from Commander-in-Chief about Russian steamer *Flyer*. Asked, if he ran away was I to fire into him? To which he answered, we will not anticipate such a thing. The mission was, therefore, rather a difficult one. I was to take charge of him, make him show me the way, and be very civil to him.

4th.—Wayed at 7h., with *Flyer*, having got about ninety men, women, and children between us. Admiral particularly anxious that my companion should not see the effect of the *Edinburgh's* broadside upon the walls of the battery. The *Flyer* was to lead, but I gave her such a route that she was glad to let *Alban* go first, and we led her a dance, at full speed, amongst her own islands that probably no single — pilot had done before. It was our line-of-battle ship channel to Abo. On arriving at the west end of Korpo, I wanted to go to Korpo Strom on the south, and we had orders to go to Korpo village, on the north side of the island, and I believe he would not have come with me had I not threatened to go on to Abo, if I did not find him there. On arriving at Korpo, we anchored and began turning over our people to the *Flyer*. Poor creatures, they were very grateful for the sympathy we had shown them; some wanted to remain, in hopes we were going to Abo. One person we felt much for,—the Finnish clergyman. In the first bombardment he had been knocked over by the wind of a shell, and was insensible for several days; on his recovery, he was sent to the country, and in the mean time the Russians burnt his house, which was adjacent to the fort, and nearly all his little property. He still felt the effects of the injury in his head, and was going to Abo to meet his wife and family. A slight difficulty now



arose: the Commander of the *Flyer* said he had orders not to sail until I commenced my return, and wished to know when I intended to sail. I told him I should suit my own convenience on that point, and that if he did not take care I should warn him away, and that he had already rendered himself liable to be made prisoner, but, I said, for the sake of the women and children, if he sailed to night, I would promise to leave in the morning. This appeared to be satisfactory, and he went to consult his chief. When the war was mentioned, he spoke of it, like all the other Russian officers, as if some personal misfortune had befallen him, and this appears to be the general opinion of the Russian officers. When the Captain of the Nottich fort was being led, prisoner, past the ruins of Tzee fort, he is said to have exclaimed, "Oh! England, England, we never expected this from you!" We learnt here that on our reconoitre at Abo the very first shot took effect, that two gunboats had been damaged by shell and several men wounded, but none killed. The first and the last shots did most execution: the latter ones by the *Driver*, when she got into a good position.

5th.—Blowing hard, No. 8, the strongest breeze during the summer. At 7.30, *Flyer* sailed, having been delayed to take in wood, and during the night it was too dark for her to sail. On going on shore, the people said they were well treated by the Russians, but objected to come on board. The island belongs to Abo and is not considered one of the Aland group, and, from being near the former town, things are rather dearer than at other places. Wood is two roubles the fathom, and the *Flyer* comes frequently to take a supply, for her furnaces are constructed for burning wood. At 10h., steamed out, but, the wind increasing, found we were doing little against it, so we bore up in hopes of being able to find an anchorage under the Srackskar group; but, the water proving very deep, in steaming down in shore, took the ground aft, and paid right off until she lay broadside on the reef. The island keeping off the sea we were pretty quiet until the stream cable was made fast to the rocks to windward and in two hours and a half hove off, without moving any weights. Anchored for the night in thirty fathoms.

6th.—Blowing too hard all day to move. Landed at Little Gylto, and found it belonged to an old man, who was living in the same house with three generations. There is but little grass or cultivation on it, notwithstanding it produces the best cattle and sheep we have seen. The only tax they have is ten roubles a year, which includes fishing. They appeared nearly independent of the rest of the world:—they grow and grind their own corn, make their nets, catch their fish in the boats they build themselves, spin their yarn and weave the cloth, shoot the seals for winter light and make their shoes from the skin, cut their own fuel, and make all the agricultural implements they require. Every instrument has its proper place, and everything turned neatly out of hand, particularly their nets and boat gear. A little salt, sugar, coffee, and cotton yarn is all they require; and that is the character

of the Aland and Abo groups generally. They refused to take anything. Gave up bathing and lighted a fire, the first for nearly three months; every appearance of our delicious summer coming to an end.

7th.—Heavy fall of hail during the night. 'Wayed, but did not like the risk of crossing this unknown sea in such weather: bore up, and anchored again in Korpo Strom. Visited the village of Rummur. The men and girls all fled at our appearance and left an old lady to receive us, who, having fortified herself with a long pull at the brandy bottle, was quite happy to make our acquaintance and filled our basket with beautiful apples. Having some doubts as to the rights of her hospitality, she said she had planted the orchard herself, and therefore she thought she had a right to give away the fruit. Amongst the people here, we found the wife and family of the Uto light-keeper, who had been carried off to Abo. The poor woman was in great distress lest she should not see her husband again; she had six pretty little Scandinavian daughters.

8th.—The wind having moderated, we 'wayed and crossed over to Bogskar, a passage that had not been proved; but, the wind increasing, we were induced to run for anchorage under Soda, one of the Sma Suttanger group, recommended by our six foot pilot; but such a hole was it that we were obliged to let go both bower anchors and ride with ten fathoms on each, the stern being right over the rocks, which were, fortunately, steep to. By getting out a hawser to the shore, we managed to pass the night without coming in contact with the bottom, which was not far off, considering the stern was in two fathoms and a half, and as much swell as could get up in these inland seas. I was anxious to see Soda, it having been, at one time, a penal settlement; when the prisoners were employed to work a vein of iron ore running through the granite at a depth of fifteen feet. It did not, however, pay its expences, and was given up six years ago. An excellent house still remains, and in perfect order—the Czar knows how to keep his panes of glass from being broken. The head pilot for Aland lived here. I was anxious to take him with me, but as it was certain imprisonment I left him.

9th.—At 7.30, got out of our hole and took the passage south of the Ston Sattunga, between Hasto and Sardo, and across to Jarso, and so on, through the old channel, to Bomarsund. Before I give an opinion as to this passage from Karpo to Bomarsund, it would be necessary to examine two four fathom patches again, and that I fear we shall not be able to do this season. Several rocks and some islands have been left out of the chart, but I still hold to the opinion that the ground work of the plan and many of the islands have been well surveyed, that it was then given to inferior hands to finish, and that the survey was broken up before it was completed. One good season's work would make the plan very complete and show the best passages amongst the islands.

10th.—Quiet Sunday—the gale taking off.

11th.—Painted ship. Brought off some of the granite pillars and

two 13-inch shells; one had been under water for a week and the powder was still dry. The engineers and boats' crews were employed blowing up the foundations of the new buildings and towers and completing the work of destruction. It was amusing to see the pleasure with which the sailors set to work to destroy the beautiful slabs and coping stones of granite, and how effectually they did their work by laying a few burning pieces of wood on the top of them; in a few minutes they broke in two or more pieces and large flakes began to scale off. The foundation of one fine building, composed of sexagonal pieces of granite, was quite destroyed by laying burning logs of wood at the base: in the course of a few hours the whole of the lower tier of stones commenced to peel, and were left for the winter's frost to do the rest. By way of relaxation, the boats' crews, when they came on shore, were allowed to break the pillars on each side of the pier, and it was extraordinary to see how much mischief a gig's crew could do in half an hour; and this love of destruction was not confined to the sailors only.

12th.—Twenty-five Russian prisoners came on board. They consisted of sixteen sick and wounded privates, one Ensign, four medical men, and four clerks or commissaries. The Ensign was a Mahomedan, raised from the ranks and bearing the highest character. He had been severely wounded in the head, and, to the disgrace of our nation, was robbed of a large sum of money, his medals, and rings, whilst under our custody. The medical men and clerks, being non-belligerents, were sent back in consequence. It was arranged that they should mess in the gun-room and some of them dine and sleep in my cabin; the others had the after lower-deck to themselves. We had scarcely started two hours, before we ran on a rock and, going pretty fast, stuck there. It was to the N.E. of Jarso; allowing the pilot to have too much his own way, he kept her nearer in shore than we had been before. In a short time, the *Lightning* came to our assistance, but was not sufficiently strong to heave *Alban* off; so she proceeded to Ledsund and brought back the *Bulldog*. In the meantime, the Russian officers were fraternizing very amicably with ours, in the gun-room. They were nearly all musical, and introduced into their glees all manner of curious accompaniments, whistling, laughing, and other unusual noises. One artillery man, who was evidently a privileged person, was called on to lead, and his unearthly falsetto and comical appearance will be long remembered in the *Alban*.

The *Lightning* having walked off with nine or ten tons of our coal, a very slight tug from the *Bulldog* brought us off about midnight.

13.—At 8h. a.m. the anchors and cables having been got on board, we again started, and had arrived as far on our way as Ommanis, North of Nagy, when again we took the ground on a rock with deep water all round. It was the place mentioned in my directions as being the only difficult part of the navigation, and as there was no time to get marks when here before, we could only go by courses and estimated distances from land. Getting the ship by the stern and laying

out the stream anchor proving of no avail except to twist her about, we desisted for the night.

14th.—At 2.30 a.m. got the bower anchor astern and blew out one of the boilers; but both anchors began to come home, and now we were in a nice mess. By some inconceivable means the bower anchor was found to be overlaying the stream cable, though it appeared to be let go quite clear. We dare not heave any more on the former or the anchor would have come into shoal water, and the ship most likely bilge herself on it; and as a strong breeze and nasty sea was getting up, if the ship were lightened she would only go further on the rocks. The gigs could not weigh the bower, there was no getting hold of the stream cable outside of the bower. Things being in this state, I thought it advisable to go to Abo and ask the Russians to take the sick on shore, and at the same time they might be inclined to give us a tug off.

In the meantime Burstall was to continue his endeavours to heave off the ship. As the gig was under sail and a number of boats going to the fair, which happened to take place that day at Auo, we were not noticed till well into the South Channel, when a guard of soldiers stopped us at the floating chain, which protects that channel, and near which the gunboats on our former visit had been stationed. They told us there was no passage that way, and that we must go round by the North side of Little Beck Holm.

This was just what we wanted, and we found there another floating chain, defended by two batteries of four or five guns each, which we had scarcely passed when we were met by a small transport steamer bearing a flag of truce, and on board of which was Capt. Aknnoff, Captain of First Class, and commanding the squadron of gunboats at Abo, and his Flag Lieutenant, Baron von Boiji, a fine and a nice gentlemanly young man.

On going on board I gave my dispatches to Capt. Aknnoff, who sent them to the Governor; he asked if I wanted any assistance, and on my answering yes, he took the gig in tow, and proceeded towards the *Alban*. There was on board also a Capt. Berg, a retired ship Captain and owner, and a character. He had visited every part of the world, spoke English well, and was remarkably shrewd in all his observations. He tried to appear to be a straightforward, honest, blunt sailor, and quite independent; but such a character I should scarcely think could exist in Russia. He wished to make me believe that the navigation to Abo was most difficult and full of rocks, when I was pretty certain there were none; that such a fine season had not been known in Finland for twenty-five years; that in July and August gales and fogs were usually prevalent, and, in fact, gave his country a very bad character. He hated the Alanders and Swedes, and maintained that the natives of the Abo group were quite a different people.

The Commander of the gunboats was a most stern character, would have as little to do with any of us as possible, would neither ask me to take a glass of wine, nor when on board partake of one, nor would he scarce sit down in my cabin.

On arriving at the *Alban* she was found much in the same state as when I left her, and two hawsers were made fast to the *Nordvabkin* steamer, the Commandant being determined to have a pull before lightening. The only effect produced, as might have been expected, was to slue the *Alban* round two or three points, and then she was left in a worse position than before. Capt. Aknnoff having found out he had orders to return before dark, would not pull the ship back into her original position. I therefore made over to him the sick to take to the hospitals, and he left, with the assurance he would come back to-morrow morning with a large lighter to assist.

15th.—The steamer not appearing, and the stream cable having been cleared off the bower anchor, the ship was lightened by throwing overboard thirteen tons of coals, the chain cables, and starting the water, and another attempt made to heave off, but with no effect, both anchors being at a bad angle in consequence of the clue the ship had got the night before. A stage was now rigged with the two gigs and casks, sufficiently buoyant to lay out a bower and way the stream, when, at 5h. p.m., the *Nordvabkin* arrived with the information that a hired steamer was coming out to assist, as his engines had been strained, and no wonder, for the jerks she gave were terrific, every time running the whole length of the hawser at full speed, and this rash work was accounted for by the Captain explaining afterwards that the Russian Government in time of war had the power of taking every merchant steamer it could lay hands on without any payment.

In the meantime the bower anchor was laid out by means of a large boat the steamer had brought, though our own gigs could easily have done it.

At 6.15 the other steamer arrived, when the Captain coming on board suggested some difficulties, and said, it was too late to attempt anything that night; though it was acknowledged that the West wind was causing the water to rise. I said in English there might be a difference of opinion on that point; that if it were his own vessel he would probably think so. Upon which he made me a low bow, but went on speaking in Swedish. Both steamers then got under way, and anchored under the lee of one of the islands, leaving the *Alban* to her fate. I was now determined to try once more every exertion to get off without assistance, and though the men had been at work day and night since Monday, they commenced at half past eight p.m. with fresh energy. The pivot gun was dismounted and run aft, and a heavy purchase from the stream cable was brought to the windlass, and the engines turned astern, when in a few minutes she slid off into deep water, to the great delight of every one.

16th.—By 1.30 a.m. the bower cable was picked up off the shoals, by hanging the ship by the stern, and the men allowed to turn in. At 6h., when the Russians came down, it was blowing fresh from the N.W., the quarter which causes the water to subside, so that it was a fortunate circumstance our attempt at heaving off had not been delayed until morning. As the ship lay within a few feet of the place

where she had been ashore, and her stern still to the wind, they would scarcely believe we were afloat.

I now thought it time to turn over the remainder of the prisoners, Capt. Aknoff having promised that any that were to be given in exchange should be sent to Ledsund. Though we tried to make them as comfortable as possible, and they appeared to enjoy themselves, they were anxious of course to get on shore. Most of them had scarcely any clothes but what they had on. One Doctor being very skilful, had been sent for from Tzee fort to see the wounded at Main fort, and whilst there Tzee fort was blown up with all his property; he then remained, and after being worn out by constant attendance day and night, went to bed, and on awaking found his room full of French soldiers, and his only remaining garments appropriated. I happened to ask one of the Doctors whilst dining with me, who was their florist, as I had taken several plants from the fort? when to our amusement he pointed out two of his wife's flower-pots in my cabin. He did not appear to know where his family had gone to, or if they had left the Aland Islands; but on his giving a description of his little daughter, I felt certain she must have been a passenger in our former trip; and on our consulting the ship's muster-book, found, to his great delight, that the whole family had been on board.

In the evening we paid a visit to the village of Nayer, said to be the richest in the Abo group.

17th.—Whilst at church, the Russian steamer again made her appearance, but with very good taste kept off until the church pendant was hauled down. She had been sent out by General Vindt, commanding the troops at Abo, in charge of our young friend Baron von Boiji; who, having heard that we had been obliged to start our water, had sent out the water tank that we might supply ourselves to any amount, though most difficult to be got at Abo, the inhabitants, according to Capt. Berg, having to send seven miles for any they require to drink. The steamer had also brought us a present from the General of a bullock, sheep, vegetables, cream, butter, and a cask of wine, which we felt as a great compliment, inasmuch as it proved that our kindness to the prisoners had been appreciated.

The Baron told us that he was in one of the gunboats, and that a shell burst within thirty feet of him; but would not tell how many were killed or wounded.

18th.—At 6h. tripped our anchor, and proceeded by the short route Boyskar Sattunga, and on arriving at Bomarsund found it deserted by every ship, and nothing but a few grim chimney stalks and heaps of rubbish, where the proud batteries had stood.

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PETERSBURG.—*From Russia, by the Marquise de Custine.*

It is impossible to describe the dulness of Petersburg during the absence of the Emperor. At no time does the city exhibit what may be termed gaiety; but without the court it is a desert. The reader is aware that it is constantly menaced with destruction by the sea. This morning, while traversing its solitary quays and empty streets, I said to myself, "Surely the city must be about to be inundated; the inhabitants have fled, and the water will soon recover possession of the marsh." Nothing of the kind; Petersburg is lifeless only because the Emperor is at Peterhoff.

The water of the Neva, driven back by the sea, rises so high, and the banks are so low, that this large inlet, with its innumerable arms, resembles a stagnant inundation, an overflowing marsh. They call the Neva a river, but it is for want of a more precise signification. At Petersburg, it has already become the sea; higher up, it is a channel of a few leagues in length, which serves to convey the superfluous waters of Lake Ladoga into the Gulf of Finland.

At the period when the quays of Petersburg were built, a taste for structures of small elevation prevailed among the Russians. The adoption of this taste was very injudicious in a country where the snow, during eight months in the year, diminishes the height of the wall by six feet; and where the surface of the soil presents no variety that might, in any degree, relieve the monotony of the regular circle which forms the unchangeable line of horizon, serving as a frame for scenes level as the ocean. In my youth, I inhaled enthusiasm at the feet of the mountainous coasts of Calabria, before landscapes all of whose lines, excepting those of the sea, were vertical. Here, on the contrary, I see only one plane surface terminated by a perfect horizontal line drawn betwixt the sky and the water. The mansions, palaces, and villages which line the Neva, seem scarcely to rise above the soil, or rather the sea. Some have only one story, the loftiest not more than three; and all appear dilapidated. The masts of the vessels overshoot the roofs of the houses. These roofs are of painted iron; they are light and elegant but very flat, like those of Italy, whereas pointed roofs are alone proper in a country where snow abounds. In Russia we are shocked at every step by the results of imitation without reflection.

Between the square blocks of an architecture which pretends to be Italian, run wide, straight, and empty vistas, which they call streets, and which, notwithstanding their projecting colonnades, are anything but classical. The scarcity of the women also contributes to the dulness of the city. Those who are pretty seldom appear on foot. Wealthy persons who wish to walk are invariably followed by a servant. The practice is, here, one of prudence and necessity.

The Emperor alone has the power to people this wearisome abode,

abandoned so soon as its master has disappeared. He is the magician who puts thought and motion into the human machines; a magician in whose presence Russia wakes, and in whose absence she sleeps. After the court has left, the superb metropolis has the appearance of a theatre when the representation is over. Since my return from Peterhoff, I can scarcely recognize the city I left four days ago; but were the Emperor to return this evening, everything to-morrow would recover its former interest. We should have to become Russians to understand the power of the sovereign's eye, it is very different to the lover's eye spoken of by *La Fontaine*. Do you suppose that a young girl bestows a thought on her love affairs in the presence of the Emperor? Do not deceive yourself; she is occupied with the idea of procuring some promotion for her brother. The old women, so soon as they breathe the air of the court, feel no longer their infirmities. They may have no family to provide for,—no matter, they play the courtier from the pure love of the game. They are servile without an object, just as others like play for its own sake. Thus by an endeavour to shake off the burden of years, these wrinkled puppets shake off all the dignity of age. We have no pity for busy intriguing decrepitude, because it is ridiculous. At the end of life, it is surely time to set about practising the lesson which time is ever teaching, the grand art, namely, of giving up. Happy those who early learn to apply this lesson. To renounce, is the great proof of a powerful mind; to abdicate a position before it is lost,—this is the policy of old age.

It is a policy, however, little practised at court, and at that of Petersburg less than any other. Busy, restless old women are the plagues of the court of Russia. The sun of favour dazzles and blinds the ambitious, more especially those of the female sex; it prevents their discerning their true interest, which would be to save their pride by concealing the miseries of their hearts. On the contrary, the Russian courtiers glory in the abject meanness of their souls. The flatterer here shuffles his cards upon the table, and I am only astonished that he can win anything in a game so palpable to all the world. In the presence of the Emperor the asthmatic breathes, the paralysed become active, the gouty loses his pain, the lovers no longer burn, the young men no longer seek to amuse themselves, the men of mind no longer think. In lieu of all these human states, mental and physical, one combined sentiment of avarice and vanity animates life even to its latest sigh. These two passions are the breath of all courts; but here they impart to their victims a military emulation, a disciplined rivalry, whose agitating influences extend throughout all the stages of society. To rise a step by more carefully dancing attendance,—such is the absorbing thought of this etiquette-instructed crowd.

But then what prostration of strength when the luminary in whose beam these flattering notes may be seen to move is no longer above the horizon! It is like the evening dew quenching the dust, or the nuns in *Robert le Diable* again repairing to their sepulchres to wait the signal for another round.

With this continual stretch of all minds towards advancement, con-  
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versation is impossible. The eyes of the Russian courtiers are the sunflowers of the palace. They speak without interesting themselves in anything that is said, and their looks remain all the while fascinated by the sun of favour.

The absence of the Emperor does not render conversation more free; he is still present to the mind. The thoughts instead of the eyes then become the sunflowers. In one word, the Emperor is the god, the life, the passion, of this unhappy people. Imagine human existence reduced to the hope that an obeisance will procure the acknowledgement of a look! God has implanted too many passions in the human heart for the uses which are here made of it.

If I put myself in the place of the only man who has here the right to live free, I tremble for him. To have to play the part of Providence over sixty millions of souls is a dreadful office. The divinity has only the choice of two things: either to destroy his own power by showing himself a man, or to lead his votaries to the conquest of the world, in maintaining his character as a god.

It is thus, that, in Russia, the whole of life becomes nothing more than a school of ambition.

But by what road have the Russians reached this point of self-abnegation? What human means could produce such a political result? The cause of all this is the *tchinn*—the *tchinn* is the galvanism, the apparent life of souls and bodies here—the passion which survives all other passions. I have shown its effects, it is therefore necessary that I should explain its nature.

The *tchinn* is a nation formed into a regiment, it is the military system applied to all classes of society, even to those who never go to war. In short, it is the division of the civil population into ranks which correspond to ranks in the army. Since this institution has been established, a man who has never seen exercise may obtain the rank of Colonel.

Peter the Great—it is always to him we must go back in order to understand the actual state of Russia—Peter the Great, troubled by certain national prejudices which had a resemblance to aristocracy, and which incommoded him in the execution of his plans, took it into his head one day to discover that the minds of his people were too independent; and in order to remedy the evil, that great workman could devise nothing better in his deep, yet narrow penetration, than to divide the herd, that is to say, the people, into classes entirely irrespective of name, birth, and family; so that the son of the highest noble in the empire may belong to an inferior class, whilst the son of one of the peasants may rise to the highest classes, if such be the will of the Emperor. Under this division every man takes his position according to the favour of the Prince. Thus it is that Russia is become a regiment sixty millions strong; and this is the *tchinn*—the mightiest achievement of Peter the Great.

By its means, that Prince freed himself, in one day, from the fetters of ages. The tyrant, when he undertook to regenerate his people, held sacred neither nature, history, character, nor life. Such sacri-

fices render great results easy. Peter knew better than any one that, so long as an order of nobility exists in a community, the despotism of one man can be nothing more than fiction. He therefore said, "To realize my government I must annihilate the remains of the feudal system;—and the best way of doing this is to make caricatures of gentlemen—to destroy the nobility by making it a creation of my own." It has consequently been, if not destroyed, at least nullified by an institution that occupies its place though it does not replace it. There are castes in this system, in which to enter is to acquire hereditary nobility. Peter the Great, whom I should prefer to call Peter the Strong, forestalling our modern revolutions by more than half a century, thus crushed the spirit of feudalism. Less powerful under him than it was among us, it fell beneath the half civil half military institution which constitutes modern Russia. Peter was endowed with a clear and yet a limited understanding. In rearing his system on so great a ruin, he knew not how to profit by the exorbitant powers he had engrossed, except in mimicking more at his ease the civilisation of Europe.

With the means of action usurped by this Prince, a creative genius would have worked much greater miracles. The Russian nation, ascending after all the others upon the great stage of the world, possessed the gift of imitation in lieu of genius, and had a carpenter's apprentice for its prompter! Under a chief less fond of minutiae, less attached to details, that nation would have distinguished itself, more tardily, it is true, but more gloriously. Its power, corresponding with its own requirements, would have been useful to the world: it is now only astonishing.

The successors of this lawgiver in fustian have, during one hundred years, united with the ambition of subjugating their neighbours, the weakness of copying them. In the present day, the Emperor Nicholas believes the time is arrived when Russia has no longer need of looking for models among foreigners in order to conquer and to rule the world. He is the first really Russian sovereign since Ivan 4th. Peter the First was a Russian in character, though not in politics; Nicholas is a German by nature, but a Russian by calculation and necessity.

The *tchinn* consists of fourteen classes, each of which possesses its own peculiar privileges. The fourteenth is the lowest. Placed immediately above the serfs, its sole advantage consists in its members having the title of freemen. Their freedom means that no one can strike them without rendering himself liable to prosecution. In return every member of the class has to inscribe on his door his registered number, in order that no superior may be led to act under an ignorance that would render him liable to a penalty.

The fourteenth class is composed of persons in the lowest employ under the Government, clerks of the post-office, factors, and other subordinates charged with carrying on the orders of the heads of departments: it answers to the rank of sub-officer in the Imperial army. The men who compose it are servants of the Emperor, and serfs of no

one; they possess a sense of their social dignity. But as to human dignity it is not known in Russia.

All the other classes of the *tschinn* answer to as many military grades; the order that reigns throughout the entire state is analogous to the order of the army. The first class stands at the summit of the pyramid.

The will of the Emperor is the sole means by which an individual is promoted in the *tschinn*; so that a man, rising step by step, to the highest rank in this artificial nation, may attain the first military dignity without having served in the army. The favour of promotion is never demanded but always intrigued for.

There is here an immense quantity of fermenting material placed at the disposal of the head of the state. Medical men complain of their inability to communicate fever to certain patients in order to cure them of chronic maladies. The Czar Peter inoculated with the fervour of ambition the whole body of his people, in order to render them more pliant, and to govern them according to his humour.

The English aristocracy is equally independent of birth; it depends on two things, which may be acquired, office and estate. If, then, that aristocracy, moderated as it is, still imparts an enormous influence to the crown, how great must be the power of a crown whence all these things,—the rank, and also the office and estate,—are both *de jure* and *de facto* derived.

There results from such a social organization a fever of envy so violent, a stretch of mind towards ambition so constant, that the Russian people will needs become incapable of anything except *the conquest of the world*. I always return to this expression, because it is the only one that can explain the excessive sacrifices imposed here upon the individual by society. If the extreme of ambition can dry up the heart of a man, it may also stop the fountain of intellect, and so lead astray the judgment of a nation as to induce it to sacrifice its liberty for victory. Without this idea, avowed or disguised, and the influence of which many, perhaps, obey unconsciously, the history of Russia would seem to me an inexplicable enigma.

Here is suggested the grand question: is the idea of conquest that forms the sacred aspiration of Russia, a lure, suited only to seduce for a period, more or less long, a rude and ignorant population, or is it one day to be realized?

This question besets me unceasingly, and in spite of all my efforts I cannot solve it. All that I can say is, that since I have been in Russia I have formed a gloomy view of the future reserved for Europe. At the same time my conscience obliges me to admit that my opinion is combated by wise and very experienced men. These men say that I exaggerate in my own mind the power of Russia; that every community has its prescribed destiny; and that the destiny of this community is to extend its conquests eastward, and then to become divided. Those minds that refuse to believe in the brilliant future of the Sclavonians, agree with me as regards the amiable and happy disposition

of that people; they admit that they are endowed with an instinctive sentiment of the picturesque; they allow them a natural taste for music; and they conclude that these dispositions will enable them to cultivate the fine arts to a certain extent, but that they do not suffice to constitute the capacity for conquering and commanding which I attribute to them. They add, that "the Russians want scientific genius; that they have never shown any inventive power; that they have received from nature an indolent and superficial mind; that if they apply themselves, it is through fear rather than inclination: fear makes them apt to undertake and to draw the rough drafts of things, but it also prevents their proceeding far in any effort; genius is, in its nature, hardy as heroism; it lives on liberty: whilst fear and slavery have a reign and a sphere limited as mediocrity, of which they are the weapons. The Russians, though good soldiers, are bad seamen; in general, they are more resigned than reflective, more religious than philosophical; they have more instinct of obedience than will of their own; their thoughts lack a spring, as their souls lack liberty. The task which is to them most difficult, and least natural, is seriously to occupy their minds and fix their imaginations upon useful exercises. Ever children, they might, nevertheless, for a moment be conquerors in the realm of the sword; but they would never be so in that of thought: and a people who cannot teach anything to those they conquer, cannot long be the most powerful.

"Even physically the French and English are more robust than the Russians; the latter are more agile than muscular; more savage than energetic, more cunning than enterprising; they possess passive courage, but they want daring and perseverance. The army, so remarkable for its discipline and its appearance on days of parade, is composed, with the exception of a few *élite corps*, of men well clad when they show themselves in public, but slovenly and dirty so long as they remain in their barracks. The cadaverous complexions of the soldiers betray hunger and disease; the two campaigns in Turkey sufficiently demonstrate the weakness of the giant. Finally, a community that has not tasted liberty at its birth, and in which all the great political crises have been brought about by foreign influence, cannot, thus enervated in its germ, have a long existence in prospect."

Such, it seems to me, are the strongest reasons opposed to my fears by the political optimists. From them, it is concluded that Russia, powerful at home, and formidable when she struggles with the Asiatic people, would break herself against Europe so soon as she should throw off the mask, and make war in maintenance of her arrogant diplomacy.

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In this funeral citadel the dead appeared to me more free than the living. If it had been a philosophical idea which suggested the inclosing in the same tomb the prisoners of the Emperor and the prisoners of death—the conspirators and the monarchs against whom they conspired—I should respect it; but I see in it nothing more than the cynicism of absolute power—the brutal security of a despotism

which feels itself safe. Strong in its superhuman power, it rises above the little humane delicacies, the observance of which is advisable in common governments. A Russian Emperor is so full of what is due to himself that he cannot afford to have his justice lost sight of for that of God's. We royalist *revolutionaries* of Western Europe see only in a prisoner of state at Petersburg an innocent victim of despotism; the Russians view him as a reprobate. Every sound appeared to me a complaint; the stones groaned beneath my feet. Oh, how I pity the prisoners of this fortress! If the existence of the Russians confined under the earth, is to be judged of by inferences drawn from the existence of the Russians who live above, there is, indeed, cause to shudder! A thrill of horror passed through me as I thought that the most steadfast fidelity, the most scrupulous probity, could secure no man from the subterranean prisons of the citadel of Petersburg, and my heart dilated and my respiration came more freely, as I repassed the moats which defend this gloomy abode, and separate it from the rest of the world.

Who would not pity the Russian people? They, I speak now of the higher classes, are living under the influence of an ignorance and of prejudices which they no longer possess. The affectation of resignation is the lowest depth of abjectness into which an enslaved nation can fall: revolt or despair would be doubtless more terrible, but less ignominious. Weakness so degraded that it dare not indulge itself even in complaint, that consolation of the lower animal creation, fear calmed by its own excess—these are moral phenomena which cannot be witnessed without calling forth tears of horror.

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THE EGBAS.—*Communicated by Capt. Miller, R.N.*

Shortly after assuming the charge of the Bights, a revolt took place at Badagry, and Mayen, the Chief of that place, was expelled. I made it my policy, no less from inclination than from official instructions, never to interfere in the internal disputes of the natives, provided British life and property were not outraged, and that a Chief pledged to us by treaty to suppress the slave trade, did not infringe thereon. I perceived, however, that the removal of Mayen from Badagry (though in no way countenanced by myself or by those under my authority) would be very beneficial to the interests of our merchants at Lagos, as the sequel has proved, for from Porto Novo, some sixty miles to windward of Lagos, large quantities of palm oil went towards enriching the notorious slave dealing Domingo Martinez, who doubtless found it a more profitable occupation than trafficking in his fellow men. The depriving him of this trade, and directing it down the channel of the lagoon to our merchants at Lagos, has been the sequence, and the King of Porto Novo positively refused permission for

this being done unless Mayen was deposed; principally on account of his having been engaged in a civil war at Porto Novo some twenty-five years ago.

All the slaves from the interior are sent to the slave market at Okeodan, and from thence transmitted through the King of Porto Novo's town to the beach where Domingo Martinez resides; and though Mayen has been accused of being the slave agent of Domingo, likewise of the Egbas, yet I never heard of a shipment taking place at Badagry for years, nor is it a line of road through which slaves are passed.

Ever since Abbeokuto, the city of the Egbas, rose into importance, they have had a great interest in Badagry, and it has been their policy to form a close alliance. The Egbas early pushed their arms in this direction, as it was at that time the only sea port open to them by which their enslaved countrymen, who had been fortunate enough to be recaptured by our cruizers, and liberated at Sierra Leone, could return to their native country. Of these between 3,000 and 4,000 passed at different times through Badagry, and made their way to Abbeokuta. Numbers of these were intercepted on their route by the people of Adu, a town in the line of march; and this place was, consequently, besieged by the Egbas. The siege lasted for many years, Adu being strong in its natural defences, till fortunately terminated by the successful mediation of the Rev. Messrs. Townsend and Crowther, Missionaries, and when reduced to the last extremity.

The Egbas were early opposed to the slave trade; and on account of their having given a footing to the Missionaries, and declared themselves the friends of the English, secured the enmity of the whole slave trading party. It was to them that Akitoze, the late King of Lagos, fled for safety when expelled by Kozoko.

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#### SIR FRANCIS BEAUFORT'S PLAN FOR SECRET CORRESPONDENCE.

[The means of secret correspondence is an important power, which, like all others, may be well or badly applied. Something like a box of lucifer matches, it may be turned to a good or bad purpose as an ill or well designed person may please to apply it, as is very well exemplified by some discoveries made by a gentleman well known in the walks of science in one of our daily public journals. These discoveries were made by his arriving at a knowledge of the key, and although the annexed ingenious method has defied hitherto all attempts at such discovery, its improper application must not stand in the way of the good use to which it is equally applicable. It is not the first time it has been in print, having appeared many years ago in a scientific journal; but it is by no means commonly known, nor that the author of it is the late Hydrographer to the Admiralty, Rear-Admiral

a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a
b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b
c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c
d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d
e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e
f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f
g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g
h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h
i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i
j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j
k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k
l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l
m	n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m
n	o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n
o	p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o
p	q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p
q	r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q
r	s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r
s	t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s
t	u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
u	v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u
v	w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v
w	x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w
x	y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x
y	z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y
z	a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	a

Sir Francis Beaufort, who has recently retired from that important station, after a lifetime of valuable contributions to the general store of knowledge, but more especially towards the improvement of navigation.

It will be seen by the method that a piece of paper and a pencil are all that is necessary to form the key previously agreed on between the two persons, who need carry nothing further, and that the key can always be varied at pleasure;—but no doubt any common paper, with printed squares, such as used in worsted work, would materially facilitate the application of the method.]

*Explanation of the Table.*

Let the key for the above table be a line of poetry, or the name of some memorable person, or place, which cannot easily be forgotten. After the letter or dispatch has been composed, write the key underneath the text, letter for letter; repeating it as often as may be necessary. For example; suppose the key sentence to be “Viscount Melbourne,” and the secret clause of the dispatch to begin thus:—“The steps which have been taken.” These when written as above directed will appear as follows:—

T h e s t e p s w h i c h h a v e b e e n t a k e n  
V i s c o u n t M e l b o u r n e V i s c o u n t M

Now look in the side column for the first letter of the text (*t*) and in the top or bottom column for the first letter (*v*); where these columns meet there will be found the letter (*o*) which is to be written for the beginning of the secret paragraph. Proceed in the same manner with the second letter, viz. (*h*) at the side and (*s*) at the top and the result will be (*p*.) The third letter will be (*w*) as found at the junction of the two columns of (*e*) and (*s*) and so on to the end of the dispatch, which will stand thus:—

o p w u h y c l i l t d v b r i i w m w p h u x x z

To decypher it by the converse process, the correspondent writes the key words underneath it, and looking at the top of the table for the first letter thereof, and pursuing that column downwards till he comes to the first letter of the secret dispatch, the resulting letter in the side column will be the letter sought. Thus, in the column under (*v*) at the top, an (*o*) will be found in the horizontal column belonging to (*t*) and (*t*) will therefore be the letter required for the interpretation.

REPORT OF DR. J. B. TOLDERVY AND PROFESSOR W. B. JACK ON THE  
LONGITUDE OF FREDERICTON, NEW BRUNSWICK, TO HIS EXCELLENCY  
THE GOVERNOR.

Encouraged by Your Excellency's predecessor, we, the undersigned, undertook to verify the longitude of Fredericton by means of the electric telegraph leading therefrom to Boston; and having now accomplished that object, we beg to report to Your Excellency the result of our operations.



The Government of the United States has spared neither pains nor money in determining by the most approved astronomical methods, and by interchanges of upwards of one thousand chronometers, the difference of longitude between Greenwich and Harvard College Observatory, in order that the latter might serve as a point of reference in conducting the operations of the coast survey. By our telegraphic communication with Boston, and through the kind co-operation of Professor Bond and his assistants, we have, at a comparatively insignificant amount of trouble and expenditure, been enabled to avail ourselves of the labours undertaken for the above-mentioned purpose, and thus to ascertain the longitude of Fredericton with probably an equal degree of precision.

It was originally intended to have an unbroken telegraphic communication between the Fredericton Observatory and that of Harvard University; but in consequence of the wires from the latter to the office in Boston being out of repair, Professor Bond found it necessary to trust to two excellent sidereal chronometers for the interval, and remarks that "on examination, I am induced to believe that no greater error has arisen from this source than would have taken place had the communication been made from the room adjoining the transit instrument."

Professor Bond's chronometers were carefully and repeatedly compared with his transit clock, and with each other, both before and after interchanging signals, so as to ascertain their error and rate: and at both observatories, on each day of operations, the meridian passages of a number of stars were observed in order to obtain the error and rate of the transit clocks. But we need not trouble Your Excellency with the tedious details and long calculations connected with this part of the work.

On the evening of the 23rd of January, 1855, we received the first series of signals from Boston. Mr. Coolidge (Mr. Bond's assistant) commenced at an even minute by his chronometer, and sent us second beats for fifty consecutive seconds. This was continued for ten successive minutes, beginning always at the even minute, and we carefully noted the times by our transit clock. On examining all we found that the times of first signal would be as exhibited in Table I.

	Clock Time.	Clock Error +	True Sidereal Time.
	h. m. s.	m. s.	h. m. s.
At Fredericton...	6 29 37.7	1 40.18	6 27 57.52
At Cambridge ...	6 10 21.5	(8.86 + 12.5 =) 21.36	6 10 0.14
Difference of Longitude = 0 17 57.38			

On the evening of the 2nd February, we took the initiative, and sent a series of signals to Boston, the result from which is given in Table II.

	Clock Time.	Clock Error +	True Sidereal Time.
	h. m. s.	m. s.	h. m. s.
At Fredericton...	6 38 0	2 25.88	6 35 34.12
At Cambridge ...	6 18 13.3	(12.68 + 23.8 =) 36.48	6 17 36.82
Hence the difference of Longitude = 0 17 57.30			

On the same evening we sent another series, and the result deduced from them is shown in Table III.

	Clock Time.	Clock Error +	True Sidereal Time.
At Fredericton...	h. m. s. 6 49 0	m. s. 2 25·88	h. m. s. 6 46 34·12
At Cambridge ...	6 29 13·3	36·48	6 28 36·82
Hence the difference of Longitude = 0 17 57·30			

On the same evening, we received from Cambridge a series of signals, which give a result exhibited in Table IV.

	Clock Time.	Clock Error +	True Sidereal Time.
At Fredericton...	h. m. s. 7 4 23·6	m. s. 2 25·88	h. m. s. 7 1 57·72
At Cambridge ...	6 44 37	36·48	6 44 0·52
Hence the difference of Longitude = 0 17 57·20			

On the evening of the 10th of February, we were again in telegraphic communication with Boston; and the result of the first series of signals which were sent from Fredericton and recorded at Boston, is exhibited in Table V.

	Clock Time.	Clock Error +	True Sidereal Time.
At Fredericton...	h. m. s. 7 1 0	m. s. 3 23·7	h. m. s. 6 57 36·3
At Cambridge ...	6 40 27·05	(17·49 + 30·4 =) 47·89	6 39 39·16
Hence the difference of Longitude = 0 17 57·14			

The second series of signals, on the same evening, was transmitted from Boston and recorded at Fredericton, and the result is as shown in Table VI.

	Clock Time.	Clock Error +	True Sidereal Time.
At Fredericton...	h. m. s. 7 17 21	m. s. 3 23·7	h. m. s. 7 13 57·3
At Cambridge ...	6 56 48	47·89	6 56 0·11
Hence the difference of Longitude = 0 17 57·19			

We next sent a series of signals to Boston, the result derivable from which is given in Table VII.

	Clock Time.	Clock Error +	True Sidereal Time.
	h. m. s.	m. s.	h. m. s.
At Fredericton...	7 43 0	3 23·7	7 39 36·3
At Cambridge ...	7 22 27	47·89	7 21 39·11
Hence the difference of Longitude = 0 17 57·19			

We then received from Boston and recorded at Fredericton another series of signals (the fourth for the same evening), the result of which is shown in Table VIII.

	Clock Time.	Clock Error +	True Sidereal Time.
	h. m. s.	m. s.	h. m. s.
At Fredericton...	7 51 21	3 23·7	7 47 57·3
At Cambridge ...	7 30 48	(17·49 + 30·4 = )47·89	7 30 0·11
Hence the difference of Longitude = 0 17 57·19			

And lastly, we received from Cambridge a single tap for the purpose of comparing clocks, and the result deducible from it is exhibited in Table IX.

	Clock Time.	Clock Error +	True Sidereal Time.
	h. m. s.	m. s.	h. m. s.
At Fredericton...	8 7 21	3 23·7	8 3 57·3
At Cambridge ...	7 46 48	47·89	7 46 0·11
Hence the difference of Longitude = 0 17 57·19			

On examining the operations of February 10th, it will be perceived that the second beats of the Boston chronometer and the Fredericton transit clock continued synchronous throughout, and therefore they must have had the same rate. Hence the same clock errors are applicable to the whole of the series for the evening. We may remark that the results obtained from this last night's work are considered the most complete and satisfactory, and from them alone the difference of longitude would be 0h. 17m. 57·18s. If, however, we take the mean of all the operations, the difference would be 0h. 17m. 57·23s.; and as Cambridge Observatory is 4h. 44m. 30·66s. West of Greenwich, it follows that the longitude of Fredericton is 4h. 26m. 33·43s. West of Greenwich. Converting the above time into arc, we have

Longitude of Fredericton .....	66° 38' 21.5"
The Crown Land Department makes it ..	66 37 54
	27.5
Difference .....	27.5

This difference is smaller than could have been anticipated, or than we should have been warranted in assuming.

The longitude of Fredericton having been thus verified and ascertained with an exactness much greater than it could have been done by any other method, it might be used as a centre of operations for determining, with equal exactness, the longitudes of all the other places in the province that are connected with it by telegraph wires. To do this would be a matter of much importance to the geography of the country in general; and so far as the sea-ports are concerned, it would also be of great service to navigation.

In conclusion, we would beg to observe to Your Excellency that we are much indebted to Professor Bond for his kindness and courtesy in co-operating with us, and for the gratuitous services which he has rendered. We are also under deep obligations to the different Telegraph Companies between Fredericton and Boston for the readiness with which they placed their lines at our disposal, and for the attention and liberality which we uniformly experienced at their hands.

We beg to subscribe ourselves, &c.,  
 J. B. TOLDERVY,  
 W. B. JACK.

Fredericton, March 5th, 1855.

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#### DEATH OF REAR-ADMIRAL SIR EDWARD PARRY.

Sir W. E. Parry, who has for many years been in a very precarious state of health, died on the 8th July, at Enis.

Sir E. Parry was born in 1790, and entered the navy at an early age. In 1810 he was promoted to the rank of Lieutenant, and shortly afterwards served on the coast of North America; where, says Sir John Barrow, "he was distinguished as an excellent navigator, theoretical as well as practical." While on this service, he volunteered for, and was appointed to the famous Congo Expedition, under Capt. Tuckey, but, fortunately for Arctic discovery, could not join in time. Still, however, his attention was drawn towards African enterprise; and about the close of 1817 he wrote to a friend, detailing his views on the subject, and expressing a great desire to be employed in any expedition of discovery in that quarter of the globe. It was at this period that, in consequence of accounts having been received of the great disruption of ice in the Arctic regions, the Royal Society recommended the Admiralty to fit out two Expeditions for Arctic discovery,—one of which was dispatched under the command of Capt. Buchan and Lieut. Franklin to the North Pole, the other under the command of Sir John Ross to Baffin Bay, with the view of penetrating through passages supposed to exist west of that bay. Parry, happening to hear of these proposed expeditions, wrote immediately, expressing his wish to be employed,—adding, that "he was ready for hot or for cold, Africa or the Polar regions." The result was, that he received a commission to join Sir John Ross's expedition as Lieutenant, which sailed in 1818.

This expedition proved a failure; but the Admiralty forthwith ordered a second expedition to be equipped, and the command was intrusted to Parry.

The ships, consisting of the *Hecla* and *Griper*, sailed from the Thames on the 11th of May, 1819, and passing up Baffin Bay, entered Lancaster Sound, and without, it may be said, meeting with a check from ice, reached Melville Island at the beginning of September. "On the 4th of September," wrote the Commander of the expedition, "we had the satisfaction of crossing the meridian of 110° W. from Greenwich, in the latitude of 74° 44' 20", by which His Majesty's ships under my orders became entitled to the sum of £5,000, being the reward offered by Parliament to such of His Majesty's subjects as might succeed in penetrating thus far to the westward within the Arctic circle."

The expedition wintered at Melville Island, and it was fully believed by every officer that the remaining portion of the passage to Behring Straits would be accomplished in the ensuing summer. But their expectations were disappointed; and, after various attempts to advance westward, Lieut. Parry was obliged to return to England. For his distinguished services he was promoted to the rank of Commander; and in 1821 was again sent out in command of the *Hecla* and *Fury*. During this expedition, which extended over the years 1821-2-3, great sufferings were endured; but with that undaunted spirit of enterprise which will ever make the name of Parry famous in the story of Arctic discovery, we find him volunteering on his return to command another expedition. This, consisting also of the *Hecla* and *Fury*, sailed on the 19th of May, 1824, from the Thames. This was his third and last attempt to discover a North-West Passage from the Atlantic to the Pacific; but his zeal and enterprise in the cause of Polar discovery were not abated, for on his return he proposed and volunteered to conduct a sledge-boat expedition to the North Pole. His services were accepted; and in 1827 he started on his perilous enterprise. After great labour and danger, the expedition attained the latitude of 82° 45', which is the nearest point to the North Pole that has been reached.

This expedition terminated Parry's long and arduous services in the Arctic regions; but it will be seen that, although honours followed, he was not disposed to rest on his laurels. In 1821, he had been promoted to the rank of Post-Captain, and in 1829 he was knighted, and received the honour of D.C.L. from the University of Oxford. He was elected a Fellow of the Royal Society, chosen on its Council, and contributed papers to its *Transactions*; and was also elected Honorary Member of the St. Petersburg Academy of Sciences and of the Royal Irish Academy.

On his return to England from his Polar Expedition, he was appointed Hydrographer to the Admiralty; which post he held until May, 1829, when he resigned the office, and went out to New South Wales as Commissioner to the Australian Agricultural Company, and acted in that capacity until 1834. In 1835 he was appointed Assistant Poor Law Commissioner in Norfolk; but his health failing, he did not hold office for more than a year. In 1837 he was appointed to organize the Packet Service, then transferred to the Admiralty, and was subsequently appointed Comptroller of Steam Machinery, Superintendent of Haslar Hospital, and, more recently, Lieut.-Governor of Greenwich Hospital, which office he held at the time of his decease. In 1852, he attained the rank of Rear-Admiral.—*Athenæum*.

The funeral of Sir Edward Parry took place at Greenwich on Thursday the 19th July. His body was borne to its last resting place by six men; the whole of the officers of the establishment attending in full uniform—six acting as pall-bearers. Fifty of the Greenwich Pensioners preceded the body. The immediate relatives and a few friends of the deceased walked in the procession, following the body, and among the latter were Capt. Washington, R.N., Capt.

Austin, C.B., Capt. Collinson, C.B., Capt. Kellett, C.B., Capt. M'Clure, R.N., Dr. Rae, and Mr. Barrow.

The service has sustained a great loss by the death of one of its most honourable, upright, and distinguished officers, whose amiable character had gained him universal esteem. Sir Edward Parry was a warm supporter of all the and charities institutions connected with the service, and particularly so of the Sailors' Homes.

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ARCTIC COLLECTION,—*Polytechnic Institution.*

A valuable and interesting collection, of great variety, has been got together by Mr. Barrow from the various Expeditions to the Northern Regions in search of Franklin, including some deeply interesting relics found at Beechey island. This Arctic collection was opened on Monday the 2nd of July with a lecture by the Rev. Dr. Scoresby, before a large audience, who had been invited to a private view—the room being filled with visitors and a large proportion of ladies. Several of the most distinguished Arctic officers attended the meeting:—Sir James Ross, Captain Collinson, C.B., Captain M'Clure, Sir Edward Belcher, C.B., Captain Kellett, C.B., Dr. Rae, &c.

The various articles exhibited—such as, models of Esquimaux sledges and boats, the implements used by the several tribes, their dresses, including those of the new tribe on Victoria land, discovered by Dr. Rae, and afterwards communicated with by Captains M'Clure and Collinson, sledge equipments of the squadron, tents, and endless other things—were presented to Mr. Barrow from time to time by the officers of the searching squadrons, and were originally intended for the museum at Ulverstone (the birth-place of Sir John Barrow); that institution, however, having failed, Mr. Barrow has lent the whole collection, for a twelvemonth, to the Royal Polytechnic Institution, for the benefit and instruction of the public.

Many hundreds have already visited this unique arctic collection and we hope that it will eventually be lodged in the British Museum.

It is intended to deliver a series of lectures from time to time. Mr. Weld gave one on the 20th to the working classes,—and Dr. Rae on the 26th July: both of which were crowded.

At the end of the room, a splendid map is exhibited of the Arctic Regions, showing all the recent discoveries. This map is about twenty-four feet long.

The point, perhaps, of greatest interest and attraction (next to the relics) is the newly discovered tribe. Their dresses, of reindeer skin, are simple and neat, and beautifully made. The officers of the *Enterprise* and *Investigator*—some of whom were present at Dr. Scoresby's lecture—agree in Dr. Rae's account of the good and amiable character of these natives—a harmless, inoffensive offshoot of the human race.

In these days of universal knowledge of the globe's surface, it is not a little interesting to discover a considerable tribe of our fellow creatures who were previously unknown to us. Possibly, on the pole of the earth they may be thicker!—for these extraordinary people seem to have spread themselves over the whole of these desolate shores.

We must not conclude our notice of this interesting exhibition without mentioning that the walls are covered with the beautiful drawings which have been published by Lient. Browne, Capt. Inglefield, and Commanders Cresswell and May.

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## DESPATCHES FROM THE SEAT OF WAR.

*Baltic.*

Admiralty, July 16th, 1855.

Despatches, of which the following are copies or extracts, have been this day received from Rear-Adml. the Hon. R. S. Dundas, Commander-in-Chief of her Majesty's ships and vessels in the Baltic:—

H.M.S. *Duke of Wellington*, Tolboukin Lighthouse,  
July 7th, 1855.

The *Magicienne* returned this morning from Lovisa, and I annex a report which I have received from Capt. Yelverton, of H.M.S. *Arrogant*, who has been again successful in destroying a well-constructed fort at Svartholm, in the entrance of the Bay of Lovisa; but their Lordships will observe with regret, that, notwithstanding the humane desire of that officer, the town of Lovisa was unfortunately destroyed by fire, which occurred accidentally on the night following the visit of H.M. ships. Capt. Vansittart informs me that the authorities of the town have themselves admitted and explained the accidental origin of the fire.

H.M.S. *Arrogant*, off Hogland, July 8th, 1855.

Sir,—I have the honour to inform you that I reached Lovisa on the afternoon of the 4th instant, and anchored the vessels close to Fort Svartholm.

The enemy must have had intelligence of our movements, and quitted the fort on our approach, for they had been at work but a few hours before unroofing the barracks and taking away stores. The guns and ammunition had been previously removed.

Svartholm was in good condition and a work of great strength, entirely commanding the approaches to Lovisa; it has had important additions of late years, can mount 122 guns, and had accommodation in casemated barracks for about 1,000 men, with governor's house and garden, and excellent officers' quarters. I made immediate arrangements for blowing up the fort, and completely destroying the barracks; these have since been fully carried out.

On the 5th I made a reconnaissance of the town of Lovisa, in the *Ruby*, accompanied by the boats of the *Arrogant* and *Magicienne*. A strong detachment of Cossacks made their appearance at one time, but they were dispersed by the fire from the boats, the rockets particularly throwing them into great confusion. On landing at Lovisa, I sent for the authorities, and explained the object of my visit; some demur was caused by our not having a flag of truce. I told them they had no right to such guarantee, as the respect due to it had been so grossly violated at Hango. I then proceeded to the barracks and government stores within the town, which I destroyed, but did not set fire to them, as by so doing the whole town must have been burnt.

This precaution was not destined to save Lovisa, for during the night an accidental fire occurred in a portion of the town where we had not been, and before morning the whole place was reduced to ashes.

I have, &c.,

H. R. YELVERTON, Captain.

Rear-Adml. Hon. R. S. Dundas, Commander-in-Chief.

Extract of a letter from Rear-Adml. Hon. R. S. Dundas, to the Secretary of the Admiralty, dated—

*Duke of Wellington*, Tolboukin Lighthouse, July 7th, 1855.

I cannot conclude this letter without calling the particular attention of their Lordships to the active exertions of Capt. Storey, of H.M.S. *Harrier*, which

led a few days later to the destruction of a large amount of shipping, discovered afterwards in another anchorage near Nystad, as detailed in the enclosure to Capt. Warden's report of the 2nd instant.

*Harrier*, off Little Wahas, June 24th, 1855.

Sir,—I have the honour to inform you that the boats of this ship destroyed 47 ships belonging to the enemy, varying from 700 tons to 200 tons, on the night of the 23rd and 24th instant.

On the first night the ships destroyed were one mile from the town of Nystad and about three miles from the ship, and we were enabled to bring one barque, the *Victoria*, of about 450 tons, off with us.

On the following morning the steam was got up and we proceeded to sea to anchor the prize off Enskov Lighthouse.

At 5h. p.m., however, we steamed towards the land and anchored at about 7.30 p.m., and at 8h. p.m. the boats were again dispatched.

During the night and following day we discovered 42 ships, the whole of which we either burned or scuttled.

I have the greatest pleasure in being able to state that these proceedings were so successfully carried out without any casualty.

Owing to the distance we got away from the ship (ten or eleven miles) and the blowing weather, accompanied with rain, that came on during the morning, we were prevented from bringing any vessel out with us.

We did not get back to the ship until after 6h. p.m. this afternoon, the men having been on their oars 22 hours.

I think, sir, I am only doing common justice to the men when I state how pleased I was to see the zeal and perseverance with which they worked for so many hours, neither can I omit stating my belief that this arose in a great measure from the good example of the officers, especially the senior lieutenant, Mr. Annesley, from whom I have ever received the most active assistance.

Having, then, in two following nights and one day, destroyed the whole of the Nystad shipping, (probably upwards of 20,000 tons,) I trust these proceedings will meet with your approval.

I have &c.,

HENRY STOREY, Commander.

Capt. Warden, Senior Officer, H.M.S. *Ajax*.

#### CAPTURE OF TAGANROG.

Admiralty, June 25th, 1855.

Despatches, of which the following are copies or extracts, have been received from Rear-Adml. Sir Edmund Lyons, Bart., G.C.B., Commander-in-Chief of her Majesty's ships and vessels in the Mediterranean and Black Sea:—

*Royal Albert*, Straits of Kertch, June 6th, 1855.

Sir,—Capt. Lyons. of the *Miranda*, having informed me that the squadron under his orders would be ready about the 2nd or 3rd instant, to commence operations in the shallow waters of the Gulf of Azof, Vice-Adml. Bruat and I considered that the moment had arrived for reinforcing them with gunboats, which would only have embarrassed them in their previous rapid movements in deeper water; we therefore despatched twenty launches of the line of battle ships armed with 24-pounder howitzers and rockets, and their Lordships will perceive by Capt. Lyons' letter, of which I have the honour to enclose a copy, that their arrival on the spot was most opportune and attended with the happiest results; for, under the able management of the officers who commanded



them, they mainly contributed towards the repulse of 3,500 of the enemy, and the destruction of the public buildings and government magazines of provisions at Taganrog.

Capt. Lyons' account of the operation is so clear, and his appreciation of the merits of those acting under his orders on this important service so just, that I feel that it would only be weakened by any observations or recommendations of mine.

I am, &c.,

E. LYONS,

Rear-Admiral and Commander-in-Chief.

The Secretary of the Admiralty.

H. U. S. *Miranda*, Taganrog Roads, June 3rd, 1855.

Sir,—I have the honour to inform you that we anchored in eighteen feet water, with the squadron under my orders, in Taganrog inner roads, at about eight miles and a half from the town, on the evening of the 1st inst., without any accident, although the enemy had removed the lightvessels and beacons. During the night an easterly wind sprang up, and the water fell three feet, with every appearance of still falling. We were, therefore, obliged to remove a mile and a half further from the town.

The 2nd was employed in reconnoitring the town, which I was enabled to do satisfactorily in the *Recruit*; Lieut. Day, commanding that vessel, having found a passage during the night.

I had arranged to proceed at three a.m. the following morning, to summon the town, and, in the event of a refusal to surrender, to endeavour to destroy the immense stores of grain and other Government property in that place.

Matters were in this state, when at sunset, to my great satisfaction, the *Sulina*, *Danube*, and *Medina*, with the twelve armed launches of the line of battle ships, hove in sight; this most welcome and opportune reinforcement of exactly the description of force required for the purpose in view, rendered success certain; and not long after the French steamers, with launches in tow, arrived.

Having concerted measures with Mons. de Sedaiges, commanding the French steamers, I proceeded at three a.m. in the *Recruit* with the vessels and boats, and accompanied by the lightest French steamers, (M. de Sedaiges being on board one of them,) towing their launches. Having anchored the *Recruit* at 1,400 yards from the mole-head, and collected all the boats astern, I sent Lieutenant Commander Horton with a flag of truce, accompanied by a French officer with similar orders from M. de Sedaiges, to demand the surrender of all Government property of every description whatsoever, and of all grain, flour, and provisions, (which I considered as contraband of war, knowing that even in the event of its not being Government property, that it could only be intended for the supply of the Russian army in the Crimea,) the whole to be delivered over to us to destroy; the troops to remove, during this necessary destruction, to a place five miles from the town, and within sight of the ships; the inhabitants to withdraw, except those appointed by the authorities to open and assist us; any approach of troops, or any infraction of these terms, if accepted, to be considered as cancelling them, and to be punished with instant bombardment: one hour to be allowed for a decision, and no modification of the terms to be entertained. At the expiration of the hour Lieut. Horton and the French officer were informed that the governor refused the terms, and that, having troops at his disposal, he intended to defend the place. On this, these officers came off, and the flag of truce was hauled down from the *Recruit*.

Shortly afterwards the *Recruit* commenced firing, and the boats proceeded under the command of Commander Cowper P. Coles, of the *Stromboli*, in tow of one another, and accompanied by the French boats, until, having arrived in

the required position, the tow was cast off, the boats' heads pulled round to the beach, and so heavy a fire opened, that, although the enemy made repeated attempts to get down to the houses lining the beach, so as to save the long range of storehouses from destruction, they never succeeded in doing so in sufficient numbers. Lieut. Mackenzie (the senior Lieutenant of this ship) had charge of a separate division of light boats, with rockets and one gun, to cover the approach of Lieut. Cecil Buckley, of the *Miranda*, who, in a four-oared gig, accompanied by Mr. Henry Cooper, boatswain, third class, and manned by volunteers, repeatedly landed and fired the different stores and Government buildings. This dangerous, not to say desperate service, when carried out in a town containing upwards of 3,000 troops constantly endeavouring to prevent it, and only checked by the fire of the boats' guns, was most effectually performed. The *Recruit*, from her light draught of water, was enabled to take an effective position at 1,400 yards, and so was the *Mouette*, French steamer, and the *Danube*, with 24-pounder howitzer and rockets, was very useful.

By 3h. p.m., all the long range of stores of grain, plank, and tar, and the vessels on the stocks, were in a blaze, as well as the Custom-house and other Government buildings, and unfortunately, but unavoidably, the town in many places; and our purpose being amply effected, the boats returned to the *Recruit*. The loss of the enemy in men must have been severe, as many were seen to fall. They deserve credit for the obstinacy with which they endeavoured to gain positions to prevent our effecting the object we had in view, but it was impossible to face the continuous and well directed fire kept up. Their loss in grain of different descriptions I cannot estimate, but as it comprises all, or very nearly all, in store at Taganrog, it must be enormous.

The only casualty in carrying out this service was one private, Royal Marine Artillery, severely wounded in the face by a musket-ball.

I must now beg to be allowed to bring to your notice the very meritorious conduct of Commander Coles on this occasion, in command of so large a force of boats; and I cannot speak too highly of his energy, decision, and ability, which left me nothing to desire. He speaks in the highest terms of all under his orders, and particularly of Lieut. J. T. C. Mackenzie, in charge of a separate division, who behaved with his accustomed spirit and judgment; and of Lieut. Buckley, who so well carried out the hazardous service he had volunteered for. All the officers and men employed conducted themselves to my entire satisfaction, but as those above-mentioned were in such conspicuous situations, I trust I may be pardoned for submitting their names to your favourable consideration.

I cannot refrain from bearing my testimony to the admirable conduct and cordial co-operation of our Allies, under the personal direction of Monsieur de Sedaiges; the boats being under the immediate command of Monsieur Lejeune, Captain de Fregate, and first Aide-de-camp to Admiral Bruat.

A Russian serjeant, who deserted and gave himself up to a French boat, states the number of troops in the town to have been 3,200, of which 800 arrived last night.

A Russian war schooner, which had been run on shore near the town and abandoned, was set fire to and burnt, and so was a large raft of timber. The wreck of a large vessel (a sort of guard-ship), which we observed to be fired by the enemy and blown up on our first appearance in Taganrog Roads, was visited, but was found to be already effectually destroyed.

Many large buildings had the black flag hoisted, as a sign, I presume, of their being hospitals; these were most carefully respected by us, as were the churches, and, so far as possible, private houses.

I have, &c.,

E. M. LYONS, Captain.

Rear-Admiral Sir Edmund Lyons, Bart., G.C.B.

## EVACUATION OF ANAPA.

*Royal Albert*, Straits of Kertch, June 11th.

Sir,—My telegraphic message of yesterday, of which I have had the honour to enclose a copy, will have informed the Lords Commissioners of the Admiralty that Admiral Bruat and I had received intelligence of Anapa having been evacuated by the enemy on the 5th inst.

I have now the honour to enclose a copy of a report which has just reached me from Rear-Admiral Stewart, whom I sent to Anapa to act in concert with Rear-Admiral Charner, to prevent the possibility of the place being occupied by a Russian force, leaving the political part of the question in the hands of Mr. Dongworth, the Agent of Her Majesty's Government, whom I sent to the spot in the *Highflyer*, a few hours before Rear-Admiral Stewart left this anchorage.

I am, &c.

EDMUND LYONS.

Rear-Admiral and Commander-in-Chief.

The Secretary to the Admiralty, London.

*Hannibal*, at Anapa, June 11th.

Sir,—In pursuance of your orders of yesterday's date, I have the honour to inform you that I arrived at this anchorage at 10h. a.m. to-day. Rear-Admiral Charner did not arrive till about 1h. p.m., Admiral Bruat having last night informed me that he would be detained, and requested me not to wait for the *Napoleon*.

I enclose a return of the guns, by far the greater part of which have been rendered quite useless by the Russians themselves; the remainder are being made unserviceable or thrown over the cliff, under the direction of Lieutenant Arthur, the gunnery officer of this ship.

The Russians have exploded nearly all the powder magazines in the place, and those which remain are empty.

The barracks were burnt by the Russians, as also a good number of buildings, and all the coal and grain, which appear to have been in considerable quantities.

The garrison is estimated by the Circassians at between 7,000 and 8,000, and they retired on the Kouban River, which they crossed by a bridge, destroying the latter behind them.

I have, &c.,

HOUSTON STEWART, Rear-Admiral.

Rear-Admiral Sir Edmund Lyons, G.C.B., K.C.H.,  
Commander-in-Chief.

*Hampshire Advertiser*.

## NAUTICAL NOTICES.

STRAIT OF KERTCH.—*Channel Marked by Buoys.*

H.M.S. *Sphinx*, off Yenikala, July 7th, 1855.

Sir,—Should the following be of service to ships about to navigate the Straits of Kertch into the Sea of Azof, will you do me the favour of publishing it in one of your numbers.

Several buoys have been and are about to be laid down in the channel leading from Ahbournou to Yenikala. The *red* buoys, eight in number, are laid down in mid-channel, and may be passed on either side. The *white* buoys are to point out shoals on port side, going up, and *black* buoys on starboard side. A N.½ E. course by compass from about one mile off Cape Tahli will lead to the first red buoy, in twenty-three feet. A black buoy is about to be placed, in fifteen feet, off the end of the Yonjaia spit. Many wrecks are lying about here and are very dangerous, some of them only two or three feet under water. But this channel which I have buoyed is perfectly clear of them at present. The water often shoals a foot or more during North-easterly winds, and rises again with southerly winds. The variation of the compass is 3° 50' W.

I am, &c.,

S. MADDON, Master, H.M.S. *Sphinx*.

To the Editor of the *Nautical Magazine*.

#### BALTIC.—*New Rock on the Prussian Coast.*

Hartlepool, 23rd June, 1855.

Sir,—As I was under sail in the Baltic, on a voyage from Königsberg to West Hartlepool, we came upon a sunken rock on the Prussian coast which is not set down in my chart. I therefore take this liberty of informing you of the same, as it may be very dangerous to vessels of a heavy draught of water. According to my reckoning, we had Robu Haaft lighthouse S.½ W., by compass, distant about twenty-two or twenty-four miles, which cannot be very far wrong, as I had made out the coast in the morning. The greatest depth of water we found by the lead was between three and four fathoms, with large stones, as we could clearly see the bottom. After we had sailed about a couple of cables' length, the water began to deepen, and shortly after we had ten fathoms. The above took place on the 7th of June, at 10.30 a.m.

M. PETERSEN,

Master of the Danish schooner *Alarb*, of Corsoer.

**THE RUNDLESTONE.**—The Trinity Board have given notice of their having, with a view to promote the safety of shipping navigating in the vicinity of the dangerous rock called the Rundlestone, caused an additional buoy, painted black, and bearing-staff and globe, to be placed near the rock. This buoy lies in about sixteen fathoms at low water spring tides, with the following marks and compass bearings, viz.:—The Rundlestone, distant between thirty and forty fathoms, N.E.½ E.; the two beacons on the mainland at Tolpeden, Penwith, nearly in a line N.b.E.; Longships Lighthouse, N.N.W.—*Shipping Gazette*.

#### THE LOSS OF THE AMERICAN WHALER "TUSCANY," ON AMSTERDAM ISLAND.

The ship *Tuscany*, White, 300 tons, left Sag Harbour, near New York, on the 20th September last, and had been in these seas, whaling, until the 15th February, says the *Mauritius Commercial Gazette* of April 30th, when she

became a complete wreck. From the information we can obtain, it appears that the Captain and Third Mate were on shore, at the Island of Amsterdam, and that the vessel was standing off and on. On attempting to wear the ship she did not answer her helm, and struck on a rocky shore. Four boats were lowered to tow her off, but not succeeding, the larboard anchor was cast. The sea then threw her on her broadside, and she bilged immediately; the fore and mizen masts were then cut away. The whole of the crew landed in safety. The next day was employed in securing a supply of provisions, that served for the twenty-nine men on the desert island during fourteen days. The vessel then went to pieces.

On the 25th, the Second Mate and five men left in one of the boats for St. Paul, which is about thirty-two miles to the south of Amsterdam. They reached St. Paul in the evening of the same day, and, after remaining there two days, returned to the rescue of the rest of the crew in the schooner *Ange Gardien*, which Mr. Heurtevent, of that island placed at their disposal. On the 1st March, the whole crew embarked on board the *Ange Gardien*, which took them to St. Paul; where they remained until the 16th, when they left for Mauritius, and reached this island on the 29th of March. There were two hundred casks of oil on board the *Tuscany*, and forty casks had been sent to America.

We have said the Captain and Third Mate were on shore. We were curious to know why they visited a desert island that offered, as we thought at first, no kind of attraction; but on inquiry we learnt that the Third Mate, David Bliss, had been a seaman on board the *Monmouth*, commanded by Captain Ludlow, who saved the passengers and crew of the ill-fated *Meridian*. It was well known that a considerable amount of money had been left at the place of the *Meridian's* wreck. There the Captain and Third Mate directed their steps, and were absent two days and two nights, as they started from the opposite side of the island. We cannot assert that they were fortunate in their research, but we are assured that the Third Mate was very flush of half crowns after the wreck, and this money is not current in Sag Harbour or New York. At any rate, this landing at Amsterdam, it is supposed, led to the accident of the *Tuscany*, and was indirectly the cause of it.—*Shipping Gazette*.

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**THE PROTECTION OF IRON SHIPS FROM MARINE CORROSION.**—A recent addition to the many proofs of the excellence of Messrs. Buchan and Peacock's composition, as a protection against barnacles and all other substances adhering to the sheathing of iron ships, has occurred, which the interests of the shipping companies' service generally induces us to mention. The *Candia*, iron steamship, which was one of the transports engaged from the Peninsular and Oriental Company's fleet, was, prior to her leaving the Thames for Constantinople and the Black Sea generally, painted with red lead in the most approved manner. At the same time the *Indiana*, iron steamship, engaged as a transport from the General Screw Company, left for the same destination, but had previously received a coating of Buchan and Peacock's composition. The two ships were absent just ten weeks, in the same waters and climate, and came into Southampton Docks the same day. The difference in the preservative qualities of the compositions was astonishing even to those not unacquainted with them. The *Indiana* was perfectly clean, as clean, in fact, as when she went out, while the *Candia* was so foul that she was obliged to be docked to be cleaned, and was also ordered to receive a coating of Buchan and Peacock's composition. Unfortunately, owing to the state of the tides, she could only be careened, but still a great portion of her sheathing was cleaned and prepared. As it has been said that this composition of Messrs. Buchan and Peacock

would not appear so superior to all others as had been represented, if ships were sailing alike as to sea and climate, the inventors have been very fortunate in having had the trial so singularly exact as it has been.

**A RUSSIAN NAVY.**—The question is, what does Russia want with fleets at all? She has shown that without a war pendant flying in the Baltic and the Euxine she is able to keep the combined fleets at bay. She cannot, therefore, require them for defence, and can only need them for aggressive purposes—Sinope displays, &c. Now, we don't think England or France ought to yield to this little weakness or peculiarity. If a near neighbour kept a rabid dog, although chained up in his garden, we should unhesitatingly indict our neighbour for a nuisance. He might allege that the animal was chained up, and that he merely kept him as a sort of "hobby;" but to that we should instruct our counsel to answer,—“The hobby is a dangerous one; the chain may break; or the gentleman may, in a moment of thoughtlessness or mischief, let the creature loose for an airing or for exercise, leaving others to take the consequences.” We do not think it would require much argument to induce the learned magistrate to order the dog to be despatched without loss of time, and such we hope will be the decision of the Allied Powers towards Russia in respect of her fleets.

We cannot afford to allow Russia to indulge in such dangerous pastime. We once destroyed and a second time took away, the fleets of Denmark, because they were considered dangerous to our cause; surely the Russian fleet is much more so, and why should we hesitate to insist upon its being delivered up? The maudlin nonsense about degrading a great nation, is too paltry to be listened to. Russians in disguise will alone advance it. The successes which have, and which we devoutly trust will continue to attend our arms, notwithstanding the check received on the 18th, warrant us in believing that Russia must shortly succumb unconditionally, and why should we hesitate to enforce those terms which would secure the happy progress of peace and civilization? Russia has long been the nightmare of the world. An opportunity presents itself for kicking her off. Shall we, to gratify the wishes of tender-hearted and deceitful broad-brims and jesuitical traitors, forego it!

*United Service Gazette.*

**WHITE SEA BLOCKADE.**—Capt. Baillie, of the *Mæander*, has officially notified that on and after the 11th June, 1855, all the Russian ports, roads, havens, and creeks in the White Sea, from Point Orlofska, in lat. 67° 11' N., long. 41° 22' E., to Cape Kanoushin, in lat. 67° 11' 30" N., long. 43° 48' 42" E., including especially the ports of Archangel and Onega, were placed in a state of strict blockade by a competent force of Her Britannic Majesty's ships and vessels.

**EFFECTS OF OUR BALTIC CRUIZERS.**—The *Journal du Nord*, of Brussels, the Russian organ, publishes the following letter from Stettin of the 10th:—

The presence of the English fleet in the Gulf of Finland has completely ruined our commerce. In the Prussian ports of the Baltic are a great number of vessels which remain unoccupied, owing to the want of cargoes. This situation causes a daily decline in the price demanded for freights, as our ship-owners dare not send their vessels to seek cargoes in the ports of the Baltic, being certain to see them captured by the English cruisers, which take advantage of a thousand pretexts for conveying to England any commercial vessel sailing under a neutral flag. According to the reports of our provision merchants, the English are erecting large establishments in the island of Nargen,

which causes it to be supposed that their fleet is to remain there as long as the navigation will permit. Slaughter-houses have been established on the island for supplying fresh meat to the fleets; large quantities of corn, flour, and other things have also been collected there; in a word, the island appears to be a central point at which the Allied Fleets are to seek all the provisions they require.

**STATE OF THE RUSSIAN SHIPS AT SEBASTOPOL.**—One can hardly imagine the present desolate aspect of the port of Sebastopol, which appeared to us so magnificent and imposing when we first arrived before it a year ago. At that moment it contained 17 line of battle ships, besides a multitude of smaller vessels, transports, gunboats, &c., to the number of 75. The last blow struck by that naval force, which numbered 108 sail and 2,200 guns, was the butchery at Sinope, and the last sortie of those proud steamers was that of the *Vladimir*, in pursuit of a French despatch boat, which had cut out a Russian vessel under the very walls of Sebastopol. Since then they have disappeared one by one, sunk in the port by their own crews, and forming a barrier, not as real ships of war ought to do, with their broadsides menacing the enemy, but obstructing channels with their enormous hulls, hereafter unserviceable. How many ships of that Armada are now afloat in the Russian arsenal? Six or seven at most. So far, the limitation has worked well. The unfortunate ships remaining to be sunk by the Russians present the most wretched aspect. They look like so many hulks, and, to judge from the manner in which their masts and rigging are trimmed, they can have no ambition to clear out of port.

*Daily News.*

**THE ARCTIC EXPEDITION.**—We believe that the committee on the North-West Passage have resolved upon their report, and have awarded the sum of £10,000 to Capt. McClure and his crew, £5,000 of which will fall to Capt. McClure himself, the remainder to be divided between the officers and crew. We hear also that medals have been proposed for all who have served in the Arctic regions,—a proposition which will doubtless give general satisfaction.

*Times, 27th July.*

#### NEW AND CORRECTED CHARTS, &c.

*Published by the Hydrographic Office, Admiralty, and Sold by J. D. Potter, 31, Poultry, and 11, King Street, Tower Hill.*

ENGLAND, Bill of Portland, Capt. Sheringham, R.N., 1850	-	-	1	6
"   Weymouth and Portland Roads, ditto	-	-	1	6
SCOTLAND, Pentland Firth, Captains Otter and Thomas, R.N., 1854	-	-	2	0
SPAIN, Guadalquivir River, Spanish Survey, 1853	-	-	2	0
BLACK SEA, Bug River, Russian Surveys	-	-	4	0
"   "   Dneiper River, ditto	-	-	4	0
"   "   Kherson Bay, ditto	-	-	4	0
CHINA SEA, Formosa Island, Tam-Sui Harbour, Lieut. D. M. Gordon, R.N., 1847	-	-	1	6
AUSTRALIA, South Coast, St. Vincent and Spencer Gulfs, corrected to 1855	-	-	4	0

EDWARD DUNSTERVILLE, Master, R.N.

*Hydrographic Office, Admiralty, July 21st, 1855.*

THE  
NAUTICAL MAGAZINE

AND

Nabal Chronicle.

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SEPTEMBER, 1855.

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REMARKS ON THE PORT OF MOULMEIN,—*for the Information of  
Ship-Masters.*

From the number of ships now trading to Moulmein, it might be supposed that it was pretty well known; but that it is not so, I am led to believe by the repeated complaints of ship-masters and others that they can obtain no information about it further than that it is on the outskirts of civilization, somewhere in the upper part of the bay of Bengal; that it belongs to the East India Company, who have a factory there, and that the natives are a race of naked savages, &c., &c.; certainly no encouraging prospect to send a ship there. But when it is known as a port and place of trade second only to Calcutta, Bombay, and Madras, and that it has been settled under the E.I.C. government for more than thirty years, has the usual complement of courts of justice, churches, forts, and jails, besides the equally beneficial establishments of British merchants, shipbuilders, and other trades, pilots for navigation, &c., the prospect becomes more cheering: having a population of 50,000 of all classes; and when I was there last, there were twenty odd ships loading timber and rice, and thirteen new vessels building on the stocks, several of them apparently upwards of 1,000 tons register. Such is an outline of the present state of Moulmein, and it is advancing most rapidly.

*Directions.*—Horsburgh, even in the latest edition of his excellent Directory, says very little about it, and that little not much to the purpose; but at the time when those were drawn up, it was no place



at all, and few then thought that it would ever become of any value. The Indian Government at one time seriously intended to give it up again to the Burmese, from whom they had taken it. Setting aside Horsburgh, all that appears necessary to be stated in regard to making the entrance of Moulmein River is, that the S.W. monsoon or stormy weather commences in May and finishes in October, including both months; the rest of the year is made up by N.E. winds, calms, and clear settled weather. There is good anchorage at a long distance from the coast, say five to ten miles, for 100 miles to the Southward of the port; and although the S.W. monsoon will test the goodness of the ground tackle, there is no swell to prevent a ship from anchoring; hence, with a good anchoring ground for the S.W. monsoons, and a weather shore during the rest of the year, there ought to be no difficulty in making the port. Pilots are kept at Amherst, the station at the entrance of the river, which is easily known by the flagstaff and buildings on the point; but as this paper is not intended as particular directions, I will only further state, that the best anchorage at which to wait for a pilot is the South point of Green Island, East to E.N.E., at about two miles distance: do not go to the Northward of this without a pilot.

I beg to state here that I have seen a printed circular by Capt. Major, containing excellent directions for Moulmein and the adjacent coast; it is a pity it was not published; if I can fall in with a copy I will forward it for the *Nautical Magazine*, and then it might find its way into *Horsburgh's Directory*. The above general remarks may be useful to a stranger, and any man of moderate capacity will find them sufficient; but there are many who require detailed directions to give them confidence, and these are certainly wanting as yet for this coast.

*Moulmein River* has acquired an unenviable notoriety for shipwrecks, and fully deserves it, for it is almost one mass of sands, besides several rocks in the channels. The only thing to be said in extenuation of it is, that nine out of ten of the timber ships that come there are old and crazy, and when they get aground are crushed like an egg-shell; but they have no business to be aground, so the principal blame must still attach to the river. There is no want of water in the channels; ships drawing 22 feet water can go down during the springs at any time of the year; but the channels are narrow and tortuous surpassing anything I ever saw or heard of. It is decidedly a very dangerous river, and the numerous accidents happening are very disheartening to every one connected with the place, and most of all to commanders who having loaded and cleared for home, find their ship lying on a sand-bank, hogged, and every butt yawning, and the only alternative to go back and discharge; it is enough to kill a man. The pilots are blamed, the master attendant (port captain) is blamed, and the buoys are blamed; yet I do not think that either of them are often to blame; but the difficulties, great as they are, can and will be overcome. We have stated one important fact, viz., that there is no want of water in the channels. Another advantage is, the shortness of the river, it

being only thirty miles to the utmost limit of navigation, and only about twenty-five miles from the usual place of loading. Another fact in its favour, and the best of all is, that a tug steamer of power sufficient for large ships is on her way out, or probably there ere this, and with her aid I have no hesitation in saying that accidents will very seldom occur,—I see little chance of them at all. The tides run strong, but they are quite manageable, unlike those of the River Hooghly, which often set both steam and skill at defiance. There are safe places for anchorage at short distances, and with steam all risk from *trying* in the face of contrary winds, or calms, (and the wind somehow or other never is fair in rivers,) and falling tides, disappears; and every man of experience will admit that accidents most frequently happen from *trying it* under doubtful circumstances.

*Pilots.*—There are two classes, European and native; the former are taken from the class of mates in the merchant service, and I can state from my own knowledge that the present set are skilful and sober men. Some improvements in the regulations respecting them are much wanted, both for themselves and the trade, especially in that of boarding ships on arrival, which seems to be left to themselves to do when they find it most convenient, and ships are generally detained at least one day outside in consequence. The present master attendant, whose duty is to regulate this and everything connected with them and the shipping, is new in office; but judging from personal observations there is that about him that tends to the expectation of everything in his department being put to rights. The native pilots, taken from the class of “*clashes*,” are also smart fellows while in charge of a ship manned with natives, but are altogether “*from home*” with an English crew; and yet they are frequently applied for by English commanders, and frequently take a ship up or down in safety; but I would not trust them in a ship of heavy draft; so long as all goes on well they show no want of ability, but let a difficulty occur and it will at once be seen that their skill is only superficial, wanting breadth and depth. No commanders of an English ship should take them if another is procurable.

*Expences, Disbursements.*—Here, as everywhere else, a ship's expences depend more on the prudence and economy of the captain than anything else. The only permanent port charge is pilotage, which is as follows:—

8 feet 25 rupees	13 feet 60 rupees	17 feet 100 rupees
9 .. 30 ..	14 .. 70 ..	18 .. 200
10 .. 35 ..	15 .. 80 ..	19 .. 240
11 .. 40 ..	16 .. 90 ..	20 .. 300
12 .. 50 ..		

and I suppose an additional 50 rupees per foot above 20 feet. These rates are charged up and down; if towed by steam three fourths of these rates are only charged. Other indispensable charges are provisions, loading charges, and probably wages to the crew; and if a ship is properly fitted out with stores before she leaves home, little expence

beyond these ought to be incurred. Beef is 3½d. to 4½d. per lb.; pork 5d. to 6d.; poultry of all kinds rather dear for India, but less than half the price in England; vegetables and fruit abundant, and cost a mere trifle. Marine stores may be stated at 25 to 30 per cent. on English invoice cost, and the market is generally well supplied with them. Most captains consider themselves "cute hands" at a bargain, but not one in a dozen is a match for the common run of Asiatic bazaar dealers, who stick them right and left in ways that if discovered at all, are not so until blackee has got his money, and then it is too late. The best plan for a stranger is to ask his consignee for one of his men to go to the bazaar with him, and he will give him a native who speaks English; this chap will doubtless get "filings" on all that is purchased, but he will take care that nobody else does, and his perquisites are small, and if he protects you from gross impositions, which he will do under fear of his master, his commissions are well earned. The disbursements of a ship of 500 tons will, under ordinary circumstances, not exceed £250 in all, probably less, and certainly not more if common prudence is observed.

*Repairs.*—All repairs above water can be done well at Moulmein, and, taking the admitted good qualities of teak wood to account, cheaper than anywhere else in the world; but there being no graving docks, repairs to the bottom are done at great disadvantage, both costly and very badly. A ship's bottom *can* be repaired, for which purpose there are several open docks where she may be hauled into and shored up on blocks; but to keep her fast on the blocks she must be scuttled, and this is literally making the hold a mud hole, in which work cannot be done properly. As for the bottom of the dock it is only tenable for a short time at low water, and then it is a mud hole and nothing else, the workmen standing up to the middle in soft slush. No attempt should be made to repair a ship's bottom unless unavoidable, and to enter into large repairs of the bottom, such as shifting planks or timbers, is merely waste of money. Several ships, however, that have got aground, have been repaired, while others have been condemned and sold; and from what I have seen and heard and am able to judge, the latter alternative is the best in nine cases out of ten. On the contrary, repairs above water can be done well and cheap, and if known I have no doubt but English owners would take advantage of it. Teak wales, topsides, beams, and decks, would be out of place on a North American bottom, but not so on one of oak; there are many good old English ships that if the upper half were of new teak would be as good as new. The weight of teak is objected to, but this is a mere fallacy; it is not much heavier than red pine, and considerably lighter than oak; this mistake must I fancy have originated at home by opening out Calcutta and Bombay built ships, in which several other woods much heavier than teak are used. Formerly all India built ships were considered teak in England; but I fancy they know better now. Materials of iron, oakum, pitch, &c., are always procurable on the spot; and there are several master carpenters, Englishmen, who are quite capable of undertaking heavy jobs of this kind.

*Loading Timber.*—The shippers, that is, the consignee or merchant, send the timber alongside at their own cost and risk to a chartered ship; but in case of a ship purchasing a cargo, the delivery takes place on shore, and the seller does not send it alongside unless stipulated for in the terms of the purchase. In the former case the ship takes the responsibility when the timber is fast alongside, the mate's receipt for the quantity being then given. Loading ships moor with two anchors within a cable's length of the shore, the nearer the better, for many reasons; there is less tide inshore, and in case of a log of timber getting adrift, it is easier picked up again. Timber getting adrift out in the stream of the tide, is frequently lost altogether, at least to the ship, the river police knows how, and so do I, but it is not my intention at present to divulge that knowledge. There are stevedores who contract to hoist in and stow timber at the rate of one rupee a ton; they are natives, and cannot be trusted to stow a ship properly without supervision; as they usually receive an advance of money, the best plan is to ask your consignee before employing any one as to his character. There are lots of John Browns and Tom Browns who will produce excellent characters from ship-masters, and offer to load your ship for "anything master pleases," but a prudent captain will forego the pleasure of a little patronage and avoid all these, and refer to his consignee. I do not say that a good character from a captain is an absolute nullity, no better than an acquittal at the Old Bailey, but a stranger cannot tell if the possessor is the same person it was given to or not. The consignee can easily find this out; and again, a native who may serve faithfully on an agreement to which a resident becomes a party by having it drawn up in his office, would not hesitate to play tricks on a stranger whom he calculates he may never see again. Winches, chains, crowbars, &c., can all be had on hire on reasonable terms; and the loading of a ship can be done expeditiously if well attended to, by which I mean, if the captain is more on board than on shore. I have known a ship to load 700 tons in a month, but this was considered quite extraordinary; I should think 500 tons in a month good work. Having a bad stevedore's gang is the principal cause of delay, and this you certainly will have unless a strict eye is kept over them, for the contractor engages at so much for the job, and his interest being to get it done as cheap possible, he will, unless looked after, send on board a gang of ragamuffins that cost him little or nothing; these gentry trusting to make up a *fair* day's pay out of the "sweepings of the decks," alias anything portable that they can lay hands on. Burmese are less addicted to petty thefts than the natives of Hindostan, and give more general satisfaction in their work. They will steal, too, but they are clumsy hands at it, and easier detected than Bengalese and Madrasese, and their plunder is generally confined to something eatable; the sailor who happens to leave his dinner within reach of a Burman coolie, is very likely to fast for that day. But to judge them by an English standard for work, they are in common with all Asiatics an idle set at best.

A ship well stowed with teak will load deep without ballast, and as

a ship full of any one description of goods, and down to her proper loaded draft of water, is not usually too crank: no ballast should be kept in. Fresh sawn teak weighs about 25 cwt. to 50 cubic feet, and as ships generally stow about their new register tonnage in tons of wood of 50 cubic feet, they oftener finishing loading from being too deep than quite full; hence every ton of ballast or other superfluous weight kept in throws out a ton of cargo.

*Purchase of Timber.*—This is mostly done through agents at home, but cash (rupees) in hand will always command a reduction in price. The greatest quantity and best quality is always to be found in the hands of European dealers, and although it can be purchased cheaper from native dealers, yet there are so many delays and so much trickery practised by them, that a stranger, whose object is despatch, had better not purchase in the bazaar. The prices of late years have been 45 to 50 rupees per ton of 50 cubic feet for squares 25 feet long and upwards. Planks are usually 10 rupees higher, shorter lengths 5 to 10 rupees lower. Teak timber in the rough state is very unsightly stuff, the trees as they are brought down from the forests are so full of holes and other defects that one fourth of them is not worth the cost of sawing, and even the best show a great many defects when sawn; hardly any are quite sound at the heart, or altogether free of holes. I have often wondered at squares being so much more in demand than planks at home, for on cutting into them many heart-shakes must be found. Planks are cut entirely from the outside of the tree, at Moulmein the core is rejected, and I fancy there can be no question of the superiority of an outside plank to one cut from the heart. The high price at home precludes this waste, hence they must be contented with planks having one sound side, the other being spongy or shaken. Home built teak ships have not had a fair trial yet for durability, and I apprehend that from this cause they will be found inferior to those built at Moulmein. A mistaken notion is entertained that new sawn timber at Moulmein is unseasoned, green; this is not the case, nor can it ever be so, for the following reasons. The forests of teak are 200 miles and upwards from Moulmein, and the timber is floated down and has to pass over several rapids, almost cataracts, in its passage, so that it is impossible to bring it down by boats. Green teak will not float, hence it must be seasoned before it is put into the water. It is therefore seasoned while standing in the forest by cutting a ring into the tree near the roots about three inches deep quite through the bark and the sap, and middling sized trees require to stand three years thus killed before they are dry enough to float, larger ones four or five years; if felled before they are seasoned they are said to rot on the ground and become worthless, which I believe to be the case, for trees that have been blown down while green are often brought down among others; these are termed "dead timber," and rejected as unmarketable. It requires a considerable acquaintance to detect them in the rough state, and more when sawn; for to an unpractised eye there is little difference between dead and killed timber. The best mark for it in the rough state is its floating much higher than killed, which floats with very little of the

tree above the surface, while a dead tree floats fully half out; when sawn, the wood is not different in colour from the good, but it has a dull spongy appearance. Dead timber is absolutely worthless, possessing neither strength, flexibility, nor durability; in fact, it is dry rotten, and only wants to be shut in in the hull of a ship to go into snuff in a short time. Wormholes are no sign of teak being rotten, I mean those wormholes so commonly found in it about half an inch in diameter, and at considerable distances between; these worms are in the growing tree and die with it, and few trees are to be found entirely free of them. The waterworm is a customer of another sort, and his work speaks for itself, leaving a piece of wood much like a honeycomb when his work is done, which leads me to say a few words on them.

*Water-worms.*—Moulmein river seems to be their chosen home and dwelling place; any timber, say a ship's bends, even when payed with several coats of tar or blacking, forms little protection from them; in a month's time they will attack, and in six weeks form a lodgment, and prove themselves better hands at destruction of the wooden walls of England than the French and English are at the stone walls of Russia. When once into timber they live and grow fat on any sort of it, teak, oak, or pine, it matters not, and salt water or fresh is all the same to them. I know of no preventive but copper or metal sheathing. Arsenic, iron-flings, iron-rust, and various other metallic substances have been mixed in tar and tried on ships' bends, but all to no purpose; the only safeguard is metal sheathing, and I would strongly recommend putting an extra streak or two of copper above that of the bottom on all ships going to Moulmein. A case came under my observation a few years ago of a ship that had been detained for about two months after being loaded in Moulmein; the bends had been payed three times with tar and arsenic, but the worms got in. I was present when the surveyors examined her, and nothing was seen outside but a few small holes not bigger than a pin; but on cutting in about an inch deep into the plank, there they were all alive, and as thick together as they could stick, each about the size of a large quill. The ship was lightened to her copper, and the sides exposed to the sun for a few days before anything else was done, and on cutting into their households again they were all dead, the heat of the sun and want of water did their job; they had penetrated three inches deep in many places. The ship's bends were doubled and caulked to enable her to proceed. Most commanders who have been within the tropics are acquainted with the waterworm, but those of Moulmein I believe beat all of the world besides.

*Climate, Water, &c.*—The climate of Moulmein is decidedly healthy for the tropics. March, April, and May are hot months, the rest of the year is called cool in India, and is in reality not much hotter than a very warm summer in England. Seamen suffer a good deal from fevers, but they are generally slight, and curable in a few days. Dysentery, and disorders of the bowels, are also frequent and more difficult to deal with: these latter diseases are probably caused by drinking the river water, which is seldom quite fresh at Moulmein. There

are plenty of wells on shore with excellent water, but it is troublesome to supply a large ship's company from wells; the best plan is to send a boat up the river, say to the distance of one tide, when the water will be found quite fresh and good, often muddy enough it is true, but no worse for that; the mud is only fine particles of sand, and soon settles down, and carries all other impurities along with it to the bottom. The principal thing to be attended to in preserving the health of seamen, is to keep them out of the sun; and this very generally neglected by commanders unaccustomed to the tropics. "I don't mind the sun," is an expression often heard; but it is also often heard that "He died in the East Indies," which is oftener a simple statement of cause and effect than is dreamt of. Old hands in the tropics never expose themselves to the sun when they can help it. The ship should be covered in right fore and aft with double awnings, at a good height above the decks; studding sails and other light sails should be spread over for doubling, for a Moulmein sun laughs at common awnings. When the ship is thus covered in, the men should be encouraged to mess and sleep on deck rather than below, and to wear light clothing, cotton frocks are preferable to linen, all thick greasy flannel should be discarded, and the men should bathe once a day, the best time is in the evening, about an hour after work and before supper, or immediately before going to bed. There is a doctor who attends ships if required, and a General Hospital, and in all cases of sickness, even slight to appearance, it is safest to apply to a doctor. The captain or the steward generally thinks himself quite competent to "dose a sailor;" but every man to his own trade, and that of the doctor is not so easily mastered, and mistakes involve human life. I have known a stiff glass of grog given in a case of dysentery, under the idea of its being only a pain in the bowels or stomach; the man was eventually sent to the hospital, and died: query, had this piece of amateur practice anything to do with his death? I think it had, at least such practice is hardly to be recommended. Keep your crew out of the sun as much as possible, see to them having good water to drink, and encourage cleanliness; and let Jack have his customary run on shore and drink as much as he likes, for it cannot be prevented, and trying to prevent only makes matters worse by creating discontent; if these other points are looked to the effects of a drinking bout are soon got over. Preventing men from going ashore, and other punishments for exceeding the time of liberty, do more harm than good, they only irritate; do not correct the folly of which Jack himself is perfectly sensible, but in common with other men does not relish being told of it.

*Desertion of Seamen and other Difficulties.*—There is not much inducement for seamen to desert at Moulmein, but they sometimes do it. In the absence of inducements on shore, it may not be too harsh an opinion to say that in many cases the cause is to be found on board; but I will not enter into this vexed question, i.e., Captains *v.* Sailors. Jack on shore at Moulmein finds little favour from the natives, who consider him a troublesome customer, and are very ready to inform the police of his whereabouts; so that if a deserter is reported at the

police office he is generally found in a very short time. But then the Captain's troubles are likely to commence, for here he has to encounter the "alongshore lawyers," who have extended their industry even to this outskirts of the known world. This class of people has got into great disrepute, but they are sometimes useful in saving seamen from oppression and injustice. But they are seldom of any use to a Captain,—at Moulmein of none whatever, as the very highest court admits and expects every one to plead his own cause; and no class of lawyers is recognised by any authority other than that given by his client, which is simply a power of attorney to appear for you in any particular case. In fact, he is your representative and, mark, you are bound by his acts, be they ever so unjust or contrary to your interests. The court, not recognizing him in any otherwise than as your representative, has no check over him, and if you are "humbugged" all you can do is to bring an action against him, civil or criminal as the case may be. But he is too wary for this, and if you are humbugged by a Moulmein lawyer better pocket it and be content with the "consolation" that you deserved it. A prudent man will have nothing to do with them. The courts are on a plan, I believe, peculiar to the E. I. Company. They appear to be so far equitable that they are not tied to English law nor to the regulations of the regular courts of the E. I. Company.

The Tenasserim Provinces (Moulmein) coming under the term of "Non Regulation," the Judges are all military officers and, although they are frequently held cheap and sneered at as Judges, they are mostly men of sound sense and honesty of purpose and, on the whole, as the entire process in these courts is free of cost, there being no fees or charges of any kind beyond that of one rupee for a summons, it is, perhaps, not a bad exchange for better law with its heavy costs. Every sensible man will avoid courts as much as possible, but it is not always possible to do so, and cases sometimes occur when it is desirable to have legal advice. There is none to be had in Moulmein; hence in cases involving the interest of owners and other absent parties, where a doubt exists in the Captain's mind of what is right, the safest plan is to get a decision of the court; which, as stated before, costs nothing but the trouble.

I have said that the Captain's troubles commence with the lawyers, but have shown how he may avoid them, that is by not employing them himself, and I need not conceal my opinion that if the Judges show any bias it is not on the side of the self-styled lawyers: of whom it may be stated that assurance is not wanting among their other acquirements. Scandalous people say that assurance and ignorance go together, but I don't go so far as that.

*Rangoon, the Seaport of Pegu*.—Is now a British port. The justice of its being so is very questionable, but let others look to that. It is a valuable addition to our possessions, and, although, at present, I can say very little about it, having last seen it in a transition still from war to peace, and a new town erecting amid the ashes of the old,



which was entirely burnt down in the war. In a few years hence it will, doubtless, far surpass its former wealth and importance.

Pegu is well peopled by a race very different from the natives of Hindostan. The Burmese have no caste to prevent them from mixing freely with Europeans and, being a strong masculine race, with a considerable deal of the Saxon spirit of self-dependance about them, they will go to work in good earnest, and, under British protection, make the plains of Pegu "laugh and sing."

The products of the country are teak, rice, wheat, cotton, indigo, sugar, cutch, lac, &c. Silver, copper, and rubies are found in great plenty in the countries about the head of the Irrawaddy River, all of which will find an outlet by Rangoon. In exchange they will take our manufactures, and these will increase in variety as the Burmese adopt our customs, which they readily do. I have seen a Burman family at Moulmein dining at a table, sitting on chairs, with English crockery and cutlery, and English beer too. This looks well and Christian like and is an immense stride ahead of the Bengalee; who, tied up by his caste, continues to eat his rice on a plantain leaf on the ground after 150 years of British rule. Lord Dalhousie and Mr. Cobden may settle the matter of our right and justice to the country of Pegu between them as they like, but there can be no question of the advantage of the bargain to both parties—Peguans and English.

Rangoon is fortunate in having a fine navigable river; but its entrance is not easy to be made out. The directions are very vague: there is a clump of trees at the river's mouth said to resemble an elephant, but the animal is as difficult to make out as those in the constellations of the stars without a telescope. There is a light-vessel at the entrance of the river now, but that is not sufficient, something is required to guide ships coming from the westward past the Barragu Sands. The whole chapter on this part of the Bay of Bengal in Horsburgh requires to be re-written; for which purpose, the Editor will find a good deal of information spread over the pages of the *Nautical Magazine* to assist him in the task, should he think of it, for the next edition of that valuable work.

I will finish by stating an instance of the want of knowledge of this coast in the case of two ships bound to Moulmein only a short time since. I don't give their names, as that would add no weight to the statement and it is not my object to bring the misfortunes of individuals to notice. Both of these vessels put into Callagouk Harbour and went out by the *northern passage*. One got out clear by little short of a miracle; the other was lost, as might be expected. Now, I am free to say that if a proper description of this northern passage was to be found in the *Directory* none but a madman would attempt it. But it is not properly described in Horsburgh nor anywhere else that I know of, and the charts in general use are all on too small a scale to point out the dangers between Callagouk and Double Island. Again, the crew of the shipwrecked vessel exposed themselves to hardships, being afraid to land on a coast among savages, not knowing that

the inhabitants are a kindly, peaceable people, ready to feed the hungry and clothe the naked, as they found, when they did land, to their agreeable surprise. My informant was the Captain of the shipwrecked vessel. Another case of the boat's crew of a ship that had been wrecked on the Andamans came to my knowledge, also from the Captain. They were thrown on the coast westward of Rangoon in a starving condition, and were fed and kindly treated by the Burmese, in a similar manner.

This kind of information should not be neglected in *Sailing Directories*, and, as a commencement of it, I may mention that all round the Bay of Bengal, from Ceylon to the Mergui Archipelago, the sea-coast is under British rule, and nothing is to be apprehended from the natives. Sumatra, the Nicobar, and Andaman Groups I don't speak for; they are still savages and mostly hostile to Europeans, and *why* they are so is capable of explanation not altogether to their disadvantage.

Pray, Mr. Editor, shall I go on? I think you will say hold, enough for the present from

Yours, &c.,

NORTH.

NOTES DURING A CRUIZE WITH THE BALTIC FLEET,—*in the Summer of 1855.*

May 26th.—11h. a.m.—Fleet sailed: took up station on weather line. Stood to the eastward; *Merlin* signalized to reconnoitre Sveaborg.

27th.—2h. a.m.—Passed Hogland. 10h.—*Merlin* and *Magicienne* were signalized to part company, and examine Biorco Sound, North Entrance. At 1h. p.m., when off Seskar, *Firefly* and *Dragon* were directed to examine South Entrance of Biorco Sound. On gaining an advance of eight or ten miles, a low haze cleared away and discovered seven or eight vessels, apparently a long way off, with topsails and top-gallant-sails set, making off to the eastward. Immediately signalized "Strange ships are suspicious," and fired guns. The *Amphion*, next to *Firefly*, considering them more than suspicious, said, "Enemy in sight." This was answered by signal to "Examine strange ships," to *Amphion*, *Dragon*, and *Firefly*. Then began the excitement, and by the time we were under full steam and sail, going nearly eleven knots, the opinion on board the flag had become so decided as to their being enemy's ships, that both divisions were directed to get up steam with all despatch. In a short time, however, the mirage cleared away, and it was seen they were merely merchant vessels; who, finding they could not weather Dolgoi Ness, bore up for Kopers Kaia Bight. The fleet then anchored and the signal to act on the occasion as judgment directs was made to the three ships. Accord-

ingly, *Firefly* and *Dragon* pressed on and began firing bow guns to make them anchor before getting too near the land. One vessel did so; but some of the others lashed the helm aweather and pulled away in their boats. On shoaling water to  $2\frac{1}{2}$  fathoms, thought it time to anchor, and sent off the gigs to stop the vessels. *Dragon* did the same. Ward came up with the largest, a three masted schooner of about 300 tons, but not before she had taken the ground a half musket shot from the shore. Bull got on board one that had anchored close into a point half way between New Pernova and Kavis Kara, and very wisely slipped his cable and stood out to sea. By this time the troops were collecting, and as neither of the ships were within two miles, the paddle-box boats were sent to their assistance. Ward, finding there was no possibility of getting his ship off, set her on fire, but there was no firing from the Cossacks seen in the wood. A third was captured by the First Lieutenant of the *Dragon*, who had some difficulty in getting out, as every time any of the men showed themselves the troops fired. He succeeded at length and without damage in getting his vessel anchored out of range off Old Pernova, but so near to the rocks that it was a critical operation to take her in tow, the wind at the time blowing strong from the N.N.W., with a nasty sea.

28th.—By 1h. a.m. a second vessel was fast astern and the crew on board (four real Russians); but there was so much sea, and the sternmost vessel so deep with wood, that I only had time to take out the prize crew when she filled and was cut away,—to my great regret as the vessel belonged to one of the poor men on board. Of the five vessels taken or destroyed, they all, except one, belonged to rich people at Petersburg and Peterof, as also the cargoes, and were bound to the latter place.

A very considerable traffic in wood appears to be going on along this coast; which will be very useful to us as fuel, and of great importance, as annoying the enemy, to stop. I have recommended that the men should be paid the freight (twenty-five kopecs a fathom) and their boats released, when they belong to the poor people. The wood, for slow speed and making water, is excellent, and is easily shipped from the vessels as it is wanted. The *Dragon* brought in two, the *Amphion* one, and *Locust* two or three smaller ones. The rig of these vessels is very peculiar, but I believe can do little on a wind. In crossing over Koporia Bight, to pick up the second vessel, we very nearly got on a rock with six feet water: the breakers were not seen until close upon it. In the afternoon we learnt that the *Firefly* was to take the mails to Faro, as no other vessel could be spared that had in sufficient coal.

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June 10th.—Making very slow progress: *Porcupine* not heavy enough for her collier, and *Harrier* slow also. 7h. p.m.—Exchanged numbers and communicated with *Cossack*, and found the history of the Hango massacre to be correct.

11th.—Noon.—Anchored at Nargen. Found *Ajax*, *Edinburgh*,

*Cuckoo*, *Volcano*, &c., there. 6h. p.m.—*Bulldog* arrived with mails from Dantzic, having broken down.

12th.—Beautiful weather. 3h. p.m.—'Wayed, and proceeded towards Uto, with *Porcupine* in company.

13th.—Made the light and took a line of soundings in. Very difficult to recognize the numerous rocks and islets that beset each side; but when the lighthouse is once made there is no danger to be feared on a N.N.E. bearing.

The lighthouse is placed on the largest island. It consists of a square tower (not round) of stone, standing on a wide base. The height, including lantern, was measured at ninety-one feet. The upper part of the tower is fitted up as a neat little chapel; where a priest used to officiate two or three times a year before the war. The village is composed of a number of wooden houses, several windmills, and a red coloured custom house. The men, who are pilots and fishermen, were removed, with their families, at the breaking out of the war. They returned last winter, but the men were again taken away in April, and there are now about sixty or seventy women and children on the island. They appear, however, not to feel the want of their lords and masters, for they have about twenty boats of different sizes, and carry on a thriving fishing trade. Although a little startled at first by the appearance of two English ships, they all went out at four o'clock to lay down their nets in a very systematic manner. Their traffic is chiefly with the Koikar Island, where they exchange salt fish for casks, salt, &c. One boat returned from those islands shortly after we anchored, "manned" by two matrons and two young girls. She had two sprit sails and a jib, and was handled in a seamanlike manner. When boarded by Ward, the younger ones were suddenly taken sea sick, and were found stowed away under a sail! The cargo consisted of empty barrels, salt, coffee, some scythes, and a gunlock. I much doubt if all these things could have been found in the Kotkars.

On sounding the harbour, it was found too rocky and shallow for the *Porcupine* to lie with safety. She was, therefore, anchored on the north side of the group, in a sufficiently sheltered position, where she could observe any vessels entering the passage to Abo. In the evening proceeded towards Hogskar Light.

14th.—Observed ten vessels steering to the north, along the Swedish coast. Proceeded to buoy the shoals in Ledsund. Found as little as thirteen feet a cable's length to the east of Pallas Ground, and three fathoms nearly two cables' length to the S.E. Placed a buoy also on the Jeremias Ground. Led *Ajax* into Fogle Fiord, where we anchored with *Driver*, *Cuckoo*, and *Harrier*.

15th.—2h. a.m.—Drizzling rain and fog, but, knowing the Admiral wished to have intimation that all the ships were on their ground by the 18th, I pushed on with *Harrier*, taking *Cuckoo* and the barge from *Ajax* as despatch boats. At times, the fog was thick; but, knowing every stone, we proceeded nearly full speed, to the utter dismay of Captain ———, who, never having been here before, completely lost his position.

At 8h. a.m., having arrived at the limits of last year's investigation, we were anxious to get a pilot; but this could not be done without waiting for a man who was out fishing and might not return till late. The *Cuckoo* had previously been to the north of Bergo. Trusting that she knew her way from that place, and would save the boat several miles pulling, I then proceeded on cautiously towards Waderskar, occasionally having a boat ahead; but the sun being in a good position the rocks were seen in time to avoid them. A continuous cluster of rocks and reefs were on our starboard hand, which are not on any chart, the position of which could not be easily fixed without more time being given up to it.

P.M.—Anchored north side of Waderskar, and, having arrived at one extremity of the *Harrier's* cruising ground, I despatched the barge to intimate the fact to Captain Warden, directing the officer to push on by himself should the *Cuckoo* get on shore. A large party was sent on shore to erect a cairn on the highest part of the island as a sea mark, and a round of angles were taken from the position.

The Waderskar Group, it appears, belongs to one man, whose grandchildren live on the island. There is sufficient pasturage for four or five sheep and two cows. The lily of the valley, cowslip, and small primula are indigenous; eider ducks resort there in great numbers during the breeding season. An extensive sprat fishing is carried on in the summer, commencing in July, to which all the people in Kumblinge, and even as far as the Abo Group, repair. Last year, however, the Russians prevented them moving so far from home.

16th.—In the middle watch it was reported that the *Cuckoo's* boat had arrived to inform me that she was high up on a rock near Bergo, not a couple of miles from where she had been anchored, and was in want of assistance. The barge had pushed on and left her at about 10h. p.m., which was of more importance.

At 8.30 'wayed and proceeded slowly to the north for many miles, but still found bare, low, rocky islets stretching out on the port side. On nearing Enskar Light, so as to pass midway between Klip and Gadden, the islands and rocks appeared to be so much out of position that I proceeded very slow, and suddenly found a rock (awash) right ahead; which I concluded was the one with half a fathom N.W. of Enskar Light, though I was due west from it. 5.50 p.m.—Anchored to the S.W. of Enskar Island.

At 8h., a schooner was reported at anchor under Lilla Wehas (Wehas), and Ward was sent to cut her out, with the boats of the two ships. On boarding her, he found she had been scuttled in three or four places; but he was in time to plug them up, and brought her alongside about 4h. a.m., with a large boat that had returned from Abo, having delivered a cargo of salt at that place. The crew stated that they had seen five gun boats there and some merchant steamers in the river. The troops were Fins and Russians. The price of salt six or seven roubles a bag.

18th.—Blowing so hard from the west that it would have been ha-

zardous to move the ships. Went to the lighthouse and obtained angles to several rocks in the offing.

19th.—Still blowing hard from S.W., weather much colder than last year, and strong breezes much more frequent. I took —— and five boats to reconnoitre the islands. The wind, however, again increasing, we made sail and found a ship's channel to the north of Little Wehax. We then pulled further in and got a sight of Nystad, and returned on board at 1h. a.m.

20th.—Having taken a good stock of wood out of the schooner, at 9h. 'wayed and proceeded towards Wehax, where I anchored, at noon, until the narrow sound was examined and buoyed.

A four fathom channel having being found, I again proceeded and without further check steamed up to within a mile and a half of the town of Nystad, never having less than four fathoms all the way. Considering the small scale of the chart, and the many islands and rocks that are not inserted, and having no pilot, it was very satisfactory that we had arrived before the town without having once touched the ground, and navigated forty-six miles of unknown water.

Ward and the Master of the *Harrier* were immediately sent to sound to within a thousand yards of the town. On their return a flag of truce was hoisted in each ship, a blank gun fired, and Burstal sent in with a summons to the town, with directions not to go out of range of the guns. The people were now seen collecting on a rising ground in the town, and the telegraph, which was of new construction, having ten black balls and a red flag, was kept in constant motion. In about half an hour, a boat, bearing a flag of truce, came out of the harbour and took the letter on shore.

I had received intimation that two batteries had been erected last year by the Finnish recruits, that one had been dismantled, but the other was masked. On examining, with the glass, the S.E. point of Hango, the former was discovered. It had been constructed with timber framing filled in with earth, and had been carefully taken down so that it might have been easily reconstructed.

A little before midnight, a boat containing the Deputy Burgomaster (the head man being sick in bed) pulled out to within half a mile of the ship; who, on being invited, came on board with a letter in answer to the summons, also a lawyer who had married a lady in Falmouth, as Interpreter, and several merchant Captains who could speak English. After reading the letter, I gave the Burgomaster to understand that whenever any of Her Majesty's vessels came in they would hoist a flag of truce, and that he must then send off a bullock or six sheep within three hours, for which a fair price would be paid. That the flag was to be hoisted in some conspicuous place in the town, upon which the vessel would not approach nearer. That, without the Commander-in-Chief objected, the small fishing boats would not be molested, but any found carrying cargo would be taken.

I then made inquiries about the Hango massacre, and was glad to hear that eight had been taken prisoners, amongst whom was the Surgeon, and only five killed of those that were on shore. The officer in

command of the party was an Ensign Swetskoff, and he also declared that the soldiers were Russians and not Fins. The account given in the Finnish paper was that as they supposed they were landing to destroy the telegraph they fired upon them, but not a word about the flag of truce. At the suggestion of Captain Storey, I told the Burgomaster that I should send in an armed boat, with a flag of truce on shore, and examine the harbour, and see that his statement was correct, and that I was induced to this unusual proceeding in consequence of the breach of the laws of nations and humanity committed at Hango. Hains, the Master, was sent in on this expedition, with orders to shoot the Burgomaster the very first person, should any attack be made upon him, and as he was a very portly gentleman he could not well miss his man.

At the same time Captain Storey and Ward were despatched to destroy the masked battery; which was so well disguised that it could not be detected until close upon it. The position was well chosen, in a little bay masked by a point of land on each side. It was built, close down to the water's edge, of immense large stones and fascines bedded in clay, and pierced for five guns, though none appeared to have been mounted. It had been built with care, and would have been a formidable barrier against any ship getting up to the town. The channel here is about the third of a mile across, and nearly opposite, on the Island of Hanko, is the other, already described. Capt. Storey and Lieut. Ward in a short time completely destroyed the five gun battery and burnt up a large quantity of timber used in the construction of Hanko.

On Mr. Hains's return, he informed me that there was only one schooner and two or three smaller vessels in the harbour, not worth taking out. One or two were on the stocks, and there were a great number of boats. Immense piles of wood or plank were seen on different parts of the harbour and islands, but as the Burgomaster had declared it was all private property I did not consider I was called on to destroy it. At 6h. a.m., a quantity of eggs, potatoes, fowls, milk, &c., was sent on board, and three roubles, the estimated value, paid for them.

At 9h. a.m., having filled up with wood from the schooner, we tripped the anchor and steamed out with perfect confidence, at half speed, to Enskar Light, where I left the *Harrier*, feeling assured that Capt. Storey was now perfectly at home in the navigation to Nystad, and that he could take up such a position as would cut off all traffic. On reaching Wadarskar, I found the beacon had been pulled down. Ward was sent on shore to ascertain the cause, and finding the people were prevaricating, he threatened to burn their houses, ordered them immediately to rebuild the pile, and took away four rifles that were discovered in their cottages. They said a landsman had done it, but three additional suspicious looking men were found on the island, so that it was quite possible some one in authority from Lemland had done it.

On reaching Fogle Fiord, which we did at 1h. a.m., found the

*Driver* had been on shore on the east end of Evans Reef, about half a mile off, with ten fathoms between. The *Porcupine* had also arrived, having made the capture of a sloop from Courland, with five unfortunate Eastlanders. She was on her way to Stockholm for salt, and had only a few empty bags on board. Jackson had destroyed the vessel, and the difficulty was to know what to do with the men. As they could not speak Swedish, Russian, or Fin, my man had some difficulty in communicating, but it was resolved to allow Jackson to take them back to Uto, and keep them until some opportunity offered. The Doctor of the *Porcupine* has picked up a little Swedish, and through him the Amazonian colony of Uto are on friendly terms with their blockaders. They bring on board fish and milk, and are allowed to make a voyage to the Kotkars occasionally, provided they come and ask leave, and report themselves on their return.

23rd.—It was settled to-day that if the *D'Assas*, French corvette, did not arrive by Monday, I was to take *Driver* and place her on her station between Nystad and Christenestad. Warden has agreed to lend me his barge to survey the Northern Entrance to the Aland Islands.

25th.—2h. a.m.—Shortened in, but a thick fog coming on remained at anchor until 5h., when we proceeded to the north—*Driver* and barge of the *Ajax* in company. 11h.—Cast off barge with Burstal and a week's provisions, to survey the Northern Entrance past Wadarskar. From thence proceeded to Westerbader; where we fired eight guns for Burstal to ascertain the distance by sound, and also built a large pile as a land mark. We then shaped a course due north, *Driver* keeping three miles on starboard beam and both ships sounding.

26th.—Passed three vessels standing to the westward, which was a great temptation to chase, and a few broad hints about losing chance of prize money; but the soundings were of too much importance to leave for the little probability that one was an enemy! Stood inshore to make the Sidby beacon, which is an excellent object, but the height from the sea is 192 feet, not 252. Examined Rakaboll Shoal: found two fathoms a mile and a half to the W.S.W., which we narrowly escaped. Proceeded towards Christenestad; but when off Harkmeri Beacon Island found the beacon pulled down, and the rocks so similar and numerous that I thought it better to anchor and find a passage in boats. At 10h. anchored at Kalkamn, to east of Torngrund Beacon, which is a good object.

27th.—As we had received no information respecting this place, and the vessels being four miles from the town, with (according to the directions) a bar of nine or ten feet between, I thought it would be better to make a reconnaissance in force, and, taking three armed paddle-box boats, went to within two miles; I then left them and, with Captain Gardner, pulled in with the gigs. On entering the narrows, I observed two masked batteries close to; but finding they were silent and civil, landed on a rock and examined the town with our telescopes. Being satisfied that it would be very unsafe to approach with open



boats, we returned to the gunboats, and shortly afterwards captured a fishing skiff with two men, who belonged to Christenestad and gave us all the needful information respecting the place, except that they knew nothing about the pilotage nor what sized vessels could go up to the town. Five or six Swedish schooners, besides smacks and boats, had been over from the opposite side of the gulf with groceries and salt, supplying them so well that the latter article had fallen to four roubles from double that sum, the price at one time last year. They took back tar, and during the winter the hemp was passed over the ice; so that their only export remaining on hand was the deals, which are not required in Sweden and are sent to Denmark or England. But this article is the most important one, and immense stacks of it, roofed over and weather worn from the exposure of two winters, were afterwards seen in the harbour.

In the afternoon, went into the harbour with the four gunboats and took possession of High Island, so as to cover the men whilst destroying the batteries on the main opposite. A flag of truce was then sent in with a demand for a new schooner which had been scuttled the night before, all government property—particularly arms, a supply of provisions when wanted, and a notice that the forts would be destroyed. By this time the greatest part of the inhabitants had congregated in the building yard, and Captain Gardner pulled into a point where the flag had been answered and met the Burgomaster, who, like our friend at Nystad, was in excellent condition. They pleaded great poverty since their trade was stopped and three of their ships taken last year, but as they were unarmed and the soldiers had left in April they must abide by our decision.

Ward was then sent to destroy the batteries, whilst Gardner and myself pulled up past the town to examine the schooner. Five large ships were building: one nearly 400 tons ready for launching, the others in frame; two schooners were scuttled. As we got higher up, the town improved in appearance; some of the houses were clean, well built, and prettily painted. A wooden bridge or viaduct crossed the harbour, and from this point the view became very picturesque. Numbers of the inhabitants followed the boat along the shore, and knots of well dressed girls, in their broad brimmed hats, took possession of the jetties to obtain the nearest view of the ruthless enemies who had come to burn down their houses, as they had heard of the liberal manner in which the torch had been applied last year, but, as yet, not an enemy's ship had been seen in their waters. After examining the schooner, we pulled in again to the Burgomaster and told him the schooner must be pumped out, and her sails, fittings, &c., put on board by Saturday, ready for delivering up when a flag was hoisted, and that he must have fresh provisions ready when any ship came in. This being agreed upon, he asked if they might now consider the town safe? To which I assented, but said I could not be answerable for any other Captain who might think it his duty to burn the shipping on the stocks, and that the reason I had demanded the schooner

was because he had allowed her to be scuttled after the ships appeared off the town. Before leaving, I inquired for Mr. Nystrom, Captain of the *Aina*, one of the vessels we took last year, and which belonged to Christenestad, when he appeared from the crowd, looking thin and miserable and was evidently not at all happy at renewing our acquaintance under such circumstances.

The batteries were our next consideration. Ward had nearly destroyed one, but they took a deal of pulling to pieces and blowing up. Two of them had embrasures, one for four guns and the other for three, perfectly masked with growing trees, and a number of rifle pits concealed by the bushes. The platforms were laid for the guns, and a wooden shed for barracks in the rear. All this timber made a splendid blaze and, after the application of 80lbs. of powder, and the liberal use of the pickaxe and crowbar, the batteries were pretty well demolished.

On the morning of the 28th, we wayed and ran down the coast to the southward, sounding in both ships and fixing position of *Driver* by mast-head angles and bearings. 11h. p.m.—Anchored near Loko beacon.

29th.—4.30 a.m.—Wayed and continued our course to Enskar Light, passing outside of it, and recalling *Harrier* from amongst the islands. On Captain Storey coming on board, he told me that he had burnt and scuttled upwards of forty vessels of from 240 to 800 tons: one only had he brought out and kept. They were secreted in a thick cluster of islands N.E. from Nystad, where they thought no enemy could find them. In the afternoon, I left *Driver* and *Harrier* concocting more mischief and, proceeding to the west, picked up Burstal in the barge, and anchored at Fogle Fiord at 10h. p.m.

3rd July.—Proceeded with Capt. Warden and officers of *Ajax* to Bomarsund.

4th.—Went with *Porcupine* through Dagerby Channel to Abo. The more I see of this narrow passage the less surprised I am at *Valorous* and *Odin* getting on shore in it, and do not think a vessel of more than eighteen feet could get through. We then took our old route north of Oeu, south of Skogskar and Stor Sattanga, north of Bogskar Beacon, and so on to the westward to Korpostram, where we anchored at 10h. p.m. Though the weather was hazy, notice had been given of our advent, and boats and men were seen flying off in all directions. No satisfactory information could be obtained, but an old lady who was decoyed alongside by a few pieces of tobacco, said all the men had hidden themselves behind the rocks.

By 11h. p.m., the paddle-box boats were got out and armed, and, with Lieuts. Burstal and Jackson, I proceeded to examine the islands and fiords in Nagu for merchant vessels, a report of which I received last year. To the eastward of Korpostram, and in the Outo Channel to Abo, is the custom house of Fagerholm, situate on a small island, and consisting of two magazines or storehouses and a couple of superior dwelling houses. These being Government property, I had resolved

last year to burn should an opportunity offer when not under a flag of truce. On arriving at the island six or seven rather superior looking women received us with misery depicted in their faces, and stated their husbands had left them since April. This I knew to be a falsehood; but the difficulty was to burn the stores and magazines without setting fire at the same time to the houses they were living in, the whole being closely packed together; and, in fact, the island was so small that the women and children could scarcely have retired out of reach of the heat that such a mass of inflammable material would have emitted. I, therefore, reluctantly left them, under the impression that it was possible we might pay them another and warmer visit. We then proceeded to the southward of Nagu and amongst the creeks and islands in the neighbourhood, until we could no longer trace our position on the plan. It was amusing to see the astonishment of women and fishermen, who were pulling about, as, suddenly, four large boats, full of men and guns, shot into the middle of them. No vessels were discovered during the night, except a brig without her foremast and a schooner without sails. The latter was so well secreted that we were obliged to land and cross over to her; but she turned out not to be worth the trouble of finding out the passage she came in.

At 8h. a.m. on the 5th, we returned on board, and at noon 'wayed for Abo; but as I had ascertained there was only twelve feet water in the eastern part of the Korpostrom Channel, we proceeded *viâ* Berghamn, and as we went along beacon fires were lighted to give notice of our approach; which compliment we returned with a shell. In passing Ommanais, the *Firefly*, for the first time, touched the ground, and had I taken Burstal's opinion it would not have happened. Half a mile from the same spot, the *Alban* lay last year three days and two nights. At 10.40, all being rather tired, we anchored between Hanga and Krampholm, six or eight miles from Abo.

At 4.30 a.m. on the 6th, we 'wayed and proceeded off Abo. On nearing Cheapman Ground, five gunboats were brought up to the piles, but they did not fire. A merchant steamer and several schooners were seen at anchor, but no other armed vessels. Everything appeared much in the same state as last year. No defences have been erected on the south point of Runsalao, as I steamed within half a mile and Ward sounded to the distance of a cable and a half. Neither could we observe any on the heights of Sipsala; over which a shell was fired, but without producing any return. The battery on the north-east part of Runsalao had the appearance of having been added to, but it was too well masked to admit of the guns being counted. Of the two batteries on the south-east spur of Runsalao, the lower one, which is an earth-work, appeared to be partly destroyed. Both booms were in the same position. All the information I received went to prove that we had seen the whole of the gunboat force at Abo; but in reference to the number of troops, none that I spoke to could inform me. All the large vessels were in the harbour, and the better part of the schooners had been sold to the Alanders in the winter.

Seeing that the five gunboats ought, with our short gun armament, to have taken both ships if either had got on shore, and having gained all the necessary information, I returned and examined the shoal we had touched on. The water here appeared by the marks left on the rocks last year to be thirteen inches lower. As the main channel to Abo by Outo had never been visited, I returned that way with *Porcupine*, and by keeping two boats ahead in the narrow parts gained the open sea at the lighthouse by 8h. a.m. on the 7th. Here the *Porcupine* being on her station I left her and returned to Fogle Fiord, where *D'Assas* and *Esk* were at anchor. At 9.40, a stranger was observed standing into Led sund on the wrong side of Jeremias Shoal: guns were fired to warn her. She proved to be the *Falcon*. The Master of the *Ajax* was sent to bring her in, but about 11h. p.m. she managed to run up three feet on a shoal inside Baklaudet. In a short time we had the end of her sheet cable fast on board *Firefly*, and there was no resisting the drag we gave her.

8th.—After church it was necessary to make arrangements for squadron's sailing early the next morning.

9th.—At 2.30 a.m. proceeded with the corvette *D'Assas* and H.M.S. *Esk*, by the usual route to the northward; and at 7.40 a.m., whilst passing White Stone Island, N.E. of Wardo, the *D'Assas* took the ground on an unknown rock, having 14 feet water. With the exception of Angö Channel this passage has been more frequented by large ships than any other. *Leopard*, *Odin*, and *Gorgon*, were repeatedly through it last year without discovering the rock; and yet so close to the deep water that part of the figure 13 on the plan was obliged to be erased to allow room for its insertion. The position of the *D'Assas* was peculiar; she had run her stern up two feet, and it was not until a careful examination that I discovered she had got there by putting the helm hard a-port, just at the time she was passing the rock on the port, and gone obliquely on to it. The *Firefly* was accordingly attached to her quarter, and with a few jerks pulled her off in the same direction she had gone on. The only damage she sustained was the loss of fifteen feet of false keel, which was carried away when first she struck.

At 8h. p.m., having arrived in the open sea, the *Esk* parted company to take up her blockading station at the head of the gulf, while *D'Assas* and *Firefly* proceeded to the eastward. The weather had now become very hazy, and a strong breeze with considerable sea set in from the North, rendering the navigation of the unknown region very uncomfortable. At 9h. the Yttersberg rock was seen; and at 9.35 *D'Assas* signalized "Have experienced"—"touched"—"now"—"hard." Fortunately she passed over it, with the loss of a few feet more of her false keel. On returning towards her the *Firefly* narrowly escaped a rock which was close under the lee paddle-box. At midnight we anchored; but being anxious to push on so as to get back to Fogle Fiörd by Saturday, in order to give the Admiral notice of the blockade before the next mail left, I again wayed at 5h. a.m. on

the 16th; but had not proceeded far before broken water was seen in all directions; and as it was so thick that the land could not be seen, I considered it my duty again to anchor.

At 10.30 it cleared sufficiently to see Enskar Lighthouse, and I then found we were about one mile to the southward of our track the last time we came this way. It was with some difficulty the ships were extricated from their perilous position without damage; the *Firefly* having again passed within half her length of another rock. About this time the *Driver* was observed to the eastward, and all anchored at noon inside Enskar Light; thankful that we had not left our bones outside.

*Driver* had found her way within 2,000 yards of the town of Raumo, and summoned the town. When the Burgomaster came off under a flag of truce, and agreed to give up the vessels, he recommended Gardner to pull up to the head of the bay, where he would find the sails belonging to them. He then returned to the town, and as no vessel could be taken out under a flag of truce, it was hauled down, and the boats pulled in under the full conviction that an agreement had been entered into and that the town was to be spared and the vessels were to be given up. Just as one boat touched the beach and the others were alongside the vessels, a cross fire was opened from both sides, which killed or mortally wounded two men, and severely wounded three more. All that could be done was to retreat out of range, and the ship opened fire to cover them. For about an hour and a half they continued to pour in shell, shot, and 24lb. rockets; wonderful to be said, they never set the wood-built town on fire.

This was a most treacherous proceeding, for the Burgomaster evidently tried to lead them into a trap; and had the boats gone up to the store not a man could have escaped. On leaving Raumo the *Driver* went to Christenestad and found they had kept faith and fulfilled their agreement by raising the schooner and fitting her out with new sails, rigging, and everything complete—to a log-line and glass—ready for sea.

In the evening *Harrier* made her appearance; and on the 11th at 11h. a.m., although very foggy, we all four wayed and proceeded to the North. In the evening *Harrier* parted company off Sabb Skar, that being the North end of her station. At midnight, the fog still prevailing, and being in the latitude of Sidby Beacon, I anchored.

12th.—Tripped and stood in towards the land; and as it was now impossible to reach Fogle Fiörd by Saturday, I determined to anchor *D'Assas* in safety at Christenestad.

In the afternoon the three ships anchored two miles and a half West of Torn Beacon, and the boats were sent away to sound and buoy a passage, which, though easy and safe for a vessel of 14 feet, required much care for one drawing 18 feet. A rock, with only three feet water, was discovered close to the anchorage which is not in the chart; but the evening was so foggy that it was impossible to complete the survey.

13th.—At 5h. a.m. the boats of the three ships continued the examination; and at 1h. p.m. the *D'Assas* was led in by *Firefly* to the anchorage inside of Torn Beacon; the latter just escaping a rock, not seen before, in the entrance of the harbour; and the former smoothing down any little excrescence that remained of her false keel.

Whilst the surveying officers were completing a rough sketch of the place, I took Capt. Dariés in towards the town to show him the marks. Whilst reconnoitring, a flag of truce was shown from the town. A boat containing some respectable merchants and captains came off and informed us that the Burgomaster had been removed in consequence of having communicated with us, and that the town was without a Governor; but that they would still continue to supply us with fresh provisions until soldiers were sent to the town; and that the only way they could inform us of that event was not to acknowledge our flag of truce.

At 8h. we left Capt. Dariés to his own resources. At 11h. the *Driver* was on her station, and immediately gave chase to a three-masted schooner, which proved to be a Degerby vessel infringing the laws, with a cargo of tar and wood.

14th.—Boarded several vessels and warned them of the blockade; captured two Finnish boats laden with salt and small stores, out of which the greater part of the cargo was taken and the boats released, as they appeared to belong to poor people. The *Driver's* prize proving rather troublesome to manage, I made the rendezvous Hall Grund Beacon, and proceeded without him.

Sunday, 15th.—9h. a.m., anchored near *Esk*, S.W. from Kalla, in lat.  $64^{\circ} 20'$ . Arranged a day of meeting between *Esk* and *Driver*.

16th.—2.30 a.m., Tripped and rejoined *Driver* off Jacobstad; and there being only about thirty tons of coal on board, I took prize alongside, and commenced filling up with birch-wood. In the meantime the boats were sent to sound out the channel into the harbour, as both beacons had been taken down, and the one outside, Hall Grund, removed from the position marked in the charts.

Towards midnight, accompanied by Capt. Gardner and Burstal, with two paddlebox-boats, I pulled in towards Jacobstad, sounding the channel as I proceeded. When within three miles of that town a boat with a flag of truce was seen pulling out; and on its being answered, came alongside. A man from the stern sheets got up, and in good English introduced the "Lord Mayor and Corporation of Jacobstad," who had come off to know the purport of our visit. On this being explained to him, and that we were at present on a little scientific excursion; but that shortly we hoped to return his visit at the town, unless he sent out the merchant vessels and Government property to us. He declared there was neither in the town, that the vessels had been sold in Sweden, or sent to hide amongst some of the islands. I proposed that a flag of truce should accompany their boat in to see if his account was true; but this he declined, as he had no authority. In fact, the Lord Mayor did not appear to have any power

to treat; but he was very anxious to see the gunboats, and they were called alongside for the old man's inspection. The Marines appeared to attract his attention, and he went away well pleased with his visit, and the information he had gained for the Cossacks.

The flag of truce being hauled down, I continued sounding out the channel until within 2,000 yards of the head of the harbour. Here we landed on a small island, covered with fine timber, squared and ready for shipment; and immediately opposite was a building-yard, but without shipping; and, in fact, as far as we could see, the Lord Mayor had spoken the truth; so the timber was left for a blaze at another time, should his words prove untrue; as I was certain, both from the manner of the Burgomaster, and other information, that there was a number of soldiers in the neighbourhood, I did not think it right to take the boats up further, and therefore retraced my way to the ship, having made myself master of the navigation of an important and somewhat intricate channel.

17th.—6.30 a.m., wayed, and had just cleared the harbour when another thick fog set in; but, there being no dangers in the way, I proceeded, and at 2h. a.m. of the 19th arrived at Fogle Fiörd.

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We conclude our present month's extracts with the account of the

#### BOMBARDMENT OF SWEABORG.

Those of our readers (says the *United Service Gazette*) who have examined the chart of the bay of Helsingfors, will bear in mind that Sweaborg, which commands the entrance to Helsingfors, is composed of a great number of small islands, most of which are strongly fortified against the approach of ships. The Russians, under the erroneous impression, as it would seem, that the enemy would only make an attack with their ships, rested secure in their strongholds. More than a year ago we gave the following outline descriptive of this place:—

“The town of Helsingfors is built upon a double headed promontory, stretching out into a fine bay, the entrance to which is secured by a chain of small islands. Eight of these are included in the line of defence which bears the general name of Sveaborg, and what with shallow water in some places, and dams in others, there is said to be only one passage by which large ships can penetrate into the Bay of Helsingfors. The complication of these fortifications makes it difficult to convey anything more than the most general view of them. We shall, therefore, run quickly along these granite defences, beginning with the small island of Langern, the nearest to Helsingfors, and only about two hundred yards from the northern extremity of the town. Here, as

\* Rear-Adml. Penaud's telegraphic despatch says,—“The bombardment of Sweaborg by the Allied squadrons was a complete success. A terrific fire, which lasted forty-five hours, destroyed nearly all the stores and magazines of the arsenal, which is now only a heap of ruins. Several magazines for powder and shell exploded. The enemy has received a terrible blow, and has suffered enormous losses. Our loss is very trifling, and the ships have not received the slightest injury. The seamen of the fleet are in the greatest enthusiasm.”

at other points, the ramparts are scarped out of the rock, and there is no possibility of escalading them. The batteries are, from the comparative absence of casemates, of the most formidable and unassailable description, and they are armed with the heaviest description of ordnance. Each series of works is complete in itself as regards shores of all kinds and bomb-proof cover.

The entrance into Helsingfors Bay lies between Langern and the next island, Vester Svart. It is about 200 yards in width; and a vessel attempting it must run the gauntlet of the fire of the two islands, and in addition to this she will be in danger of being raked by the guns of Osterlitzer Svart, which lies behind the opening between Vester Svart and Langern. Next to, and in connexion with, Vester Svart, are Vargon (Vargoe?) and Gustav Svart (Svar-toe?) with Oster Stuur Svart in the rear. This is the most remarkable part of the works; and the constructions of Gustav Svart especially are on a scale of unparalleled magnitude. The front presented by the successive works is about a mile in length; and the more northern fortresses, that is those nearest to Helsingfors, viz. Langern, Vester, and Lilya Svart, not only defend the narrow channel above alluded to, but they also command points on the mainland, where an enemy who had previously taken the town, might attempt to establish his batteries."

### *Sweaborg.*

The fortress of Sweaborg, which has just been bombarded by the Allied fleet, is built on granite isles, about a mile in advance of Helsingfors, the Russian capital of Finland, as Abo was formerly its Swedish capital. The largest of the rocks is that called Gustavus's Sword, on which is built the residence of the Governor, with a sort of garden formed of mould brought from the main land, and a vast cistern, in which is heaped together a large quantity of snow in winter to furnish water to the garrison. Sweaborg has been called the Gibraltar of the North; it would seem, however, not with as much justice as was formerly thought, since the late bombardment shows it to be anything but unassailable. The islands flank each other, and all have the granite cut perpendicularly to the height of from thirty to forty feet. The only passage by which the roadstead of Helsingfors, which is one of the great war ports of Russia, can be reached, winds along these formidable isles, which are armed with 800 guns of large calibre. As Sweaborg only presents an unapproachable *ceinture* of granite, a siege of it could not be made by land, and the place could only be reduced by famine. But its buildings might be attacked and demolished from the sea by the means of a bombardment, and this is what has just been executed with full success by the Anglo-French fleet,—a bombardment which must have caused immense material losses to the Russian Government by destroying the barracks, the different maritime establishments, and the arsenal of the fort. At the same time, unless we would prepare for ourselves some great disappointment, there is no reason for proclaiming that Sweaborg is destroyed. The Admirals of the Allied fleet report most candidly on the results of the bombardment, and it would be exceedingly strange if, having destroyed the granite forts and batteries of Sweaborg, they should have omitted to report the same to their Governments. Sweaborg was constructed in the 18th century by the King of Sweden, Gustavus III. In the revolution which dethroned Gustavus IV., in 1808, and which afforded Russia the opportunity long sought for of invading Finland, the impregnable fortress was given up without combat to the Russian General Barclay de Tolly by a "traitor who forgot what was due to his country to satisfy his political passions." Sweaborg has a population of about 3,400 persons. Its barracks can contain more than 12,000 men; and, besides its fine port, it has two basins to repair ships.



*Duke of Wellington*, before Sweaborg,  
August 13th, 1855.

Sir,—I have the honour to report, for the information of the Lords Commissioners of the Admiralty, that, after my arrival here on the 6th instant, with the squadron under my orders, I was joined the same evening by Rear-Admiral Penaud, in the *Tourville*, and on the following day by the remainder of the French squadron, including, in addition to the ships of the line, five mortar-vessels and five gunboats, with store ships and steam-vessels.

On the 7th instant, the *Amphion* arrived from Nargen, completing the British squadron to the ships and vessels named in the margin,\* and the intention of Rear-Admiral Penaud and myself being to commence operations against the fortress and arsenal of Sweaborg, no time was lost in making the necessary preparations.

My former reports will have informed their lordships, that during the past year, and in the course of the last five months, the enemy has been actively employed in strengthening the defences of the place and completing the sea defences, by erecting batteries on every advantageous position and commanding every practicable approach to the harbour in this intricate navigation.

It has therefore formed no part of my plan to attempt a general attack by the ships on the defences; and the operations contemplated by the Rear-Admiral and myself were limited to such destruction of the fortress and arsenal as could be accomplished by means of mortars.

The intricate nature of the ground, from rocks a-wash and reefs under water, rendered it difficult to select positions for the mortar-vessels at proper range. In completing the arrangements for this purpose, I have derived the greatest advantage from the abilities of Capt. Sullivan, H.M.S. *Merlin*, and the positions ultimately chosen were in a curved line on either side of the Islet of Oterhall, with space in the centre reserved for the mortar-vessels of the French squadron, as concerted with Rear-Admiral Penaud.

The extremes of the line were limited, with reference to the extent of the range and the distance from the heavily armed batteries of Bak-Holmen to the eastward, and of Stora Rantan to the westward of Sweaborg; and a most effective addition to the force of the Allied squadrons consisted in a battery of four lighter mortars established by Admiral Penaud on an islet in advance of Oterhall.

To carry these arrangements into effect I directed Capt. Ramsay of H.M.S. *Euryalus*, with Capt. Glasse of the *Vulture*, Capt. Vansittart

\* Duke of Wellington (bearing my flag), Exmouth (bearing the flag of Rear-Adml. Sir Michael Seymour), *Euryalus*, *Arrogant*, *Pembroke*, *Cornwallis*, *Cossack*, *Merlin*, *Vulture*, *Hastings*, *Edinburgh*, *Amphion*, *Magicienne*, *Dragon*, *Belleisle*, *Cruiser*, *Geyser*, *Locust*, *Lightning*, *Eolus*, *Princess Alice*, *Volcano* (arrived on the 10th).

*Gunboats*.—*Starling*, *Lark*, *Thistle*, *Redwing*, *Magpie*, *Badger*, *Pelter*, *Snap*, *Dapper*, *Weazel*, *Stork*, *Pincher*, *Gleaner*, *Biter*, *Skylark*, *Snapper*.

*Mortar-Vessels*.—*Rocket*, *Surley*, *Pickle*, *Blazer*, *Mastiff*, *Manly*, *Drake*, *Purpoise*, *Prompt*, *Sinbad*, *Carron*, *Redbreast*, *Beacon*, *Grappler*, *Havock*, *Growler*.

of the *Magicienne*, and Capt. Stewart of the *Dragon*, to anchor to the southward of Oterhall, and the mortar-vessels, under the charge of Lieut. the Hon. Augustus C. Hobart, of the *Duke of Wellington*, being distributed to the care of those officers, the whole were anchored on the evening of the 7th instant in position, in readiness to warp into action, and hawsers for that purpose were laid out before daylight. Much assistance in towing was rendered by the officers of the gunboats, and great praise is due to all concerned for their active exertions.

In the course of the same night Rear-Admiral Penaud had commenced the establishment of his battery with sand-bags on the rocks within Oterhall, but the active arrangements could not be completed before the morning of the 9th inst.

During the whole of the previous day the royal standard of Russia was flying upon the citadel of Gustafsvard, but was not afterwards observed.

The success of our operations being dependant entirely on the state of the weather, and the rapidity with which shells could be thrown, no time was lost in trying the ranges of the mortars, which proved to be accurate, and general firing commenced soon after seven o'clock. The direction of the service was confided to Capt. T. M. Wemyss of the Royal Marine Artillery, assisted by Capt. Lawrence and Capt. Schomberg, and every exertion was used by these officers to press the fire of the mortars to the fullest extent which could be deemed proper.

The gunboats, having been previously armed with additional guns of heavy calibre, removed temporarily from the ships of the line, and the *Stork* and *Snapper* gunboats being armed with Lancaster guns, I availed myself of the experience of Capt. Hewlett to direct the fire of the two latter vessels to the greatest advantage, and his attention was specially directed to a three-decked ship of the line moored to block the passage between Gustafsvard and Bak-Holmen.

Comdr. Preedy, of the ship bearing my flag, was directed to take the *Starling* and four other gunboats under his orders, and to manœuvre and attack the batteries in front of the mortar-vessels towards the West extremity of the line.

The remainder were distributed in a similar manner to stations assigned to them, with orders to engage the batteries and protect the mortar-vessels under the general direction of Capt. Ramsay, assisted by Capt. Glasse, Vansittart, and Stewart.

On the evening of the 8th inst., I had despatched Captain Key in H.M.S. *Amphion*, to proceed off Stora Miolo, and to place himself under the orders of Capt. Wellesley of H.M.S. *Cornwallis*; and I instructed the latter officer to employ the *Hastings* and the *Amphion*, and to take advantage of any proper opportunity to engage the enemy at the East end of the Island of Sandhamn.

Capt. Yelverton, in H.M.S. *Arrogant*, was detached to the westward with the *Cossack* and *Cruiser* under his orders, and was directed to occupy the attention of troops, which were observed to be posted

on the Island of Drumsio, and to watch the movements of small vessels which had been noticed occasionally in creeks in that direction.

Early in the day I observed that the detached squadrons in both directions had opened fire upon the enemy, and the action was general upon all points. A rapid fire of shot and shells was kept up from the fortress for the first few hours upon the gunboats, and the range of the heavy batteries extended completely beyond the mortar-vessels; but the continued motion of the gunboats, and the able manner in which they were conducted by the officers who commanded them, enabled them to return the fire with great spirit, and almost with impunity, throughout the day.

About ten o'clock in the forenoon fires began first to be observed in the different buildings, and a heavy explosion took place on the Island of Vargon, which was followed by a second about an hour afterwards; a third, and far more important explosion, occurred about noon on the Island of Gustafsvard, inflicting much damage upon the defences of the enemy, and tending greatly to slacken the fire from the guns in that direction.

The advantage of the rapidity with which the fire from the mortars had been directed, was apparent in the continued fresh conflagrations which spread extensively on the Island of Vargon.

The intricate nature of the reefs on which the gunboats had occasionally grounded compelled me also to recall them before sunset, and the fire of the enemy was slack. The boats of the fleet were then ordered to be assembled with rockets before dark, and under the direction of Capt. Caldwell, in command of the ship bearing my flag, they maintained a continuous fire for upwards of three hours, which was attended with considerable success, causing fresh fires, and adding much to the general conflagration.

At daylight on the morning of the 10th inst., the positions of the several mortar-vessels had been advanced within easier range, and the gunboats were again directed to engage.

The three-decked ship, which had been moored by the enemy to block and defend the channel between Gustafsvard and Bak-Holmen, had been withdrawn during the night to a more secure position, but the fire from the batteries was increased, and the engagement was renewed with activity on both sides. Fires continued to burn without intermission within the fortress, and about noon a column of smoke, heavier and darker than any which had yet been observed, and succeeded by bright flames, gave signs that the shells had reached combustible materials in the direction of the arsenal. The exact situation was at first concealed from our view, but the flames continuing to spread, it was soon evident that they had extended beyond the Island of Vargon, and that many buildings on the Island of Svarto were already in progress of destruction.

By the judicious management of the officers of artillery a steady fire was kept up during the whole of the following night.

The rocket-boats in the evening were again assembled, when the

gunboats were recalled, and proceeded successively in separate divisions. The first, under the direction of Capt. Seymour of the *Pembroke*, made excellent practice, at the distance of about 2,000 yards from the fortress: the second, under the direction of Capt. Caldwell, at a later period of the night, succeeded also in adding to the fires already burning; but the glare of the flames exposing the boats to the view of the enemy, they maintained their ground, under a smart fire of bursting shells, with steady gallantry.

Considering the extent of injury which had now been inflicted upon the enemy, and reflecting that few buildings of importance remained to be destroyed on the Island of Vargon, and that those still standing upon Svarto were at the extreme extent of our range, and in positions where no shells had yet reached them, I was of opinion that no proportionate advantage was to be gained by continuing the fire during another day.

I accordingly despatched Capt. Seymour, of H.M.S. *Pembroke*, to communicate with Rear-Adml. Penaud, and with the cordiality and ready concord which I have invariably experienced from that officer, arrangements were immediately concerted, and orders given to cease firing after daylight. Little fire, except at the rocket-boats, had been returned by the enemy during the night, and it ceased almost entirely on his side before daylight, although the sea defences in general were little injured.

It remains for me to transmit for your lordships' information the enclosed reports of the proceedings of Capt. Wellesley, of H.M.S. *Cornwallis*, with the detached squadron to the eastward, on the 9th inst.; and I beg you will inform their lordships that the troops on Drumsio having offered no resistance to the ships under the orders of Capt. Yelverton, he returned to his former anchorage the same evening.

Enclosed are the lists of casualties which have occurred in execution of the service which I have had the honour to detail; and I am thankful to say that they have been fewer than could possibly have been expected under the fire to which those who were engaged were repeatedly exposed. Some of the most severe injuries are those which unfortunately occurred from explosions of the rockets in the boats of the *Hastings* and *Vulture*.

Their lordships will observe that I abstain entirely from reports on the proceeding of the squadron under the command of Rear-Admiral Penaud, which will no doubt be fully and ably explained to his own Government; but I may be permitted to acknowledge my deep sense of the valuable co-operation they have afforded, and to express my admiration of the gallant conduct of those under his orders, and my warmest thanks for the cordial support which I have received.

I have much satisfaction in reporting in the most favourable manner on the conduct of the officers, seamen, and marines under my command; and I transmit, for their lordships' information, the lists of the officers and others who were employed on the various detached services which occurred during the operations.

My best thanks are due to Rear-Adml. Sir Michael Seymour, who has at all times afforded me the most ready assistance.

From Commodore the Hon. Frederick Pelham, Captain of the Fleet, I have received the most valuable support, and the energy and ability with which he has performed the important duties of his station have tended greatly to further the execution of the service, and demand my warmest thanks.

I am much indebted to Capt. Ramsay, of H.M.S. *Euryalus*, for his active and useful exertions, as well as to Capt. Glasse, of the *Vulture*, and Capt. Vansittart of the *Magicienne*, and to none more than to Capt. Stewart, of H.M.S. *Dragon*, whose zeal and ready resource attracted my particular attention.

The services allotted to Capt. Wellesley, as well as those assigned to Capt. Seymour, Hewlett, and Caldwell, were executed to my entire satisfaction; and my best thanks are due for the assistance rendered by Capt. Hall, of H.M.S. *Ermouth*, on several occasions.

Late on the evening of the 10th inst., H.M.S. *Merlin*, under the command of Capt. Sulivan, struck upon an unknown rock on ground which he had himself repeatedly examined while conducting me along the line of the mortar-vessels.

No blame whatever can attach to this officer on the occasion, and I gladly avail myself of the opportunity which is thus afforded me of calling the special attention of their lordships to the unwearied activity of this valuable officer. It is to the singular ability and zeal with which his arduous duties have been performed that much of the success of the operations of the fleet may be attributed; and I trust that I may be permitted on this occasion to recommend to the especial notice of their lordships the services of Lieut. R. B. Creyke, of that ship, whose conduct has been most favourably reported.

My especial thanks are due to the officers and men of the Royal Marine Artillery for the manner in which their important duties have been performed. The cool and steady courage with which they continued to conduct the duties of their stations deserves the highest praise; and I have much pleasure in calling their lordships' attention to the services of Capt. Wemyss, as well as to those of Capt. Lawrence and Schomberg, of that distinguished corps.

Great praise is also due to the officers and crews of the mortar-vessels, on the occasion.

The admirable manner in which the officers in charge of gunboats maintained their stations under fire, and the general activity of the crews of those vessels upon all occasions, is deserving of the favourable notice of their lordships; but in referring to the enclosed list of the officers employed, I am unwilling to particularize any, when all have been highly deserving of their lordships' favour; and the gallant conduct of the crews has been conspicuous.

I have, &c.

R. S. DUNDAS,

Rear-Admiral and Commander-in-Chief.

The Secretary of the Admiralty.

H.M.S. *Cornwallis*, off Stora Miola.  
August 9th, 1855.

Sir,—I have the honour to acquaint you that, in compliance with your memorandum of the 8th inst., on observing the mortar-vessels open fire this morning, I immediately weighed in her Majesty's ship under my command, in company with the *Hastings* and *Amphion*, and proceeded to attack the forts at the South-East end of Sandhamn.

Our attack was more particularly directed against the battery on the South-Eastern entrance, and another on Storholm, but, on arriving within long range, a general fire was opened from the whole of the batteries on the South side of Sandhamn.

A very brisk and extremely well directed fire was kept up from the ships, which did considerable damage to one of the batteries on Sandham, and one or two of the guns were silenced for a short period, but no permanent effect was produced.

At 10.50, therefore, considering that the object contemplated in your memorandum had been attained, I made signal to discontinue the engagement, and anchored the ships in the positions they left this morning.

I deem it my duty to represent to you the effective co-operation I received from Copts. Caffin and Key, as well as the steadiness and activity of the officers and crews of the ships engaged.

I beg to enclose a list of casualties.

I have, &c.

GEORGE WELLESLEY, Captain.

Rear-Adml. the Hon. R. S. Dundas, C.B.  
Commander-in-Chief.

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Casualties on board H.M.S. *Amphion*, while engaging the batteries to the eastward of Sweaborg, Aug. 9th, 1855.—Wounded, Mr. Charles Sturgess, assistant-paymaster, severely; John Breacher, leading seaman, severely; John Markham, A.B., slightly.

J. E. BUCHANAN, Surgeon.

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List of wounded on board H.M.S. *Cornwallis*, before Sweaborg, on the 9th Aug., 1855.—Mr. Frederick Bowen, Mate, slightly; John Osborn, 1st class boy, severely; Edward Peters, quartermaster; William Brundy, ord., slightly; John Coady, 2nd class boy, severely; Robert Kitchener, gunner's mate; John M'Guire, marine, severely; John Axworthy, carpenter's crew; Thomas Hodge, carpenter's crew; Edward Farrell, leading seaman.

ALEXR. ARMSTRONG, M.D., Surgeon, R.N.

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H.M.S. *Cornwallis*, off Stora Miola,  
August 10th, 1855.

Sir,—I have the honour to inform you, that in further prosecution of your orders of the 8th inst., I despatched last night after dark, under the direction of Lieut. Tattall, senior of the *Cornwallis*, the barges and pinnaces of this ship, *Hastings*, and *Amphion*, each armed with rockets, to endeavour with them, if possible, to set fire to a frigate moored head and stern in Kungs Sound.

Moored as she was down under the land with only her lower masts in, she was quite invisible; but the boats maintained a very well directed fire in her direction, which, although not effecting the object of setting her on fire, drew the attention of the enemy, whose batteries, as well as the frigate, opened fire on the boats, without, I am happy to say, any casualty to them.

I regret, however, to add that in the pinnace of the *Hastings* two men were wounded, one severely, by the rocket bursting in the tube.

I beg to enclose a list of the officers employed on this occasion, and to express to you how much pleased I was with the manner in which Lieut. Tattnall carried out my orders, and of the zeal and activity of the other officers and men employed.

I have, &c.,

GEORGE G. WELLESLEY, Captain.

Rear-Adml. the Hon. Richard S. Dundas, C.B.

List of Officers employed in the rocket-boats on Aug. 9th:—

*Cornwallis*.—Barge: Lieut. Tattnall; Mr. Holmes, Midshipman; Mr. Taylor, gunner. Pinnace: Lieut. Fox; Mr. Holden, Midshipman. Gig: Dr. Armstrong, Surgeon in charge. Third cutter: Mr. Powell, Midshipman. Mr. Evans, Assistant-Surgeon.

*Hastings*.—Barge: Lieut. M'Crea; Mr. Hornby, Midshipman; Mr. Holt, Assistant-Surgeon. Pinnace: Lieut. Goodenough; Mr. Singleton, Midshipman.

*Amphion*.—Barge: Lieut. Wodehouse; Mr. Carey, Midshipman. Pinnace: Lieut. Clutterbuck; Mr. Campbell, Mate. First cutter: Mr. Stirling, Midshipman; Mr. Lightbody, Assistant-Surgeon.

List of casualties occasioned by the premature explosion of a rocket in the pinnace of H.M.S. *Hastings*, on the night of the 9th of August, 1855 (while endeavouring to burn the Russian frigate lying between Kungs Holmar and Sandhamn), during the rocket attack on Sweaborg:—Joseph Hopkinson, A.B., severely wounded; James Bowles, ord., slightly wounded. I can only account for this accident by the rocket being a damaged one; perhaps the composition was cracked, or had loosened from its case, which caused it to explode like a common detonating tube, bursting the shell at the same time, and shattering the rocket tube to pieces.

J. C. CAFFIN, Captain.

H.M.S. *Euryalus*, August 12th, 1855.

List of casualties which occurred during the bombardment of Sweaborg.

*Euryalus*.—John Bynon, captain maintop and rigger, slightly burnt in hands, arms, and feet, caused by a 24-pounder rocket tube bursting; Robert Glason, A.B., const-guardman, severely burnt in face and wrists, caused by a 24-pounder rocket tube bursting; John Robinson, A.B., dangerously burnt in face and wrists, caused by a 24-pounder rocket tube bursting; William Thompson, carpenter's crew, slightly burnt in arms and face, caused by a 24-pounder rocket tube bursting.

*Pincher*.—William Cousins, A.B., slight contusion of knee, on board *Pincher* gunboat.

EDWARD GROVES, M.D., Surgeon.

List of casualties that occurred in the gunboats and mortar vessels attached to H.M.S. *Magicienne*, during the bombardment of Sweaborg, between the 9th and 11th August, 1855 :—*Dapper*.—Samuel Curtain, private, Royal Marines, hernia, produced by exertion in heaving round the gun. *Redbreast*.—Jacob Light, gunner, Royal Marine Artillery, lacerated wound (slight) of the finger.

R. CLARK, M.D., Surgeon.

List of casualties in the pinnacle of H.M.S. *Vulture*, on the night of the 9th of August, 1855.—John Eldridge, leading seaman, dangerously; Henry Bailey, captain foretop, severely; Adolphus Reynolds, A.B., severely; Henry Searle, A.B., severely; William Odgers, A.B., severely; Lieut. R. B. Miller, very slightly; Mr. Horatio Packe, Mate, slightly Henry Wright, gunner's mate, slightly; Richard Pitcher, A.B., slightly.

R. B. MILLER, Senior Lieutenant.

J. D. CRONIN, Surgeon.

The above casualties occurred chiefly by accident in the rocket boats, and not from the fire of the enemy.

R. S. DUNDAS, Commander-in-Chief.

List of casualties which occurred on board the gunboat *Badger*, employed at the bombardment of Sweaborg, on the 9th and 10th of August, 1855.—Thomas Burton, R.M., fracture; compound fracture of left leg (both-bones) from the breaking of a hawser in getting the *Badger* off the rocks.

GEORGE BANKS, Assistant Surgeon.

List of officers and men wounded by the enemy during the bombardment of Sweaborg, on the 9th and 10th of August, 1855 :—*Thistle*, gunboat.—Joseph Bailey, private, R.M., contusion (slight) of right foot from fragment of shell.

A. MCKECHNIE, Medical Inspector.

List of officers employed in the mortar vessels during the bombardment of Sweaborg, on the 9th and 10th of August, 1855 :—Hon. Augustus C. Hobart, First Lieutenant of *Duke of Wellington*; Mr. F. M. L. Carter, Mate in charge of First Division; Mr. W. Howarth, Acting-Mate in charge of Second Division; Mr. George Rivington, Mate, on board *Sinbad*; Mr. G. Taylor, acting gunner in charge of *Redbreast*; Mr. John J. Terdre, acting boatswain in charge of *Carron*; Mr. Thomas Hawkins, acting boatswain in charge of *Grappler*; Mr. Richard Powell, acting gunner in charge of *Mastiff*; Mr. John Thoms, boatswain in charge of *Rocket*; Mr. Henry Wallace, acting gunner in charge of *Sinbad*; Mr. Josiah Hunt, acting gunner in charge of *Blazer*; Mr. Richard Jones, acting boatswain in charge of *Pickle*; Mr. Charles Blofield, boatswain in charge of *Lively*; Mr. John Dew, acting gunner in charge of *Drake*; Mr. Charles Haydon, acting boatswain in charge of *Porpoise*; Mr. Charles Ford, acting boatswain in charge of *Prompt*; Mr. Richard Broad, acting boatswain in charge of *Beacon*; Mr. Thomas Foreman, boatswain in charge of *Havock*; Mr. John Bosanquet, acting boatswain in charge of *Manly*.

Marine Artillery Officers employed. Captain J. M. Wemyss, Captain J. E. W. Lawrence, Captain G. A. Schomberg, Lieut. E. R. Horsey, Lieut. R. T. Ansell, Lieut. G. H. Winford, Lieut. J. Poore, Lieut. H. L. Searle, Lieut. G. Brydges, Lieut. E. S. L. Durnford, Lieut. F. E. Halliday, Lieut. R. Woolcombe.

R. S. DUNDAS,  
Rear-Admiral and Commander-in-Chief.



List of gunboats engaged in the bombardment of Sweaborg on the 9th and 10th August.

Abreast of eight English eastern mortar vessels: under the orders of Captain George Ramsay, H.M.S. *Euryalus*—*Pincher*, Lieut. Keith Stewart; *Skylark*, Lieut. F. W. Pym; *Lark*, Lieut. M. Pechell. Under the orders of Captain F. H. H. Glasse, H.M.S. *Vulture*—*Snap*, Lieut. C. A. Wise; *Gleaner*, Mate A. G. Bogle. Under the orders of Captain N. Vansittart, H.M.S. *Magicienne*—*Dapper*, Lieut. H. T. Grant; *Redwing*, Mate W. G. Silverlock.

Round Oterhall: Under the orders of Captain Wm. H. Stewart, H.M.S. *Dragon*—*Magpie*, Lieut. B. C. T. Pine; *Weasel*, Lieut. R. Craigie. To keep Vargon church open east of Rantan Island.

In front of the western mortar vessels: Under the orders of Commander G. W. Preedy, *Duke of Wellington*—*Starling*, Lieut. S. P. Piers; *Thistle*, Lieut. David Spain; *Pelter*, Lieut. Wm. F. Lee; *Biter*, Lieut. W. H. Anderson; *Badger*, Mate W. H. Cumming.

For service of the Lancaster guns: Under the orders of Captain R. S. Hewlett, C.B., H.M.S. *Edinburgh*—*Snapper*, Lieut. A. J. Villiers; *Stork*, Lieut. G. J. Malcolm.

R. S. DUNDAS,

Rear-Admiral and Commander-in-Chief.

A list of officers in the rocket boats of H.M. ships employed on the night of the 9th of August, 1855, in an attack upon the fortress of Sweaborg, under the command of Captain Henry Caldwell, of H.M.S. *Duke of Wellington*:

*Duke of Wellington*—Four boats: Lieuts. L. E. H. Somerset, T. Barnardiston. Second Master D. Moore. Midshipmen J. de Wahl, and Holford H. Washington. Hospital Dresser J. Moore.

*Ezmouth*—Two boats: Lieuts. C. M. Luckcraft, and C. B. Mitchel, R.M. Mate C. H. Carpenter. Assistant Surgeon J. Caldwell.

*Arrogant*—Two boats: Lieuts. H. B. Woolcombe and Martin. Mate R. T. Clark. Midshipman — Montague.

*Pembroke*—Two boats: Lieuts. J. B. Scott, and F. Prattent. Mate — Garbeh. Midshipman — Brownlow.

*Vulture*—Two boats: Lieuts. E. B. Miller and W. P. Burton, R.M. Mate Horatio Paake.

*Edinburgh*—Two boats: Lieut. J. L. Pritchard. Second Master J. Taylor. Midshipman — Waller.

*Cossack*—Two boats: Lieut. J. B. Field. Mate — Douglas. Midshipman — Stevens.

*Dragon*—Two boats: Lieut. Thomas Stackhouse. Mate W. R. Stubbs.

*Magicienne*—Two boats: Lieut. H. B. King. Mate E. Richards.

*Geyser*—Lieuts. W. N. Cornewall and Francis B. Herbert.

H. CALDWELL, Captain.

A list of officers employed in rocket boats on the night of the 10th of August, 1855, in the division under the command of Captain G. H. Seymour, of H.M.S. *Pembroke*:

*Ezmouth*—Lieuts. Robert J. Wynniatt and Campbell.

*Euryalus*—Senior Lieut. Charles Luckcraft. Mr. Charles H. Carpenter, Acting Mate. Mr. John Caldwell, Assistant Surgeon.

*Arrogant*—Lieuts. Henry B. Woolcombe and N. C. Martin.

*Pembroke*—Senior Lieut. J. B. Scott. Gunnery Lieut. Francis Prattent.

*Magicienne*—Lieut. Henry B. King. Mr. Edmund E. Richards, Acting Mate.

G. H. SEYMOUR, Captain.

A list of officers employed in rocket boats on the night of the 10th August, 1855, in the division under the command of Captain Henry Caldwell, of H.M.S. *Duke of Wellington*:

*Duke of Wellington*—Four boat: Lieuts. L. E. T. Somerset and T. Barnadiston. Second Master D. Moore. Midshipmen J. de Wahl and H. Halford Washington. Hospital Dresser J. Moore.

*Edinburgh*—Two boats: Lieuts. J. A. Pritchard and W. H. Blake. Second Master J. Taylor. Midshipman — Waller.

*Vulture*—One boat: Lieuts. E. B. Miller and W. B. Burton, R.M.A.

*Dragon*—One boat: Mate W. B. Stubbs.

*Cossack*—Two boats: Lieut. J. B. Field. — Douglas, Mate. — Stevens, Midshipman.

H. CALDWELL, Captain Commanding Division.

#### DESTRUCTION OF BARRACKS, MAGAZINES, AND STORES AT KOTKA.

*Duke of Wellington*, at Nargen, July 30th, 1855.

Sir,—I beg you will be pleased to acquaint the Lords Commissioners of the Admiralty, that having received on the 24th inst., from Captain Yelverton, of H.M.S. *Arrogant*, information which appeared to render it desirable that he should again examine the south-western shores of the Island of Kotka, I took immediate measures to strengthen the squadron under his orders by the addition of four gunboats, to be detached from off Cronstadt by Rear-Admiral Baynes, together with the further addition of four mortar-vessels from hence, which he had hoped to be able to employ.

I have much satisfaction in transmitting for their lordships' information the enclosed report of proceedings of Captain Yelverton, who, with the squadron under his orders, has again succeeded in completing the destruction of buildings and military stores to a considerable extent on the Island of Kotka; and I beg once more to express my entire approbation of the manner in which he has executed the service entrusted to him, and of the conduct of the officers and men employed on the occasion.

I am happy in having this opportunity to recommend to the favourable notice of their lordships the conduct of Mr. George Giles, Master of the *Arrogant*, and Mr. Macfarlane, the Master of the *Magicienne*, who have now been constantly employed in those ships on the various services which I have recently had occasion to report.

I have, &c.,

R. S. DUNDAS,

Rear-Admiral and Commander-in-Chief.

The Secretary of the Admiralty.

H.M.S. *Arrogant*, off the mouth of the Kymene,  
July 28th, 1855.

Sir,—I have the honour to inform you that very early on the morn-

ing of the 26th I was joined, off the Island of Hogland, by the *Cossack* and *Magicienne*, bringing with them the mortar vessels *Prompt*, *Pickle*, *Rocket*, and *Blazer*. I stood immediately to the northward, leaving the *Ruby* to bring on the gunboats, which were not then in sight. They joined at noon, and at two p.m. we all anchored off Fort Rotsensholun.

As the safety of our expedition rested chiefly on our investing and holding the entire possession of the fortified Island of Kotka, I determined upon taking it at once. Accordingly I anchored the mortar vessels out of range, and leaving two gunboats to look after them, I proceeded with the rest of the vessels to the westward of Kotka, for the purpose of destroying the bridge, so as to cut off the retreat of the garrison, and prevent their receiving reinforcements from the main land. Captain Vansittart, of the *Magicienne*, with his accustomed zeal and activity, threaded his way at once through the shoals, and destroyed the bridge. As soon as all the vessels had anchored, so as to command the great military road leading from the fort of Hogfors Holm, and also the channel dividing the island from the main, I landed all the marines, under command of Captain S. N. Lowder, R.M., with Lieut. George D. Dowell, R.M.A. and Lieuts. H. C. Mudge and P. R. Holmes, R.M., who took possession without being opposed, as the garrison (no doubt apprised of our coming by the telegraphs along the coast) had very recently evacuated, leaving behind them a large amount of military stores, which have since been burnt.

I beg to enclose a list of all the crown property destroyed by Captain Lowder, including barracks, magazines, ordnance stores, storehouses, stables, guard houses, and other government buildings, with an immense amount of timber intended for building and other military purposes.

The following morning I weighed, leaving Captain Fanshawe with the *Cossack* in charge of this most important point, which required the utmost care and attention, as the enemy on several occasions threw out reconnoitring parties, as if inclined to attempt the recovery of the island.

I feel it due to Mr. George Giles, Master of this ship, and Mr. George A. Macfarlane, Master of the *Magicienne*, to mention the zeal and attention with which they have sounded and buoyed, night and day, the intricate channels of this coast, enabling me (without the assistance of pilots) to go into many places where our presence was least expected.

I have, &c.,

H. R. YELVERTON, Captain.

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*Return of Buildings and other Government Property Destroyed on the Island of Kotha, 26th July, 1855.*

*Barracks (four in number).*—1. Cavalry barracks, with stabling for one hundred and sixty horses, bombproof magazine, and range of stone casemated stores, containing a large quantity of sponge, rammers, hand carts, spikes, &c.  
2. Infantry barracks for three hundred men, detached range of officers' quar-

ters, stables, cooking houses, and clothing stores. 3. Infantry barracks for two hundred men; officers' quarters and other buildings in an unfinished state. 4. Cavalry barracks and stabling for fifty horses.

*Stores detached (four in number).*—1. Large stone casemate, used for keeping oil, tar, &c., and containing a quantity of casks. 2. Large stone building full of miscellaneous military stores. 3. Wooden store, with stone casemate attached, containing sleighs, water-carts and buckets for extinguishing fire, lanterns, tent poles and pickets, stoves, and iron tubing. 4. Large forage barn, stone, with iron roof, enclosing three sides of an area of one hundred and fifty feet, containing sleighs, brooms, and other stable stores.

*Magazines (four in number).*—1. A large brick casemated magazine in two stories, roofed with sheet iron, and surrounded with a high wall; fitted to contain three thousand five hundred barrels. 2. Brick casemate, fitted to contain eleven hundred barrels. A small laboratory close to it. 3 and 4. Stone casemates, roofed with iron, fitted to contain twelve hundred barrels each.

*Guard Houses, Detached Buildings, (four in number).*—1. At the bridge head. 2. At the telegraph station. 3. In front of Governor's house. 4. Adjoining cavalry barracks.

*Other Buildings (six in number).*—1. Commandant's or Governor's residence, with offices and out-buildings. 2. Block of buildings used as field officers' quarters, stabling, and offices. 3. Telegraph station, look-out house, and flagstaff. 4 and 5. Solid brick buildings (without fittings) intended to be used as block houses, or quarters for artillerymen or troops stationed at the round battery on the south point. 6. Extensive brick manufactory, with sleds and implements.

*Miscellaneous.*—Some workshops, a quantity of squared timber, and stacks of staves prepared for manufacturing handspikes, tent poles, sponge staves, and several thousand loads of cut firewood.

H. R. YELVERTON, Captain.

#### ETHNOGRAPHIC VIEW OF WESTERN AFRICA.—*Senegambia.*

Western Africa may be divided, according to its population, into three grand divisions. First, Senegambia, extending from the southern borders of the Great Desert to Cape Verga, a little South of the Rio Grande, and so named from its being watered by the two great rivers, Senegal and Gambia. Second, Upper or Northern Guinea, reaching from Cape Verga to the Kamerun mountain in the Gulf of Benin, about four degrees North latitude. Third, Southern or Lower Guinea, sometimes called Southern Ethiopia, extending from the Kamerun Mountain to Cape Negro, the southern limit of Benguela.

The term *Guinea* is not of African origin, or at least not among those to whom it is applied. There is, according to Barbot, a district of country North of the Senegal, known by the name of *Genahoa*, the inhabitants of which were the first blacks that the Portuguese encountered in their explorations along the coast in the fifteenth century; and they applied this name indiscriminately afterwards to all the black nations which they found further South. In the two succeeding cen-

turies it was applied in a more restricted sense to that portion of the coast which is now better known as the gold and slave coasts; owing to the fact, perhaps, that this region for a time offered a larger number of slaves for the foreign market than any other part of the country. The natives here acknowledge this term as applied to themselves, but it was undoubtedly borrowed in the first instance from the Portuguese.

The physical aspect of the country, as might be inferred from the immense extent we have under consideration, is exceedingly variable, but is characterised everywhere by excessive richness of natural scenery. The coast of Senegambia is somewhat flat and monotonous, but this is the only exception to our general remark. In the region of Sierra Leone, Cape Mount, and Cape Messurado, the eye rests on bold headlands and high promontories covered with the richest tropical verdure. In the vicinity of Cape Palmas, there are extended plains, slightly undulating, and covered with almost every variety of the palm and palmetto. On the coast of Drewin the country rises into tableland of vast extent, and apparently of great fertility. The gold coast presents every variety of hill and dale; and as we approach the equatorial regions, we are saluted by mountain scenery of unrivalled beauty and surpassing magnificence.

The inhabitants of Western Africa may be divided into three great families, corresponding to the geographical divisions which have just been made.

In Senegambia, the principal tribes or families are the Jalofs, the Mandingoes, the Fulahs, and the Susus, who belong in part to Senegambia, and in part to Northern Guinea.

The principal families in Northern Guinea, are the Vais, the Manou or Kru, the Kwakwas or Awekwom, the Inta, the Dahomy, and the Benin. Those of Southern Guinea, are the Pongo, Loango, Congo, Angola, and the Azinko families.

The inhabitants of Senegambia are distinguished from those of Northern and Southern Guinea by being Mohammedans, and by all those changes in their social character and condition which that religion ordinarily introduces among those who embrace it. They may be regarded as standing something higher than the pagan tribes in point of civilization; and this shows, so far as this single circumstance goes, that the African race are not entirely incapable of improvement and civilization.

After giving a slight sketch of the different tribes or families that have been enumerated, we shall endeavour to show in what points they resemble, and in what they differ from each other; and point out, so far as we can from our present imperfect knowledge of the subject, how far these different families are related to the ancient aboriginal races of the continent of Africa.

There are a few general statements, however, that it is proper to make before descending to particulars.

In the first place, there are no large or extended political organizations in Western Africa, with the exception perhaps of the kingdoms of Ashanti and Dehomi, and neither of these has a larger population

or greater extent of territory than the smaller kingdoms of Europe. For the most part, the people live together in independent communities, of not more than eight or ten villages, and with an aggregate population of from two to twenty-five or thirty thousand. In these different communities they have no written forms of law, but are governed for the most part by certain traditional usages, that have been handed down from generation to generation. Nominally, monarchy is the only form of government acknowledged among them; but when closely scrutinized, their systems show much more of the popular and patriarchal than of the monarchic element.

The inhabitants of the country, (with the exception of some smaller tribes of whom we shall speak more fully in another place,) are by no means to be ranked as the lowest order of savages. They have fixed habitations, cultivate the soil, have herds of domestic animals, and have made very considerable progress in most of the mechanic arts. Traits of intellectual vigour disclosed by them in their native country, the style and structure of their languages, and their aptitude for commercial pursuits, show that they are entitled to a much higher place among the uncultivated nations of the earth than has generally been assigned them. They are not remarkable for metaphysical acumen, or for powers of abstract reasoning; but they have excellent memories, lively imaginations, and for close observation, especially in scrutinizing the character and motives of men, they are scarcely surpassed by any people in the world.

The tribes of Senegambia have long since embraced the Mohammedan religion, and are zealous propagators of it, but without having abandoned the use of *fetiches*, or any of the essential elements of paganism. As a race, they are eminently religious, and show a singular capacity for absorbing any number of religious systems, without abandoning anything, or being in the slightest degree disturbed by the conflicting spirit and claims of the different schemes that they may have incorporated into the same creed. Hence, the religious systems of Senegambia may be regarded as a medley of all the essential elements of Mohammedanism, Judaism, and Paganism.

The tribes of Northern and Southern Guinea are essentially a pagan people; but in their religious notions and idolatrous worship they differ very much from each other. These differences will be pointed out when we come to speak more particularly of their ethnographic relationships. In both sections of country there are many decided traces of the Jewish religion. Among these may be specified the rite of circumcision, which, with the exception of the Kru or Manou family, is, we believe, universal; the division of the tribes into families, and in some cases into the number of twelve; bloody sacrifices, with the sprinkling of blood upon their altars and door-posts; the observance of new moons; a formal and specified time for mourning for the dead, during which period they shave their heads and wear tattered clothes; demoniacal possessions, purifications, and various other usages of probable Jewish origin. In this connection it may also be mentioned, that we have recently discovered in Southern Guinea some

traces of a corrupt form of Christianity, something, at least, that looks like infant baptism.

Some of these forms of Judaism that have just been mentioned, especially that of circumcision, might be supposed to have been borrowed from the Mohammedan nations of Northern or Central Africa, if it were not the entire absence of every other trace of this faith, and for the jealous care with which the maritime tribes have always guarded against its introduction among themselves. It might also be surmised that the traces of Christianity that have been recently discovered among the tribes about the Gabun, might have been derived from the Roman Catholic missionaries who laboured in Kongo during the sixteenth and seventeenth centuries, were it not for the fact that the same things are practised by the Pangwes and others, who have recently descended from the mountainous regions of the interior, and who, therefore, could have scarcely been reached by any of the forms of Romanism. It is much more probable that these traces of Christianity have travelled across the continent from Abyssinia.

Having made these general statements, we will now give a more particular account of the different families of Western Africa, and will begin with those of Senegambia. The leading tribes here are the Mandingoes, the Fulahs, and the Jalofs.

The Mandingoes occupy the first place as a commercial people. Their principal settlement is in a country which bears their own name, near the source of the Niger, and about seven hundred miles from the sea-coast. They have extended themselves over the kingdoms of Bam-bouk, Bambara, and Wuli, to the North and East, and in smaller or larger groups they have covered all the country from Jalakonda to the sea coast. As trading parties they have formed small villages around all the European settlements on the Gambia, at Sierra Leone, and sometimes go so far down the coast as Cape Messurado. They are to be met with on the upper waters of the Senegal, and Laing says they sometimes go as far as Tangiers, but this we think scarcely possible. Taken altogether, they are perhaps the most civilized, influential, and enterprising of any of the tribes of Western Africa. Generally they are men of tall stature, slender, but well-proportioned, black complexion, and woolly hair, but with much more regular features than belong to the true Negro. Their dress consists of a three-cornered cotton cap, of their own make, of short trousers, over which is thrown a sort of blouse or square cloth, also of their own manufacture, and leather sandals. A short sabre in a leather case is suspended from the left shoulder. In front they wear a small leather pouch, in which are sewed up scraps of writing from the Koran, which they regard as charms or amulets. As a general thing, they are taciturn and thoughtful; but when they are accosted in a friendly manner, they can easily be drawn into conversation, and will give more correct information about the interior kingdoms than any other people to be found on the coast. Many of them seem to have a good knowledge of the Arabic, and one of their most lucrative employments is to write scraps of this language, chiefly extracts from the Koran, which they sew up in small

leather bags, and sell to the pagan tribes for charms or *fetiches*. They are zealous promoters of the Mohammedan religion, and wherever they go establish schools for the purpose of teaching Arabic, and inculcating the principals of their religion. In their schools the children are taught to make Arabic letters in the sand. Laing speaks of them as a shrewd and superior people; Park, as a "very gentle race, cheerful in their disposition, inquisitive, credulous, and fond of flattery." He experienced much kindness from them in sickness and distress, and especially from the females.

The Fulahs are a more numerous people. Their original country is Fuladu, North-west of Manding, and between the sources of the Niger and the Senegal. Besides this, they occupy three considerable provinces in Senegambia, viz.: Futa-Torro, near the Senegal, Futa-Bondou, and Futa-Jallon, the capital of which is Timbu, to the N.E. of Sierra Leone. They have also extended themselves into the central parts of Sudan, and have conquered several of the Negro kingdoms along the banks of the Niger. In the central regions of Africa they are known as the Felatahs; but Adelung and others have satisfactorily shown that they are the same people as the Fulahs of Senegambia.

They are not regarded as a pure Negro race. Their complexion has been variously described as a *bronze, copper, reddish, and reddish-brown* colour. Scattered over so immense an extent of country as they are, it is not surprising that there should be some variety of complexion as well as other physical traits among the different branches of this great family. They do not regard themselves as Negroes, but insist that they are a mixed breed; and this opinion is entertained by the majority of those who have given particular attention to their ethnography; but hitherto it has been difficult to ascertain what the elements of that intermixture are. Their physical type of character is too permanent and of too long standing to admit of the idea of an intermixture. In all mixed races there is a strong and constant tendency to one or the other of the parent types; and it is difficult to point out a mixed breed that has held an intermediate character for any considerable time, especially when it has been entirely cut off from the sources whence it derived its being. But the Fulahs are now, in all their physical characteristics, just what they have been for many centuries. And it would seem, therefore, that their complexion and other physical traits entitle them to as distinct and independent a national character as either the Arab or Negro, from the union of which it is supposed that they have received their origin.

Gustave D'Eichthal has published a learned article to show that the Fulahs are of Malayan origin; but Mr. William B. Hodgson, of Georgia, who has published one of the best and most learned papers in relation to the Fulah people, shows most satisfactorily that the data on which that opinion is founded are quite insufficient to support any such conclusion.

The Fulahs have never been in the habit of selling any of their own people into slavery, except for outrageous crimes, and very few of



them, therefore, have ever found their way to the United States. One, by the name of Job Ben Solomon, who was kidnapped by the Mandingoes, was brought to Maryland by Captain Pyke, about the year 1730, but was ransomed by Oglethorpe, and sent back to his native country in 1733. Another, Abduhl Rahahman, forty years a slave in the United States, was ransomed in 1836, and sent to Liberia. James Hamilton Couper, Esq., of Darien, Georgia, in a letter to Mr. Hodgson, a few years since, mentions one on his own plantation, and another on the plantation of Mr. Spalding, of Sapelo Island. A very remarkable specimen of this family, by the name of Moro, still lives in Wilmington, North Carolina. He was formerly a slave of General Owen of that place, but for many years has been free. He is now upwards of eighty years of age, seems to be a most decided Christian, and not only reads his Arabic Bible with ease, but evinces a familiarity with its contents most extraordinary for any one of his age.

Those seen at Gambia and Sierra Leone are of a dark brown complexion, soft curly hair, features regular and good, limbs delicate and well formed, and stature about medium size. These traits of physical character, however, are not peculiar to the Fulah people. They occur in isolated cases among all the families of Southern Guinea, as we shall have occasion to show more particularly in another place.

The Jalofs occupy all the maritime districts and a considerable portion of the interior parts of Senegambia. They are not, like the Mandingoes and Fulahs, interspersed among other tribes over a large extent of country, but have a country of well defined limits, and dwell under one compact government. They are divided into four provinces or kingdoms, but acknowledge one great chief, whom they denominate *Barbi Yalof*, Emperor of the Jalofs, and whose residence is at Hikkarkor. The four provinces are, Cayor, which formerly included Cape Verd and the Island of Goree (now held by the French); Sin, a small state to the south of Cayor, and embracing about thirty miles of sea coast; Salem, a province lying along the northern banks of the Gambia, the capital of which is Cayon; and Brenk, which includes the residence and the principal dominions of the Emperor. The entire populations of the Jalofs is supposed to be about a million, which is much less than that of the Mandingoes, and perhaps not one-third of that of the Fulahs. It would seem that the Emperor of the Jalofs exercises decided authority over his subjects, and no one ever approaches his presence without making some decided acknowledgement of his superior rank in the way of bodily prostrations. Goldberry speaks of the Jalofs as having "fine, brilliant, pure black complexions, of a noble and impressive form, a character disposed to benevolence, a degree of self-respect and national pride. They boast of their antiquity and superiority over other African races, with whom they will not intermingle. Their language is said to be peculiar to themselves, is meagre in point of words, but is soft, and easy to be acquired."

It is said they are almost as much addicted to the observance of caste as the Hindoos. Besides the nobles, who are called the "good Jalofs," there are four distinct ranks or castes, viz.: the *tug*, or smiths,

the *oudae*, who are tanners and sandal makers, the *moul*, or fishermen, and the *gaewell*, who are musicians and bards. The "good Jalofs" will not intermarry with any of these castes. The *gaewell* are the lowest order, and are not permitted to live within the enclosure of the town. They are not permitted to own cattle, to drink sweet milk, and are refused interment on the ground that nothing will grow where they have been buried. Besides the castes which have been enumerated, there is another, called the *laubies*, who are said to be much like the European gipsies.

In stature, the Jalofs are very much like the Mandingoes, but have less of the Negro features. Nothing, however, is so striking in their appearance as their intense black and glossy complexion. In some respects they are like the Tibus of the Great Desert, but too little is known of their languages to say whether they are related.

As to these three leading families of Senegambia, too little is known of their character and languages to decide how far they are related to each other. In physical character and in language they differ very materially, and it is probable they have been brought together from very remote points of the continent. It is not probable that they are related to the inhabitants of Northern or Southern Guinea.

The Mandingo dialect, as described by McBrair, shows some slight grammatical affinities for the dialects of Northern Guinea, but none whatever, with the exception perhaps of three or four verbal resemblances, and even these of a doubtful character, to those of Southern Guinea.

The main points of discussion in this article will have more particular reference to the inhabitants of Northern and Southern Guinea. The character, habits, and languages of these will be developed more fully.

Dr. Prichard, in his work on the "Physical History of Man," has made a just and important distinction between what he calls the Ethiopian and Nigritian branches of the black or African race. The ancients included all the inhabitants of Central and Eastern Africa under the name of Ethiopians, and they used this term to distinguish them from the Libyans of Northern Africa. The term *Ethiopia*, for a time at least, was also applied to a black race in Southern Arabia, the chief difference between whom and those of the same name in East Africa, according to Herodotus, was that one had straight and the other woolly or crisped hair. At a later period, the term *Ethiopia* was restricted to the more easterly nations of Africa, and Nigritia was given to the more westerly districts; and this distinction was undoubtedly founded upon a palpable physical difference between these two great families. They have never been separated, however, by any very marked geographical lines, as communities of the Ethiopian branch have been found interspersed among those of Nigritia; whilst darker families of the Nigritian stock have been found interspersed among those of the Ethiopian family.

The well known physical characteristics of the true Negro consist in a dark or black complexion, crisped or woolly hair, retreating fore-

head, flat nose, thick lips, and very variable stature. The Nigritian and the Ethiopian types of character are distinguishable by a nearer or more remote approximation to this standard. The Nigritian is the most like it, but seldom conforms in all respects. The Ethiopian, on the other hand, to use Dr. Prichard's distinction, is an approximation to the Negro, but never exhibits any of these distinctive features to the same extent. The complexion of the Ethiopian is sometimes black, but more generally a bronze, olive, dark copper, or red brown. In some cases, the hair is black, and is rather curled or frizzled than woolly; their features are more rounded and regular but not so acute as those of the Arab; their noses are not so flattened as those of the Negro, but scarcely so prominent as that of the European; their lips are generally thick and full, but seldom turned out like those of the full Negro; their figure is slender and well shaped, and often resembles that which is most frequently exemplified by the Egyptian painting and statues.

The same author has applied this distinction to the families of blacks living in Central Africa and Northern Guinea, and those living south of the Mountains of the Moon, of which Southern Guinea is the western frontier.

We take Northern and Southern Guinea as the representatives of these two great branches of the African race, and after giving a brief sketch of the leading tribes or families of the two, we shall point out a few particulars in which they are alike, and then show more fully wherein they differ and upon what grounds they are to be regarded as entirely distinct from each other.

(To be continued.)

#### THE MATE AND HIS RIGHTS.

Sir,—Since addressing you on the subject of Mates of the merchant service, I have seen a work on the same subject, evidently written by one who well understands the position of the mate, and has his interest at heart. Agreeing with the author of "*The Mate and his Duties*" on most points, I do not think he has probed the matter deep enough to expose the hardships and difficulties they are subject to. Nor do I go along with him in recommending forbearance and submission to the extent to be gathered from a perusal of the work. I am rather of opinion that submission to the evils arising from irregularities of conduct and caprice of temper in the Captain without complaint or remonstrance, has been carried too far, and reduced the mate to a state of degradation, of moral slavery, that for the time he is on a voyage leaves him as little freedom of action or thought as the more perfect slave on an American plantation. This state of things ought not to exist, being injurious to every one connected with the merchant service,—to owners, captains, and mates alike,—and ought to be rectified. But how this is to be done is the question.

The author of the "*Mate and his Duties*," has pointed out his *duties* sufficiently clear; but has overlooked his *rights*. And if this paper should come

under his eye in your pages, which I have no doubt it will, he will perceive the omission, and perhaps favour us with a continuation of the subject under that head. That very serious evils exist in the position of a mate of a merchantman will be admitted by every one who has observed the system. The relative position of captain and mate is radically wrong. It has become so from neglect, but I think it quite susceptible of improvement; but how is that to be effected? The mates themselves must move in the matter.

“ Know ye not

Who would be free themselves must strike the blow.”

An attempt on the part of the mates to work out a plan of rational and practicable improvement in their condition, would meet with encouragement from many owners and captains; but the movement must be made by themselves. And as a beginning I would suggest private meetings to be held by some of the most influential and intelligent mates to talk over the matter. These preliminary meetings might take place at any convenient spot, say in the evening, at an hotel, over a glass of brandy and water and a pipe. Pray, Mr. Editor, and kind reader, do not start at this proposal. I have a great respect for the disciples of Dr. Matthew, but I also know that a glass and a pipe greatly promote sociality, and make talking less dry work, and, as far as my own experience goes, do no harm. The members of these preliminary meetings should communicate with each other at distant ports, say Liverpool and Glasgow for instance, and draw up a plan of general and public meetings to be held at each port, where resolutions might be made and discussed, and where a general plan for the improvement of the service, such as would be practicable and consistent with the interests and rights of owners and captains was agreed on, the minutes and resolutions might be printed and circulated among owners, &c., soliciting their approval and adherence to the system; not asking any pledge, but only such an adherence to the general plan for conducting their ships as they might think advantageous both to themselves and their officers.

It might be reasonably expected that many owners and captains would give it their countenance and support; while others would not. Some might even treat it with contempt and ridicule. Never mind, let every one do what he may think best. Let us have no combination, no compulsion, no strikes, for nothing good can come of them. It would be found that the best class of mates, those who aspired to situations of respectability, would naturally seek employment in ships where these principles were carried out. Others would be content to let things go on as they are.

I repeat again, never mind, let us have no compulsion, no black-balling either direct or implied. But I am much mistaken if the difference both to ship and cargo between the two systems would not very soon show itself.

Should any such movement take place, the writer of this will be at his post, and so I trust will the author of the “ Mate and his Duties,” and many more besides, who have the interests of the merchant service at heart.

NORTH.

To the Editor of the *Nautical Magazine*.

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#### DESPATCHES FROM THE BLACK SEA.

*Royal Albert*, off Sebastopol, July 30th, 1855.

Sir,—In continuation of the proceedings of the steam squadron in the Sea of Azof, under the orders of Comdr. Sherard Osborn, of the *Venusius*, I beg leave to enclose, for the information of the Lords Commissioners of the Ad-

miralty, copies of two letters from that Officer, reporting the steps taken to deprive the enemy of the new harvest, and to cripple his resources of all kinds, since the proceedings which were communicated in my letter of the 7th inst.

During the time the squadron was detained, from stress of weather, under Berutch Spit, near Ghenitch, the vessels were, at every break of the weather, employed in destroying extensive fishing establishments, which supplied the army in the Crimea with fish, as well as guard-houses, barracks, stores of forage, and provisions, on the Isthmus of Arabat, and the pontoon or only means of communication between Arabat Spit and the Crimea, at the entrance of the Kara-su River, was burnt by Comdr. Rowley Lambert of the *Curlew*. The attack and destruction of Fort Petrovskoi, on the 16th inst., by the combined English and French squadrons named in Comdr. Osborn's letter, appears to have been accomplished with the usual skill and success which has attended the operations in the Sea of Azof; and their lordships will observe that particular mention is made of Lieut. Hubert Champion, Senior Lieutenant of the *Vesuvius*, who commanded the landing party, and rendered great service. I would particularly beg leave to call their lordships' attention to the high-minded conduct of Capt. De Centre, of his Imperial Majesty's steamer *Milan*, who, on seeing that the bulk of the squadron was under the orders of Comdr. Osborn, to whom he was senior, waived his right to plan the attack, and placed his ship, as well as the *Mouette*, in the positions pointed out by Commander Osborn.

In the meantime Lieut. Hewett, in the *Beagle*, destroyed an extensive collection of fish stores and two large granaries full of corn in the neighbourhood of Berdiansk.

After destroying Fort Petrovskoi, the squadron proceeded to Glofira, where some extensive corn and fish stores were destroyed by vessels under the orders of Comdr. Rowley Lambert, of the *Curlew*; and a similar service was performed at the Crooked Spit, in the Gulf of Azof, by vessels under the orders of Comd. F. A. B. Craufurd, of the *Swallow*. In the meantime Comdr. Osborn reconnoitred various parts of the coast as far as Taganrog.

The reports of Comdr. Osborn are so comprehensive that I will only remark that the admirable manner in which he has carried out my instructions "to clear the sea board of all fish stores, all fisheries and mills on a scale beyond the wants of the neighbouring population, and indeed of all things destined to contribute to the maintenance of the enemy's army in the Crimea," fully corroborates the opinion I have before expressed, that he is an Officer possessing a rare combination of high qualities, and I beg to recommend him to their lordships' most favourable consideration.

I have, &c.,

EDMUND LYONS,

Rear-Admiral and Commander-in-Chief.

The Secretary of the Admiralty.

H.M.S. *Vesuvius*, Gulf of Azof, July 17th, 1855.

Sir,—Heavy gales and much sea obliged the squadron in this sea to take shelter under Berutch Spit for several days. Coaling, provisioning, and completing stores, were, however, proceeded with, and at every break in the weather the vessels were actively employed destroying some extensive fisheries on Berutch Spit, as well as guard-houses, barracks, and stores of forage and provisions, to within an easy gun shot of Arabat Fort. The only pontoon or means of communication between Arabat Spit and the Crimea, at the entrance of the Kara-su River, has been burnt by Comdr. Rowley Lambert, H.M.S. *Curlew*, and we have now entire possession of the spit. A lull in the weather enabled me to put to sea upon the 18th of July, for a sweep round the Sea of Azof; the *Ardent*, *Weser*, and *Clinker* being left under the orders of Lieut. Horton,

to harass Genitch and Arabat, as well as to cut off all communication along the spit.

Delayed by the weather, we did not reach Berdiansk until the 15th of July. A heavy sea was running, but anxious to lose no time, the Senior Officer of the French squadron (Capt. De Cintre, of the *Milan*,) and myself determined to go at once and endeavour to burn the forage and corn stacks on the landward side of the hills overlooking the town.

No inhabitants were to be seen, but the occasional glimpse of soldiers showed that a landing was expected, and that they were prepared for a street fight. I hoisted a flag of truce, in order, if possible, to get the women and children removed from the town; but as that met with no reply, and the surf rendered landing extremely hazardous, I hauled it down, and the squadron commenced to fire over the town at the forage and corn-stacks behind it, and I soon had the satisfaction of seeing a fire break out exactly where it was wanted. The town was not touched except by an occasional shell. The wheat and forage being fired it became necessary to move into deeper water for the night, and from our distant anchorage the fires were seen burning throughout the night.

On the 16th of July the Allied squadron proceeded to Fort Petrovski, between Berdiansk and Mariaupol. As I approached the place there were evident symptoms of an increase to the fortifications since the *Vesuvius* silenced its fire three weeks ago. A redan, covering the curtain which faces the sea, showed seven new embrasures, and much new earth led me to expect some masked works.

Capt. De Cintre, commanding the French steamer *Milan*, although my senior, in the most handsome manner surrendered the right of planning the attack, and keeping alone in view the good of the Allied cause, gallantly took up the position I wished him to do, followed by Capt. de L'Allemand, in the *Mouette*.

At 9.39 a.m., all arrangements being made, the squadron named in the margin, [*Vesuvius*, Comdr. Sherard Osborn; *Curlew*, Comdr. Rowley Lambert; *Swallow*, Comdr. F. A. B. Craufurd; *Fancy*, Lieut. C. G. Grylls; *Grinder*, Lieut. F. Hamilton; *Boxer*, Lieut. S. P. Townshend; *Cracker*, Lieut. J. H. Marryat; *Wrangler*, Lieut. H. Burgoyne; *Jasper*, Lieutenant J. S. Hudson; *Beagle*, Lieut. W. N. Hewett] took up their positions. The light draught gunboats taking up stations East and West of the fort, and enfilading the works in front and rear; whilst the heavier vessels formed a semi-circle round the front. The heavy nature of our ordnance crushed all attempts at resistance, and soon forced not only the garrison to retire from the trenches, but also kept at a respectable distance the reserve force, consisting of three strong battalions of infantry, and two squadrons of cavalry.

We then commenced to fire with carcasses, and, although partially successful, I was obliged to send the light boats of the squadron to complete the destruction of the fort and batteries, a duty I entrusted to Lieut. Hubert Campion, of the *Vesuvius*, assisted by the Officers in the annexed list.

In a short time I had the satisfaction of seeing all the cantonment, gun platforms, public buildings, corn and forage stores on fire, and the embrasures of the earthworks seriously injured; and although the enemy from an earthwork to the rear opened a sharp fire on our men, Lieut. Campion completed this service in the most able and perfect manner, without the loss of one man.

Lieut. Campion reports that the fort was fully as formidable a one as it appeared from the ships; the platforms were laid ready, but the guns either had not yet arrived or had been withdrawn by the enemy. Leaving the *Swallow*, Comdr. Craufurd, to check any attempt of the enemy to re-occupy the fort and extinguish the fire until the destruction was complete, the rest of the squadron proceeded to destroy great quantities of forage and some most extensive fish-

eries, situated upon the White House Spit, and about the mouth of the River Berda. By dark the work was done, and thirty fisheries, numbers of heavy launches, and great stores of salted fish, nets, and gear, as well as much forage, had fallen into our hands, in spite of considerable numbers of Cossack horse.

Nothing could exceed the zeal and energy displayed by every Officer and man throughout the day; and the skilful manner in which the various Officers in command of her Majesty's vessels took up their positions in the morning; the beautiful accuracy of the fire, and the care with which the squadron was handled in shallow water, deserve to be called to your favourable notice. The able and cheerful co-operation of the French throughout the day was beyond all praise.

July 21st.

Sir,—Lieut. Hewett rejoined me yesterday, and reports that one of the Russian sunken vessels was blown up. Lieut. Hewett, the same evening, landed under cover of his vessel's guns, and destroyed an extensive collection of fish stores, and two large granaries full of corn.

On the 17th of July, in consequence of information received of extensive depots of corn and forage existing at a town called Glofira, upon the Asiatic coast, near Gheisk, I proceeded there with the squadron, accompanied by the French steamers *Milan* and *Mouette*. The *Vesuvius* and *Swallow* were obliged to anchor some distance off shore, I therefore sent Comdr. Rowley Lambert (H.M.S. *Curlew*) with the gunboats *Fancy*, *Grinder*, *Boxer*, *Cracker*, *Jasper*, *Wrangler*, boats of *Vesuvius* and *Swallow*, to reconnoitre in force, and if an opportunity occurred, to destroy any stores of provisions or of forage, he was to do so. Comdr. Lambert found Glofira and its neighbourhood swarming with cavalry; the town an open, straggling agricultural village, and no appearance of corn or forage in it; he, therefore, very properly confined his operations to destroying, upon Glofira Spit, some very extensive corn and fish stores, but spared the town. The skill with which this service was executed in the face of large bodies of cavalry, reflects no small credit upon Comdr. Lambert; and he speaks most highly of the able assistance rendered him by the French Officers and men under Capt. De Cintre and L'Allemand.

From Glofira I next proceeded to the Crooked Spit, in the Gulf of Azof, the French squadron parting company to harass the enemy in the neighbourhood of Kamisheva and Obitochna.

The squadron reached Crooked Spit the same day (July 18th), and I immediately ordered Comdr. Frederick Craufurd, in the *Swallow*, supported by the gunboats *Grinder*, *Boxer*, and *Cracker*, and the boats of H.M.S. *Vesuvius*, *Curlew*, and *Fancy*, under Lieuts. Grylls, Rowley, and Sullivan, to proceed and clear the spit of the cavalry and Cossacks of the enemy, and then land and destroy the great fishing establishments situated upon it. Comdr. Craufurd executed this service with great vigour, and his report I have the honour to enclose. The extraordinary quantity of nets and stores of fish, and the scale of the works destroyed, fully confirm the statements made by the workpeople, that their occupation consisted in supplying food to the army in the Crimea, everything going to Simpheropol by the great northern road along the steppe. Whilst this service was being executed, I reconnoitred the mouth of the River Mious, fifteen miles West of Taganrook, in H.M.S. *Jasper*, Lieut. J. S. Hudson. The shallow nature of the coast would not allow us to approach within a mile and three quarters of what in the chart is marked as Fort Temenos. The fortification was an earthwork of some extent, and ditched but not pierced for guns. It was evidently of an old date, and as I could see no one within it, I returned to the same place, accompanied by the boats of H.M.S. *Vesuvius* and *Curlew*, and H.M. gunboats *Cracker*, *Boxer*, and *Jasper*.

Cavalry in large bodies, armed for the most part with carbines or rifles, were evidently much harassed by riding upon supposed points of attack; and when we got to Fort Temenos, and the usual Cossack picquet had been driven off, I and Comdr. Lambert proceeded at once with the light boats into the river. When there, and immediately under Fort Temenos, which stands upon a steep escarp of eighty feet, we found ourselves looked down upon by a large body of both horse and foot, lining the ditch and parapet of the work. Landing on the opposite bank, at good rifle shot distance, one boat's crew, under Lieut. Rowley, was sent to destroy a collection of launches and a fishery, whilst a careful and steady fire of Minie rifles kept the Russians from advancing upon us. Assuring ourselves of the non-existence of any object worth hazarding so small a force any farther, we returned to the vessels, passing within pistol shot of the Russian ambuscade. The cool steadiness of the officers and men in the gigs, together with the wonderful precision of the fire from the covering vessels, distant as they were, doubtless kept the enemy in check, and prevented serious consequences. To Commander Lambert, Lieuts. Grylls and Rowley, and Mr. Tabuteau, Mate, who were in the gigs, as well as to Lieuts. Marryatt, Townshend, and Hudson, who commanded the gun-vessels, my best thanks are due.

The gig of the *Grinder*, under Lieut. Hamilton, had a narrow escape upon the same day from a similar ambuscade, at a place called Kirpe, ten miles East of Marioupol, the very proper humanity of Lieut. Hamilton in not firing into an open defenceless town as it appeared to him, having nearly entailed the loss of a boat's crew when he attempted to land and destroy a corn store. A heavy fire of musketry at half pistol shot providentially injured no one, and Lieut. Hamilton appears to have most skilfully escaped.

The 19th of July I reconnoitred Taganrog in the *Jasper* gunboat. A new battery was being constructed upon the heights near the hospital; but although two shots were thrown into it, it did not reply. Every part of the town showed signs of the injuries it had received when we visited it under the late Captain Edmund Lyons, of the *Miranda*. The long series of Government stores burnt by the Allied flotilla had not been repaired, and the only sign of any communication being now held, by water, with the Don, was one large barge on the beach.

To put a stop, however, to all traffic of this nature, and to harass the enemy in this neighbourhood, I have ordered Comdr. Craufurd to remain in the Gulf of Azof, with two gun-vessels under his orders.

The total amount of provisions, corn, fisheries, forage, and boats destroyed, has been something enormous.

Nothing can exceed the zeal and activity of the Officers or good conduct of the men constituting this squadron; and constant work does not, I am happy to say, appear as yet to impair their health.

I have, &c.,

SHERARD OSBORN, Commander and Senior Officer.

Rear-Adml. Sir Edmund Lyons, Bart., G.C.B., &c.

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#### FLAGS OF TRUCE.—A CONTRAST.

A private letter from an Officer now serving in a ship off Sebastopol, dated the 4th inst., gives the following account of a transaction which occurred off the Danube:—

The *Spiteful*, 6, steam frigate, Comdr. Francis Shortt, went across about a  
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fortnight since to watch the mouth of the Danube, and while standing in shore at night grounded on the mud. She took the ground so softly that it was not perceived for some time, and the men in the chains continued sounding until they found the ship made no headway. On dropping the lead under the bows, they found only ten feet water, and the mud was so soft and tenacious that it was found difficult to extricate the lead from it. Measures to lighten the ship were speedily resorted to, but without effect; and on the following day the cutter, in charge of Lieut. Wilson, was despatched to the *Firebrand*, then cruising off Odessa, for assistance.

In the meanwhile every effort was made to release the ship from her purgatory, being then only two miles from the land. The Russians observing the "fix," collected about a dozen boats, which they filled with armed men and sent off under a flag of truce. The Russian flotilla, in which not less than 70 men were embarked, was met by a boat of the *Spiteful*, commanded by Lieut. Paget, at a distance of 1,200 yards, when the Russian Officer modestly requested the surrender of the ship. Lieut. Paget, without hesitation, declined to receive the proposition, and suggested that if the Russians wanted the ship they had better come on board and take possession of her. The negotiation being thus closed, the boats separated.

The *Spiteful* held herself ready for attack, which seemed probable, as the Russians were known to have a number of gunboats in the river. The ship was lightened of coal, provisions, and stores, and of everything save guns and ammunition, and upon that she was hauled astern from her muddy cradle, after having been nearly four days aground. Had Comdr. Shortt followed the example of the Russian Officer at Hango, and acted upon the principle laid down by Gen. De Berg, that it was justifiable to open fire on doubtful characters, he might have opened fire on the Russian *armed* boats; but refrained from doing so. The Admiral being perfectly satisfied with the report of the accident, has declined to institute any inquiry, and is, moreover very much pleased with the able and zealous manner in which the First Lieutenant of the *Spiteful* performed his duty. The *Firebrand* did not arrive until the ship had got off.—*United Service Gazette*.

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**SEIZURE OF CONCEALED RUSSIAN FIRE-ARMS.**—A letter from Aix-la-Chapelle of the 11th inst., contains the following remarkable statement:—"Yesterday a quantity of fire-arms in course of transmission to the Russian Government were discovered here and confiscated. One hundred and forty-five bales of cotton from Antwerp for a house at St. Petersburg had been declared. There were reasons for entertaining suspicions, and the bales were opened, when the arms were found. They were at once seized, and a prosecution was commenced against the resident parties concerned in the affair. Every bale contained 24 revolvers, with flasks, moulds, and caps. The cotton has been declared a forfeit to the Crown, and a very heavy fine has been imposed upon the senders of the bales."

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#### REWARDS FOR ARCTIC SERVICES.

The Select Committee of the House of Commons, appointed to examine into the claims of Capt. McClure, his Officers, and crew, for their recent Arctic services in solving the problem of a passage between the Atlantic and Pa-

cific Oceans, have just made their report. After reciting the circumstances attending their perilous voyage, the Committee make the following recommendation:—

“ Your committee feel great satisfaction in being able to recommend that these special services should be recompensed by an appropriate pecuniary reward. For many years a reward of £20,000 was offered for the first person who should complete the North-West Passage by actually sailing with his ship from one ocean to another. In the year 1818 that reward was modified by proposing that a sum of

£5,000 should be paid for passing 110° West longitude.

£5,000           “           “           120           “

£5,000           “           “           130           “

The arrangements under which these rewards were offered were sanctioned by Acts of Parliament. It appears that the sum of £5,000 has been already paid to Sir Edward Parry for having passed one of the degrees of longitude for which the partial reward was offered.

In 1828 these acts were repealed. Your Committee do not refer to them as determining the question which has been submitted to their consideration, but as supplying in some respects a guide to them in estimating the sums which ought to be appropriated as the recompense for services of the same nature with those for which the Acts of Parliament offered the reward.

Your Committee, under all the circumstances, recommend that a sum of £10,000 should be appropriated to Captain M'Clure and the Officers and crew of the *Investigator*.

Of this sum they recommend that, as a personal tribute to his energy, bravery, and skill, a sum of £5,000 should be appropriated to Captain M'Clure, and that £5,000 be distributed, under the directions of the Admiralty, between the Officers and crew.”

The Committee having also investigated the claims of Capts. Kellett and Collinson, and the Officers and crew of the *Resolute*, passed the warmest encomiums upon their important services and zealous exertions; and although declining to recommend any pecuniary compensation, suggested that the country would hail with satisfaction any distinctions or favours that might be conferred upon them.

The report was made the subject of a few remarks in the House of Commons on Thursday night, and Sir Charles Wood promised attention to a further suggestion relative to a Medal.—*United Service Gazette*.

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#### NEW BOOKS.

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**RUSSIA ON THE BLACK SEA AND SEA OF AZOF.** *Being a Narrative of Travels in the Crimea and Bordering Provinces, with Notices of the Naval, Military and Commercial Resources of those Countries.*—By H. D. Seymour, Esq., M.P. Murray, London.

Although late to our hand, it is not too late to preserve the following specimen of Russian craftiness from this valuable book. Mr. Seymour says, “ Our statesmen are now fully convinced of the gravity of our position and the extent of Russian intrigue both in Asia and in Germany. I had myself personal experience of it last year in the latter country. In returning from

India, in March, 1854, I spent a day at the little German state of — to visit a German friend well versed in the secret politics of his country. He told me how ashamed he was of his countrymen, who were false to their true interests, and cowered beneath the power of Russia. In the morning, when he came to breakfast with me in my hotel, an officer took him aside to speak to him. When my friend returned to me, he said, 'You would not believe yesterday the degree of influence which Russia exercises in Germany. You have here a proof of it. That officer who took me aside commands the — troops, and he called me aside to show me a diamond ring and an autograph letter from the Emperor of Russia, flattering him and conferring upon him an order. That man is henceforward the devoted servant of Russia.' My friend, who is himself a distinguished *litterateur*, assured me that there were two thousand literary persons in Germany who openly received their quarterly pensions at the Russian embassies to uphold Russian interests. He even authorized me to authenticate these statements by the use of his name, which, nevertheless, I refrain from doing."

The above is accompanied by another choice *morceau* illustrative of that audacious system of slavery and intrigue which Russia would extend over Europe. But enough with spies for the present as one of the means,—gold another; and how many of the former are there in this country? Possibly enough to serve her purpose at present, to inform the Czar how his system is despised here. But our space warns us and we shall return to this valuable collection of important facts alluded to in the title, in our next number.

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THE ILLUSTRATED NATURAL HISTORY.—By the Rev. J. G. Wood, M.A.  
Routledge & Co.

Who can for a moment think of a universal Illustrated Natural History without calling to mind a huge work composed of folio or quarto plates, executed, to be sure, with artistic perfection, but necessarily cumbersome and too costly ever to be general.

Mr. Wood has evidently seen these obstacles, and wisely avoiding them has produced a neat little handy book for the drawing room table, containing concise descriptions of the several objects, illustrated with four hundred and fifty original designs. The descriptions are to the purpose, although short, and the designs tasteful and well executed. It is well adapted to be an instructive and useful present unobjectionable in point of size, and in the hands of youth would train an inquiring mind in the right direction, storing it with valuable truths of natural history.

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SAILING DIRECTIONS FROM NEW SOUTH WALES TO CHINA AND JAPAN;  
including the whole Islands and Dangers in the Western Pacific Ocean,  
&c.—By Andrew Cheyne, First Class Master, Mercantile Navy. Potter,  
Poultry.

There is a class of our Mercantile Commanders (and a very large one too) who complain bitterly if they cannot obtain good information on places they are bound for, difficult perhaps of navigation, like Moulmein (as shown in our present number), and requiring skill, or easy and requiring none. But did these worthy sons of salt water ever sit down and compose a few lines of nautical advice to their brother Commanders for such places, and, like our friend NORTH, pack them off to some journalist on their return home? If they had done so, the deficiencies of which they complain would not have been so nu-

merous, and Horsburgh's book not so wanting as it appears to be in information concerning a place said to have been a British possession above thirty years. Yet so it is, and every one expects things done to his hand. We commend then for their example the numerous contributions to the *Nautical Magazine*, assuring them that they may depend on seeing their productions carefully preserved, and that they will reappear in the Directories of our own chart makers, as well as those of foreign countries, and they will have the satisfaction of knowing that they have been useful in their day.

The book before us affords an instance of what a painstaking, careful, and observing commander can collect. He has added to his own observations those found in our own pages and other sources of information, which will be most useful to ships in the Pacific.

#### THE QUEEN'S VISIT TO FRANCE.

The following ships have been placed under the orders of Vice-Admiral Sir Thomas Cochrane, K.C.B., who will hoist his flag in the first named and proceed with them to Boulogne, and there await the arrival of the Queen and Prince Albert in the royal steam yacht, and rendezvous there during her Majesty's sojourn in France:—*Neptune*, 120, Capt. Hutton; *St. George*, 120, Capt. Eyres, C.B.; *Sanspareil*, 71, Capt. Williams; *Horatio*, 24, Capt. the Hon. A. Cochrane, C.B.; *Malacca*, 17, Capt. Farquhar; *Inflexible*, 6, Commander Popplewell; *Rosamond*, 6, Commander Crofton; *Sealark*, 6, Lieut. Lowther; *Rolla*, 6, Lieut. Fenwick; *Fire Queen*, steam yacht, Master Com. Paul; *Sprightly*, steam tender, Master Com. Allen.

The Queen's squadron, under the command of Capt. the Hon. Joseph Denman:—*Victoria and Albert*; *Osborne*; *Fairy*; *Black Eagle*; and *Vivid*.

The *Moniteur* has the following article on the visit of Queen Victoria:—

"It is this day that the Queen of England is to make her entrance into Paris. The presence of Queen Victoria in France will be for the inhabitants of Paris an occasion for testifying their sentiments of affection and respect for the powerful ally of the Emperor, for that Sovereign whose vast states do not count less than two hundred millions of subjects; in this circumstance they will be the interpreters for all the nation. The Queen will find here a welcome not less cordial, not less enthusiastic, than that which the Emperor and Empress have received in London. Certainly, one of the most important facts of the epoch, so fertile in great events, will be this visit to Paris of the Queen of England, under the reign of the Emperor Napoleon—this solemn consecration of an alliance now cemented by sufferings and victories in common, and which draw closer still the mutual sympathies of the Sovereigns. What more striking proof of her friendship can England give us than thus to confide to us at one and the same time her well beloved Sovereign, who is a brilliant example on the throne of every virtue, and the young prince who is to succeed her. France will worthily reply to this loyal confidence. The welcome given to the Queen of Great Britain will be addressed also to the august spouse so intimately associated with her high destinies, and who, by the rare qualities of his mind and by his noble character, has known how to conciliate the esteem and affection of the English nation. From the eagerness which is manifested in all classes, from the preparations which are making upon the points of passage of these august guests, it is easy to discern that the population comprehends all the bearings of this great event, that it associates itself heart and

soul with the sentiments of the Emperor for his faithful ally, and that the arrival of the Queen of England in Paris will be a day of rejoicing for all France."

Before this paper is in the hands of our country readers the British Sovereign will have set foot on the soil of France, as welcome a guest as was the Emperor when he lately visited our shores. Every Englishman must rejoice at this new proof of the excellent understanding subsisting between the two countries; and we feel satisfied from what is known of the chivalric character of the French, that their respect for this country, its people and institutions, will be materially enhanced by the cordiality with which Queen Victoria has accepted the invitation of their extraordinary Ruler. We learn that the preparations making in Paris to render the public demonstrations suitable to the auspicious occasion are somewhat extraordinary. Everything that the exquisite taste of the Parisians, combined with the most princely expenditure, can do to render honour to the British Sovereign and her Consort is done in the finest spirit of cordiality. We are also pleased to know that thousands of Englishmen have hurried across the Channel to testify their loyalty, and make the shores of France, and the proud Boulevards of Paris, echo with the *hurrahs* which can alone proceed from British throats.

The following is understood to be the programme of the Royal visit to the Imperial Court. It seems to involve a good deal of toil, but the Emperor and Empress seem determined that her Majesty and the Prince shall see everything which Paris and its environs contains of the beautiful and interesting:—

Saturday, 18th.—Progress through Paris and arrival at St. Cloud, as already announced in the *Moniteur*.

Sunday, 19th.—Rest; at 6h. dinner *en famille*; at 9.30, concert of the Conservatoire de Musique (sacred music).

Monday, 20th.—At 9h., breakfast at St. Cloud; at 10.30, start in carriages for Paris; at 11h., visit to the Exposition of Fine Arts; at 2h., lunch at the Elysee; at 2.30, reception of the Corps Diplomatique; at 3h., visit to the Sainte Chapelle and drive on the Boulevards; at 5.30, return to St. Cloud; at 6h., rest; at 8h., dinner of sixty covers; at 9h., theatricals at St. Cloud. Representation of the Theatre Francais.

Tuesday, 21st.—At 9h., breakfast at St. Cloud; at 10.30, start for Versailles; at 2h., lunch at Trianon; at 3.30, return to St. Cloud; at 4.30, rest; at 6.30, dinner, *en famille*; at 7.30, start from St. Cloud; at 8h., visit to the Grand Opera.

Wednesday, 22nd.—Breakfast at St. Cloud; at 10.30, start for Paris; at 11h., visit to the Universal Exhibition; at 2h. lunch at the Tuileries; at 4.30, return to St. Cloud; at 5h., rest; at 8h., dinner of sixty covers at St. Cloud; at 9h., theatricals at St. Cloud by the artistes of the Theatre du Gymnase (*Le fils de famille*).

Thursday, 23rd.—At 9h., breakfast at St. Cloud; at 10.30, visit of Prince Albert (alone) to the Exhibition; at 1.30, the Queen to start for Paris; at 2h., lunch at the Tuileries; at 2.30, visit to the Picture Galleries of the Louvre; at 5h., rest; at 7h., dinner *en famille* at the Tuileries; at 9h., grand ball at the Hotel de Ville.

Friday, 24th.—Breakfast at St. Cloud; at 11h., start for Paris; at 11.30, grand review in the Champ de Mars; at 2h., lunch at the Ecole Militaire; at 2.30, visit to the Hotel des Invalides; at 3.30, visit to the Universal Exhibition; at 5.30, rest; at 7h., dinner *en famille* at the Tuileries; at 8.30, visit to the Opera Comique (Auber's "Haidée.")

Saturday, 25th.—Breakfast at St. Cloud; at 11h., start for St. Germain's

drive in the forest; at 3h. return to St. Cloud; at 4h., rest; at 7h., dinner *en famille*.

Sunday, 26th.—Rest.

Monday, 27th.—Departure for England.

*United Service Gazette.*

[Her Majesty returned from her auspicious visit on Tuesday the 28th August, the account of which will be found in our next ]

**MARINE DEPARTMENT, BOARD OF TRADE.—July.—Wreck of the ship  
"John."**

Notice is hereby given, that all persons, being the husbands, wives, parents, or children of persons who lost their lives on the occasion of the above-mentioned wreck, and who have not already sent in claims for compensation in respect of such loss of life, are to send in their names, addresses, and descriptions to "The Secretary of the Marine Department of the Board of Trade." Forms will then be forwarded to the addresses given, to be filled up with the necessary evidence, and returned to the Board of Trade.

Those persons who have already sent in claims and addresses to the Board of Trade, will have the forms forwarded to them without further application.

All applications should be made either by the parties themselves or through some shipping master, or through the clergyman of the parish in which the applicants reside.

**THE NEW BREAKWATER AT PORTLAND.**—The works of this immense structure are being carried on in the most satisfactory manner, and the breakwater now extends upwards of three quarters of a mile from the shore. The shipping already feel the great advantage arising from it, and seventy vessels were lately anchored under cover of the stupendous works in progress. When completed it will render Portland Roads one of the finest and safest harbours of Refuge in England. Some idea of the importance of the work and of the activity displayed in its construction, may be formed from the fact that 1,500 tons of stone are being daily deposited. The piles of which the staying consists are 80 feet long, with iron shoes attached at the end, upwards of half a ton each, for the purpose of screwing them into their places. The depth of water now reached is 60 feet.

**THE NEW ACT ON MERCHANT SHIPPING.—Important Provision.**—There is an important provision with respect to destitute Lascars in the New Act on Merchant Shipping, which has just been printed, and which is to be taken as one with the Act on Merchant Shipping passed last year. The provision will prevent the exhibition of destitute Lascars about the streets. It is provided by the 22nd section, that it shall be the duty of the East India Company to take charge of and send home, or otherwise provide for, all persons being Lascars, or other natives of the territories under the government of the Company, who are found destitute in the United Kingdom; and if any such person is relieved and maintained by any guardians, overseers, or other persons, may, by letter or otherwise, give notice to the Secretary of the Court of Directors of the East India Company, specifying the name of the party, the district of which he professes to be a native, the name of the ship in which he was brought over, and when he arrived in the United Kingdom; "and the said East India

Company shall repay to the said overseers, guardians, or other persons, out of the revenues of the said Company, all moneys duly expended by them, in relieving or maintaining such destitute person after the time at which such notice aforesaid is sent or otherwise given." Several amendments are made with regard to the existing law, and one portion relates to colonial lighthouses. Her Majesty may, by order in council, fix dues for such lighthouses, which are not to be levied without the consent of the colonial legislature. They are to be applied towards the expenses of the lighthouses for which they are levied.

### NAUTICAL NOTICES.

#### PARTICULARS OF LIGHTS RECENTLY ESTABLISHED.

(Continued from p. 385.)

Name.	Position.	F. R.	Ht. or in seen.	Dist Mls.	Remarks on the Lights.
25. S Egg Harb. U.S.	Tucker Bch.	Ff.	50	12	Est. 31st May, '55. In lieu of the red light. Flashes at intervals of one minute. Tower is red and stands in $36^{\circ} 36' 17''$ N., $74^{\circ} 16' 48''$ W.
26. P. Gijon, Spain.	S. Catalina.	F.	170	12	Est. 15th June, '55. In $43^{\circ} 35' 13''$ N., $5^{\circ} 37' 46''$ W.
27. Marseilles, France.	P. Joliette.	F.	81	8	Est. 15th Aug., '55. South Mole Head. A red light in $43^{\circ} 17' 50''$ N., $5^{\circ} 21' 26''$ E.
28. Tongue Lt.	Thames Ent.	F.			Moved N.W. to middle of Entrance of Princes Channel.
	Girdler.	R.			Moved $2\frac{1}{2}$ cables to south.
29. Vineyard Id. U.S.	Thames Ent. Succomasset Shoal.	F.			Est. 17th June, '55. In 6 fathoms. C. Poge light S.b.W.; West Chop W.b.S.; Nobsque Point W. $\frac{1}{2}$ N.
30. Tarifa.	Gibraltar St., S. Pt. of Id.	F.	132	20	Est. 1st Sept., '55. In lieu of the revolving light. In $35^{\circ} 0' 0''$ N., $5^{\circ} 36' 37''$ W.

P. Fixed. Ff. Fixed and Flashing. R. Revolving. I. Intermittent. Est. Established.

### NEW AND CORRECTED CHARTS, &C.

*Published by the Hydrographic Office, Admiralty, and Sold by J. D. Potter, 31, Poultry, and 11, King Street, Tower Hill.* •

ENGLAND, East Coast, sheet 2	-	-	-	-	3	0
BALTIC, Plans on the East Coast of Sweden	-	-	-	-	2	0
" Prussian Coast, sheets 1 to 6	-	-	-	-	each	4
" Memel to Libau	-	-	-	-	-	3
" Libau to Lyserort	-	-	-	-	-	3
" Lubeck and Femern Belts	-	-	-	-	-	3
MEDITERRANEAN, Black Sea, Kertch Strait, corrected 1855	-	-	-	-	-	1
" " " " Pilot Directions	-	-	-	-	-	2
NEW ZEALAND, Cook Strait, Capt. Stokes, 1851	-	-	-	-	-	1
Deviation of the Compass caused by Iron in a Ship, new edition, 1855	-	-	-	-	-	0

EDWARD DUNSTERVILLE, Master, R.N.

*Hydrographic Office, Admiralty, August 22nd, 1855.*

THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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OCTOBER, 1855.

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SUGGESTIONS FOR IMPROVING THE CONDITION OF MATES IN THE  
MERCHANT SERVICE.—*By a Master Mariner.*

Lest it should be supposed that the object of the following remarks is to recommend a "strike" for an advance of wages or any other advantages which a combination at this busy time with shipping might force owners to concede from necessity but unwillingly, I beg at once to disclaim all such intentions on the following grounds: because I consider the wages of Mates, 1st and 2nd, varying from £50 to £80 per annum, with free board and lodging, coals, and candles, is ample, and that advantages caused by means of combination are rarely permanent and in the end turn out a loss rather than a gain. I also beg to disclaim all intention of encouraging insubordination, believing that the evils which the Mates suffer from are more to be attributed to a vicious system that prevails in the service than to the Masters as individuals, and, finally, I address myself more especially to the Mates of the ports of Liverpool and Glasgow, where the evils to be noticed are more prevalent than in London or any other port in the kingdom.

Let us look at the position of the Mate of a merchant vessel and the responsibility of his situation. He is second in command and competent to take up the duties of the Captain at any time they may devolve on him; he has the onerous task of carrying on the duties of the vessel in direct contact with the crew, and is tacitly responsible for the behaviour of the men, who are supposed to perform their duties well or ill principally as they are well or ill commanded; man-



aged is, perhaps, a better term; he has the care of the cargo, provisions, and stores. In fact, he is the living spirit of the ship. When the Captain wishes to know anything about the cargo, the ship, the stores, provisions, water, &c., he asks the Mate; and when the crew want anything, from a ball of spunyarn to the bower cable, they ask the Mate. The Mate is all in all, nothing can go on without him, he is the perpetual referee and is at all calls. That this is overdone I don't say, that it is overstated in the above no one who has been a Mate will say. To enable him to perform these duties efficiently for his owners and with satisfaction to himself, he must be treated with respect by the Captain and held in respect by the crew, and these two generally go together, the former being a condition on the latter. But is it so? I unhesitatingly answer No, quite the contrary.

The Captain has the undoubted right to obedience, and he may take on himself at any time any portion of the duties usually done by the Mate; but on so doing he ought not to assume, and far less to say, that the Mate is incompetent to do it. Conceding his right to interfere, we expect his duty also, which in this case is to uphold the respect due to the Mate by letting it be known indirectly to the crew that such is not the reason for interference. Is this generally done? I answer No, quite the contrary.

Is the Mate allowed to have free access to the chronometer, barometer, charts, and books of navigation (supposing these to belong to the ship), and encouraged or allowed to make use of them to know anything about the navigation of the ship? No, if he is allowed to see them at all, it is only as a favour, and even that is bestowed ungraciously, and accompanied with such cautions as would be given to a child admitted to see some object of fancy; plainly indicating that he was ignorant of their value and knew nothing about them, a degradation that few Mates would submit to, and any reckoning they do keep, beyond that of the log book, is usually done in private. This is entirely wrong; it is unjust to the owners and underwriters, and may prove very inconvenient to the Captain on many occasions likely to happen.

Familiarity between the Captain and any one under him appears not to answer on board of a ship, but a certain amount of reserve is not inconsistent with mildness and temper in communication of orders, and even at times conversation on different subjects. But, instead of this, an idea seems to obtain that seamen, Captains especially, are exempted from all the rules of civilized life, and the same man who on shore conforms naturally to these, no sooner steps on board than he feels his nature changed and gives his orders with the tone of a slave master, short, harsh, and peremptory, and rather exhibiting than concealing any concern for their being right or wrong to any one's thinking but his own;—to question them would amount to mutiny. Now, admitting that orders from superiors should be promptly obeyed on board of a ship as well as on shore, and it rarely happens that there is greater necessity for it in the one situation than the other, for in cases of danger seamen require no driving, they can and ought to be given

as man to man and not as if to a slave or a dog. Are they so? I answer No.

It will, no doubt, be objected that in many cases, such as working ship, &c., orders must be given short and sharp, that it would never answer to say, "Mr. So-and-so, will you have the goodness to call the hands up to reef topsails." Granted, but it is one thing to speak to a body of men and another to an individual. The difference is well exemplified in a regiment of soldiers, and now also, to a certain extent, in men-of-war and the large Indiamen.

This harsh treatment and marked feeling of disrespect towards the Mates extends itself even to the cabin at the dinner table; and it is not to be believed that Englishmen are naturally so deficient in the civilities of life as to fall below a savage and insult a guest at their own table. The system must be to blame more than the men; but be that as it may, it is not the less certain that the Mates are treated, even at the table, with a marked disrespect that is painful to witness and must be felt very keenly by them, and I may safely add must be anything but agreeable to a great many Captains, being an outrage both on good manners and good sense, only acquired in a vicious school and perpetuated by habit and the absence of all opposition. Its effects are adverse to the interests of the owners, unsatisfactory to the Captain, and degrading and disgusting to Mates.

The foremast men are now, happily, but little subject to this remnant of barbarism; the law of the land has superseded that of the handspike, and the beneficial effects are shown by a diminution of acts of violence and insubordination by seamen abroad. A similar amendment in the treatment of Mates is much to be desired, but the legislature cannot bring that about. The Mates must, therefore, try to do it themselves, and the question is how they are to go about it. I confess it is a very difficult one, as there are many obstacles in the way; but they cannot be insurmountable and it is worth a trial.

The remarks in this paper will not be very acceptable to the great body of Captains, but still many, and it may be assumed those of the best class, will be ready to assist my endeavours to increase the respectability and comfort of the Mates. Owners cannot be expected to take up the subject until they know the existence of the evil (which I believe they do not at present) and how detrimental it is to their interests.

The first step that occurs to me to be taken would be to endeavour to get the Mates appointed direct by the owner. This would destroy one powerful agent in upholding the system, namely that which induces submission to despotic rule from a feeling that one's bread is at stake while the appointment is made by the Captain, and a situation thus obtained direct from the owner cannot be unjustly lost abroad, as the law provides against that. Mates appointed by the owner would look to him for advancement and be less inclined to change their ship, and should the Captain wish to get rid of them he could not do so without assigning some reason to the owner, who would not be likely to discharge them against their own will without hearing their side of

the question. If this were once established there would be very little changing of Mates. Now let us suppose the case of a Mate appointed by the owner retaining his situation contrary to the wishes of the Captain; he certainly need not look for any favour during the voyage, but would the feeling of independence be less valuable than the uncertain state of his position at present? I think not, he would certainly be kept to his duty, but the Captain would also feel a latent compulsion to keep to his duty, and by the one acting on the other the owner's interests would reap the benefit of the increased activity of both. I know no better step to begin with than this.

Another step in the right direction would be either a recognition of their right to a share of the good things at the cabin table or to have separate mess for themselves. The request will seem strange to persons unacquainted with the practice on board of a ship, but it is very necessary. When an owner lays in a certain quantity of eatables and drinkables for the cabin use I fancy he does so with the intention that all those who mess at the cabin table shall partake of them; but that it is not considered so by the Captain is a fact that none will deny. This is an unjust as well as a most degrading distinction, and no man should be subjected to it. Let the Mates feel that they are at home at the cabin table or have a separate table for themselves and an understanding what quantity and quality of provisions they are entitled to, if any besides the usual ship's provisions. If this were effected we should hear no more of wine, brandy, &c., running short, nobody can (will) tell how. This is a fruitful source of discontent, and its abolition would be found advantageous to all.

It has been admitted that the Captain has the right to interfere in the Mate's duties, but, like all other rights, it carries with it a corresponding duty; and in this instance I take the duty to be a due observance of the extent to which it ought to be carried, and this will vary with the usual habits of activity or otherwise of the Captain; but in either case it ought always to stop short at that point which implies censure or a supposition of the Mate being incompetent. Some Captains find recreation in superintending the general work of the ship; others confine themselves mostly to their more legitimate vocations, such as bringing the ship to anchor, getting under way, reefing and tacking in strong weather, &c. We will suppose a ship at sea in ordinary weather and requires to be put about; a Captain of the former class might do so himself and no one feel that he was overstepping his usual habit, but a person of the latter sort could not do so without its being implied that the Mate in charge of the watch was incompetent; no one indeed actually thinks so, but the circumstance tends to the supposition that the Captain would have it believed so. Now, to carry out the case a little further, suppose the Mate on some occasion was allowed to put the ship about, and she missed stays, and the Captain then took charge himself, pointing out why and what had been neglected to ensure her coming round; this would be more direct censure and still very questionable, for ships generally come round ready enough under ordinary circumstances, and if they miss stays

something unusual is probably the cause. To carry out this case still further, but yet within the bounds of probability, suppose she misses stays again, how would the Captain feel? Not over agreeable I fancy, more especially if he had lectured the Mate about slacking the lee head braces, hauling the main yard at the proper time, &c., all of which he could not help feeling reacted on himself,—the Mate would not get wine or pudding that day. I challenge any one to deny that this is a common case and one on which Mates are very sensitive, because the principal source of influence over the crew is by their acknowledging him as a thorough seaman; this strikes at the very root of that influence to the detriment of every one concerned with the ship.

It is unnecessary to go any further into details of the existing evils. The whole system requires reform, and most in the ships of Liverpool and Glasgow. It is not so bad in London ships; the large Indiamen have long been commanded on very different principles, and the London ships have in a great measure followed their example. The ships of the outports are also generally better managed in this respect than those of Liverpool and Glasgow. Let us hope that the time is not far distant when this remnant of barbarity and despotism will be swept away among the things that were, and should this paper have the effect of drawing attention to the subject the labour will be well rewarded.

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#### THE MASTERS OF OUR MERCANTILE MARINE.

(Concluded from page 270.)

In the paper you were so kind as to insert in the your June number, I proposed to offer a few suggestions to my brother mariners consequent on the continual and melancholy loss of life and property on the dangerous shoals in this locality.

Now, it is a curious fact, that nine wrecks out of ten are sailed head foremost on to the Goodwin sands, with a fair wind, in the prosecution of what the officers in charge of the deck believe at the time to be a safe and proper course. It is therefore self-evident, that they are misled into danger by an entire ignorance of the extent and nature of tidal influences in this perplexing and dangerous navigation. This cannot be gainsayed. The disastrous evidences of such ignorance is continually before our eyes. True indeed it is, in the ever varying occupation of the master mariner, that "knowledge is power;" and without fear of contradiction I say that no class of men have more leisure or greater opportunities of acquiring the intelligence necessary to the successful prosecution of their profession than the master of a vessel in the mercantile marine.

As I cannot do better than quote example, I will give a brief ac-

count of the plan adopted by a young officer in the olden time, when light-vessels and beacons were more scarce than they are now; when buoys had not been enlarged so as to merit the name of monsters, and when nothing but "lead and look out," could ensure a moment's peace of mind in pilot's water.

The individual to whom I allude had been in the Baltic with Sir James Saumarez, and as an officer in the cutter incessantly employed in carrying his despatches, had learned the value of "a good look out," of making sketches, however rough, of the appearance of headlands and coast lines at different bearings, and especially of delineating on a spare chart or plan the colours of the buoys and the set of the currents, where they had been decided by competent surveyors.

In 1813, he was offered the command of a fast vessel, in the merchant service, trading as circumstances offered from London to Antwerp, Rotterdam, and Ostend, and occasionally freighted with the Rothschilds' valuable consignments; and as he had never seen the Thames before, an old and experienced *nurse* was appointed to teach him the pilotage. But as nurses are not always anxious to teach their charges "to run alone," and are apt moreover to assume a superiority extremely irksome to an aspiring spirit, the novice soon found it necessary to commence a system of self-instruction. The plan was simple and the expense very trifling. It consisted of a mere sheet or sheets of tracing paper placed upon the chart; the dangers pencilled roughly out, and then commencing at the point of departure, putting down the buoys in their proper colour and position, as also any beacons or lights on the route. That done, the tidal lines of flood were run across in blue, and the ebb in red ink, with the time of high water full and change at equal distances from one river to the other, say the Scheldt to the Thames. It will be at once seen how rapid is the impression made on the memory by these simple means; and if an objector should say, he has no drawing-box, or knows nothing about colours, let him buy a sixpenny box of coloured wafers, and he may cut them into buoys and put them down with a touch of the tongue. But to return to our nurse and his tyro; in a very few months farther superintendence was unnecessary, and an unlettered man was surprised to find how readily education ministers to practical knowledge.

Why then do our master mariners subject themselves to the severe reflections so continually cast upon their competency and general requirements? Ask them, and they will tell you, they have no time for such things. But they have time in a foreign port for the everlasting cigar, the tavern, and more exceptionable places. But it is of no avail to be continually reprobating them; let us interest them to try and shape a different course; and if they will try they will find it sufficiently encouraging to persevere. The study of tidal influences is deeply interesting. The chart, to an inquiring mind, would soon supersede the billiard-table.

Let us take only one case in point, a case which is even now before me. A vessel leaves the Scheldt with a fair wind, a licensed pilot takes her to sea clear of the Flemish dangers, leaves her in the evening

in charge of her officers, and before morning she is on shore on the Goodwin Sands. Let us imagine an anxious mind previous to leaving the port of departure, having, in the manner described by me, placed the chart before him. With a fair wind, he would say, my ship will run the distance in so many hours, which will take me into the confluence of the tidal streams, requiring the utmost vigilance to preserve her in a safe course, and to guard her against impending dangers. I ask, could an anxious properly constituted mind have been off its watch at such a moment? I think not; and if not, such an accident might have been prevented.

Again, four vessels are at sea, with a fair wind and gentle breeze. A thick fog comes on. No sail shortened. They run on shore on the Goodwin Sands. The tide leaves them. The fog clears away with a sudden and increasing gale. One crew and three vessels out of the four are lost! You ask the survivors, why keep on such a navigation? Why not anchor during the thick, especially in a night fog? The reply is, we were afraid of losing an anchor. What! is it not more seamanlike to risk losing an anchor than thus to lose the ship? I repeat, that it is of no use to reprobate or vilify any class of men. The good, if any is to be effected, must be by raising their condition, and making the command of a merchant vessel worth the acceptance of a superior class of officer.

An intelligent American commander remarked to me the other day, all the recent alterations in your maritime affairs are to the benefit of the seaman, while the positions of your officers are gradually becoming worse. I am an Anglo-American, and if I had remained in the service of the old country, I should never have been worth a pice. Now, I am thankful to say, I am part owner of the vessel. Are you insured? I asked. No, I am not. The other part owners are always insured, but I save the premium, increase my profits, and make by a good look out and care an annual investment. I have a share in another ship in the same concern. That share I have insured for me every voyage. I trust to no man but myself.

Such was in the olden time also the British master mariner, and national, if not individual, interest demands their restoration. Savans are endeavouring to make us understand the "Law of Storms," "Tidal and Magnetic Influences." Lectures are delivered in our Sailors' Homes. The theories necessary to form an officer and a gentleman, as well as a seaman, are everywhere propounded; but the means of becoming so, and of putting principles into practice, are, by a grasping and mistaken policy, withheld.

I have the honour, &c.,

K. B. MARTIN,

Harbour-Master, Ramsgate.

THE RUSSIAN NAVY.—From “*Russia on the Black Sea and Sea of Azof*,” by H. D. Seymour, M.P.

The\* Russian navy, like the army, was the creation of Peter the Great, who, when he came to the throne, found his empire without any port except Archangel, and when he died, after a reign of sixteen years, left a fleet of sixteen sail of the line in the Baltic, and his name feared as a naval hero on the Black Sea and the Caspian. In the ideas of that great man the army was intended to be merely supplementary to the navy, and Russia was to be a great commercial and maritime power instead of a military one. “It is thus,” he says in his will, “that Russia, which I found a brook and left a river, must, under my successors, grow to a mighty sea, destined to fertilize worn-out Europe, and advance its waves over all obstacles, if my successors are only capable of guiding the stream.”†

The origin of all the numerous naval armaments of Russia in the present day was the little boat built by Peter’s own hands, when he returned from his European travels.

In 1836, after a lapse of 113 years, the anniversary of the launching of the little boat, was for the first time celebrated with great pomp at Cronstadt. Twenty-six ships of the line, twenty-one frigates, ten brigs, and seven gun-boats, were anchored in the roads of Cronstadt, and saluted with two thousand cannon the tiny “grandpapa,” as the little boat was called, which, placed on a steamer, was carried through the lines. From the earliest times there has been a slight halo of maritime glory around the Russian name. The half fabulous Varangians, Northmen, or Normans, who conquered Russia as they did France and England, and from whom the Russian nobility still boast their descent, were victorious by sea as well as by land, and the glories of Ruric and Vladimir belong to the Russian nation as much as the victories of Alfred and the Plantagenets belong to us. The Varangians found out the road by water along the rivers of Russia from the Baltic to the Black Sea,—that very road which Peter the Great improved by employing his Swedish and Cossack prisoners to cut the canal of Ladoga.

In 886 (shortly after the foundation of the German empire) the Varangians appeared on the Black Sea with two hundred boats, each containing from forty to sixty men, and advanced to the attack of Constantinople, which was only saved by a miracle. At the end of the sixteenth century the Russian fleets were still feared on the Baltic, and even under the empire of the Tatars, Novgorod had possessed a flourishing maritime commerce, although in a great measure it was conducted by strangers. But after the fall of Novgorod, when the

\* The first part of this chapter is based upon Haxthausen, vol. iii.

† Will of Peter the Great, transmitted by the Chevalier d’Eon, French Ambassador at Petersburg, to his court in 1757, and soon after made public. See “*Geschichte Peters de Grossen*,” by Peters, published at Leipsic.

Baltic provinces fell into the power of the Swedes, the Poles, and the Germans, the maritime importance of Russia began to decline. The single outlet that was left her, Archangel, was only frequented by foreign merchant vessels, chiefly Dutch. Then, the Russians of that time, like those of the present day, occupied themselves entirely with internal commerce, and the spirit of the Varangians disappeared, or only lingered among the Cossacks of the Dniepr and the Don.

Peter the Great, in his maritime views, had for a paramount object the conquest of the debouchés in the south, leading to the Mediterranean and the southern oceans, which were then exclusively in the hands of the Turks and Tatars.

His first dockyards for a fleet of war were placed near Woroneje, in the country of the Don, and then also for the first time the Russian flag was seen to triumph in the Black Sea over the Turks, their national enemies. At a later period, in the war which Peter the Great had to sustain against Sweden, he employed a fleet consisting chiefly of row-boats, which had been constructed on the lakes of the North, and he found this fleet far more advantageous in the Baltic than vessels of the line or frigates. Even up to the present time flotillas of row-boats have always rendered greater services than large vessels to Russia in the shallow waters of the Baltic. The first result of any importance was the victory which Peter gained in the middle of the Séches, or low reedy islands of the Baltic, over the Swedish Admiral Ehrenskiold, from whom he took a frigate and ten row-boats, but at that time his land army was nearly annihilated on the Pruth, and the conquest of Azof and the possession of the Black Sea was in consequence postponed till the end of the last century. "The condemnation of Admiral Cruys," I here quote the words of Haxthausen, "under Peter the Great for having lost several vessels in an attack which he had risked too rashly against the enemy, was of bad augury for the Russian fleet, although he was afterwards pardoned and restored to all his dignities. In England, Byng was executed, because near Minorca he had avoided battle with the French fleet, which was superior to his own. It is a rule in England always to attack, if the English fleet equals that of the enemy, and this rule has undoubtedly been the base of the maritime power of that country. In 1743 the Russian Admiral Golovine excused himself to Lascy, who had given him the order to commence the attack, by saying that the maritime laws of Peter the Great forbid the Russian fleet ever to engage in battle with the enemy unless they had three Russian vessels to two Swedes."

The Russian fleet has always been rather for show than use, owing to the want of boldness which the Russians have in later times shown in maritime enterprises, although, under Catherine II., Greig, Elphinstone, and Spiridoff acquired some glory in the Mediterranean.

At the end of the last century the Russian fleet consisted of sixteen ships of the line and twenty-three frigates, which was about its force under Peter the Great. During the war which, after the French Revolution, devastated Europe, the Russian fleet played only a secondary part.



When Russia was allied with England, the navy of the latter power commanded the sea, while Russia was to employ her forces on the continent. When Russia was against England her vessels were little worth. The English, at a later period, undertook to keep the Russian fleet, and in this uneasy state of relations with England she lost the excellent instructors of her navy, which she had before employed in great numbers. The English officers on board her fleet refused to serve against their own country, and since that epoch they have been less favourably viewed in Russia.

The great difficulty of the Russians is to man their fleet, because they have no mercantile navy, and scarcely any Great Russians live on the sea-coast. Archangel furnishes a very few men, and after them the best sailors are the Fins of the Baltic, the Cossacks, and the Greeks of the Black Sea. The crews of the fleet are much more numerous than the whole of the sailors in the mercantile marine, and for this reason they are obliged to recruit among landmen, and to put in practice the maxim of Peter the Great, that every man is fit for everything.

A Russian is never allowed to say that he cannot do a thing, and whatever the order given him may be, he is expected to set about executing it as well as he can. The only answer permitted is "Schlous-haiou," "I hear, and will obey." But although he attempts to do everything in a certain kind of way, his work is generally very imperfect, and the inaccuracy of Russian workmen is proverbial among the English superintendants employed in that country. They realise the English saying of "a Jack of all trades, and master of none;" or as Custine puts the point, "Le Russe n'est maître de rien, excepté l'art de feindre;" and this last is an observation which our Ministers would do well to reflect upon now that they are asked to open negotiations.

Some notion of the paucity of sailors in Russia may be formed from the fact that the law which obliges every Captain of a merchantman to be of Russian origin is constantly eluded. The shipowners try to gain the advantages of sailing under the Russian flag, and at the same time to avoid the disadvantages of having a Russian captain, and therefore the individual who is put forward in port as the legal captain of the vessel, as soon as she puts out to sea descends to the humble office of the cook.

The Russian fleet is manned from the common conscription with very little "ethnologic" distinction, excepting that in the North the Finns are preferred for that service, and in the South the Jew conscripts are generally sent to the navy, not on account of their aptitude for it, but because as soldiers they are considered worthless.

The Imperial fleet consists of three divisions, two of which are in the North, and one in the Black Sea. It is manned by forty-five battalions, called "equipages:"\* each equipage is composed of eighty petty officers, twenty-five musicians, and 1000 seamen, and is officered

\* *Equipage* is the French for "crew."

by one commander, of the rank of a colonel, two superior officers, twelve lieutenants, and twelve midshipmen.

An equipage will man one three-decker, and one or more small vessels, or a two-decker and a frigate, or two frigates and one or two brigs. A ship of 120 guns is manned by 812 seamen and 65 petty officers. A ship of 84 guns is manned by 625 seamen and 50 petty officers. A frigate of 60 guns by 375 seamen and 30 petty officers. A frigate of 44 guns by 320 seamen and 20 petty officers. A corvette by 158 seamen and 12 petty officers. The forty-six equipages are disposed in the following manner:—From No. 1 to No. 27, inclusive, are in the Baltic. From No. 28 to 44, inclusive, are in the Black Sea. No. 45, in the Caspian. No. 46, at Kamschatka. There are no marines in the Russian navy, and the seamen are disciplined like soldiers. The term of service in the navy is, I believe, similar to that in the army, namely, from ten to twenty-five years, according to the provinces of the empire from which the sailors are drawn.

The oak of which the Black Sea fleet is built comes mostly from Minsk and the neighbouring governments, and is of quick growth, on low land, in a country which was an immense lake in ancient times. Herodotus says that both the Dniestr and the Boug took their origin in enormous lakes. The great portion of the timber of Kherson used to come down the river Pripet, which is the remains of an enormous marsh or lake, and is navigable for 350 miles to its junction with the Dniepr. The masts that come down the Dniepr are good, and drawn from the same forests that supply Riga, but the wood for ship-building is bad, and the Russian Government hopes to supply Nicolaief with the oak of Kazan, which is used in the dockyards of the Baltic, and which might be brought down to the south by the Volga and the Don to Rostof. Mr. Upton told me that a cannon-ball, which would lodge in one side of an English ship, would go right through both sides of a Russian one. For certain parts of all the ships they are obliged to import oak from England. The Crimean oak is very good, but not obtainable in large quantities. A frigate or two have been built of it, but none are now afloat. The only ship of the line built of it was the *Raphael*, which was taken by Captain Slade and the Turks in the war of 1828. The Bulgarian oak is also of a good quality. The timber at Nicolaief is used green, as soon as brought down the Dneipr, so that ships become quickly infected with dry-rot, are unsound in ten years, and quite unfit for service in fifteen.

The sailors are fed upon rye or black bread, which they prefer to wheaten bread. They have meat twice a week, and drink "quass," a fermented drink, made from the rye flour, and the Russian "vodka," or brandy, which is also made from rye. The sailors are all disciplined and dressed as soldiers, wear helmets, and for their common dress the same long drab greatcoats as the army. They are, in fact, more properly sea-soldiers than sailors. When the Grand Duke Constantine inspected the Black Sea fleet, its Admiral was obliged to ask permission for the sailors to take off their proper uniform, as it was found impossible for them to mount the rigging in it.

When a Russian vessel is on a foreign station, which has seldom been the case, except with small vessels having only picked crews, the dress is changed, both of officers and men, and they then, for the time, wear shirts and trousers, like the sailors of maritime nations; and they also then receive extra allowances, to enable them to live like the people of the country where they happen to be. The Russians have a great "amour propre;" and I have often watched them on a foreign station, when they have been moored with French and English vessels at Constantinople and Athens, constantly exercising their men, until at last they succeeded in managing their vessels with great quickness.

The immense majority of their ships, however, are confined to the Baltic and Black Seas, in which they are obliged to lay up during more than half the year. The Black Sea fleet is seldom out for more than one month's cruise in summer, and sometimes for even a shorter period. Besides the short time they are out, the cruising in such limited areas with a large fleet of vessels must be a very uninteresting operation, and there is nothing in it to call out a spirit of enterprise or adventure. The sailors are nearly all landmen, and such they always remain. There is no mercantile marine, notwithstanding the great inducements held out by the government; and although the commerce of Russia is considerable, there is not a single merchantman manned and sent out by Russians Proper, by which I mean the Slavonic population, which forms the real strength of the Russian nation. The Finns are enterprising shipowners, but they are a totally different race, and a conquered people. I believe I am correct in saying that there is only one real-born Russian merchant who has an establishment in a foreign country. This gentleman, of considerable wealth, set up a house at Liverpool a few years ago, more from patriotic motives than in the regular way of business, and received great encouragement from his government, who wished to induce others to follow his example, but without success. Under all these disadvantages, some of which are inseparable from the despotic nature of the government, for commerce like genius requires for its development complete liberty, it is impossible that the Russian fleets can ever become formidable by their quality, although the large number of their vessels may prove a source of inquietude to a second-rate power.

In the beginning, the Russian navy was formed entirely by foreigners, and principally by Englishmen, while the sailors and officers in the Black Sea were generally Greeks. There were, in particular, five Englishmen, who had been originally brought up in the English navy, who rose to be admirals in the Russian service, and were of great use to their navy,—Admirals Crown, Hamilton, Elphinstone, Dugdale, and Greig. Admiral Lazareff, a Russian, who commanded when I visited Sevastopol, had been brought up in the English navy, and fought as a midshipman at Trafalgar.

At the period of my visit, in 1844, a great change was taking place in the Russian navy, which had its origin in a more general cause. Just about that time there was a strong national movement throughout the Empire, which was encouraged by the Court. The nation had

been under the tutelage of foreigners for a century and a half, and now showed a wish to act for itself. Russian replaced French as the fashionable language at court, and representations were constantly made to the Emperor to place Russians instead of foreigners in places which the latter had till then exclusively occupied. There was a strong feeling against the German officers in the army, and the laws were strictly enforced, forbidding foreigners to hold land or possess manufactories, unless they made themselves Russian subjects, a step they were very much pressed to take by officials as the best way of being favourably viewed by the Emperor.

At Sevastopol there was an outcry against the English engineers of the steam-vessels, and the Emperor consented to appoint a Russian on trial, who took a steamer out to sea, and damaged her machinery so much after a few hours, that she was towed into port again by another steamer sent out to fetch her. The Emperor then said that he would continue to employ the English until his own people were really able to undertake their duties.

The great change in Sevastopol about 1844 was the getting rid of the Greek influence, which had till then been paramount. Both men and officers were replaced, as far as possible, by Russians, and the same change was effected as regarded the civil departments of the naval administration.

I visited several of the large line-of-battle ships in the harbour of Sevastopol, with one of the Uptons, and as they were all built by English shipwrights, to a non-nautical eye they looked very much like the men-of-war in our own country. I visited in particular the Twelve Apostles, the largest ship there, which I have lately heard to be now quite useless for warlike purposes. No Russian ship in the Black Sea lasts more than ten years, not only on account of the bad wood of which it is built, but also because of the worm (*teredo navalis*) which infests Sevastopol and the southern coasts of the Crimea, and commits great ravages among the ships. The project of filling the new dock with fresh water, by introducing into it at great expense the Tchornaya Retchka from Inkerman, was adopted with the view of getting rid of this worm, but it was found when too late that it was in the very waters of the Tchornaya that the worm was generated.\*

The Vixen, the English vessel which we so timorously gave up in 1837, lay in the harbour at the period of my visit, and the Russians were very proud of having taken an English ship, while the English there told me they never could see her without a feeling of shame. She had served as a model to the Russians, and I saw several vessels that had been built after her.

The whole fleet in Sevastopol consisted, in 1853, of 18 first-rates, 7 frigates, 30 steamers, and 36 smaller vessels. There were besides 28 gunboats, built for service in the Danube, and 30 transports measuring 10,000 tons.

The only achievement of the Black Sea navy has been the destruc-

\* Hommaire de Hell, vol. ii. p. 383, French edition.

tion of the Turkish fleet in Sinope, which was characterised by their usual negligence on the part of the Turks, and by that cruelty in war which has always stained the Russian name. The Turkish ships were armed with small ordnance, of which the largest scarcely reached the calibre of 24-pounders, and they placed themselves in the roadstead under the protection of land batteries, which were in a wretched state of defence, unprovided with guns that would throw shells, and armed only with cannon of very small calibre.

The Russians, on the contrary, had availed themselves of the latest discoveries and improvements in naval gunnery. Many 68 and 42-pounder shot were picked up at Sinope, and they used with fearful effect the most terrible instruments of modern warfare, the Paixhans guns.

This attack of the Russians at Sinope has been designated as iniquitous by both the French and English military authorities: in the first place, because the attack ought not to have been made under the political circumstances then existing, and next, because from their superiority in number and calibre of guns, instead of burning the Turkish vessels, and exterminating the crews, they might have taken the whole squadron prisoners, and brought away the surviving men as prisoners of war, while the ships would have served to increase their own effective force. They preferred, however, to use the new terrible incendiary shell, and to massacre without mercy the brave but negligent Turks.

This affair forms an important epoch in the history of the new system of naval warfare, as that in which the Paixhans shell system was first used in war. These shells contain incendiary bodies, which, when ignited by the bursting of the shell, are scattered about in every direction, burn with far greater intensity than "la roche à feu," develop more heat, and give out dense smoke during the combustion, which must interrupt for a considerable time the working of the guns. The chances of setting fire to an antagonist's ship in action are prodigiously increased, and if one party uses these dreadful engines, the other must adopt the same means of warfare, by which one or both combatants will surely be burnt. "Both France and England," says Sir Howard Douglas, "are provided with these appalling weapons of mutual destruction, and are prepared, if unhappily there be occasion, to use them *à l'outrance* against each other's ships, in a barbarous and ignoble strife, in which it seems the only question is which shall be first burnt. What would Nelson have said to this incendiary warfare?"\*

The Russians, with that energy and promptitude which has been the secret of all their successes, have availed themselves of every improvement in naval gunnery, although their fleet is with them a matter of only secondary importance. It is impossible to read the history of Russia and her opponents, that is to say her neighbours, for the last

\* See Sir H. Douglas's "Naval Gunnery," from which I have borrowed all this account of the Paixhans system, p. 289-291.

150 years, since the peace of Carlowitz, without observing the quickness in seizing opportunities, the absence of prejudice, the anxious desire for improvement, and the alacrity in repairing errors when they have been committed, which are the true methods by which an individual or a nation can best attain the object of his desires, be they good or bad.

However, notwithstanding the great care bestowed upon it, there is no doubt that the Russian fleet is extremely inefficient, and would be hardly a match for any of the second-rate powers of Europe. It was not to be expected that it should come out to fight the united navies of the two first maritime powers of the world, and there was little cause for the boast of the late Ministers, that we performed a great achievement in forcing it to act on the defensive. Still, on the other hand, there seems to be good sense in the remarks of Haxthausen, that the Russians have been too timorous on the sea, and that the Russian navy will never equal the high character of their army until they have suffered defeats, and fought their way to confidence. The natural "pluck" of the people would probably in the end be as successful on the sea as on the land.

The Romans hated the sea as much as the Russians, and in reading of Peter's little boat, and the Vixen serving for a model, the mind naturally recurs to the Carthaginian galley stranded on the coast, which served as a model for the first Roman vessels, yet, after no very long period, the Carthaginian state, betrayed by lust of conquest, was broken up, and the Romans swept the seas.

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*Advantages likely to accrue to the Trade of the Danube from the Establishment of a Free Port at the St. George Mouth of the River.*

The subject of the opening of the Danube is so intimately connected with the countries about which I have written, that I think it will be interesting to the public to read the following memorandum which has just been sent home by Mr. Cunningham, the English Consul at Galatz, and a merchant at that port.

*Memorandum.*—As the navigation of the Danube forms one of the Four Points to be settled between the Allies and Russia, there can be little doubt that the present war will not terminate without the navigation of that river being placed on a clear, secure, and lasting footing, and such as to encourage the investment of capital in mercantile enterprises in the vicinity of this river. Further, that those nations interested in the trade and navigation of the river will adopt proper means not only to remove all material impediments to the navigation in the first instance, but also that they will provide a permanent fund, by a tax on vessels frequenting the river or otherwise, to keep the channels in the best state for the security and despatch of shipping; and will further make such arrangements as shall appear most conducive to the extension of the trade of the countries situate along its banks.

No one measure would conduce more to the facility of the trade and navigation of the river, to the prosperity of the countries on the Lower Danube, and to the extension of their agriculture, than the formation of a free port at the mouth of the river Danube.

In order to understand the advantages which a free port at the mouth of the Danube would confer on the trade of the river, it is necessary to state how it is carried on at present, and the difficulties it has to contend with, particularly in the export trade in grain.

All the grain of Wallachia is exported from Ibraila.

All the grain of Moldavia is exported from Galatz.

All the grain of Bulgaria which goes out by the Danube is exported from Matchin.

*Note.*—In spring, when the water in the Danube is high, some small sea-going vessels go up to Silistria to load Bulgarian wheat, and to Giurgevo to load Wallachian wheat.

All the grain of Bessarabia which goes out by the Danube is shipped from Reni and Ismail.

The grain, the produce of one of these provinces, cannot be brought to any other province, not even for shipment, but the vessel must go to the port where the grain is in order to receive it.

This state of things causes much trouble, inconvenience, and expense to the merchant, as the merchant residing in one of the towns mentioned (generally in Galatz) may be shipping grain from all these ports at one time, without being able to ascertain the quality or condition of the grain he is shipping at any port excepting at the place where he resides. It is also inconvenient and expensive to shipmasters, who must first call at Galatz for orders, and may afterwards be sent to any of the ports mentioned.

Galatz and Ibraila are called free ports by their respective governments, but most improperly so: first, grain and tallow cannot be brought from Wallachia into Galatz, nor from Moldavia into Ibraila; the importation of these two articles into Moldavia or Wallachia from any quarter whatever, even for exportation, is prohibited. It follows therefore that the grain of Turkey cannot be warehoused in Galatz or Ibraila for exportation. As grain forms nine-tenths of the export trade of the Danube, it follows that the name of Free Port is altogether illusory.

Excepting the above two articles, and salt, all other articles may be brought into Galatz and Ibraila, and exported without payment of duty, provided the following forms be observed. On introducing the article it must be declared for exportation, and it must not be sold. If sold, the buyer must pay duty on exporting the article. But it must be observed that all articles the production of Moldavia and Wallachia are brought into Galatz and Ibraila respectively by land without payment of duty, and the duty is only paid on being exported by water from the so-called free port.

It is scarcely necessary to add that as in Turkey and Russia there is no pretension to a free port, the duty on all articles sent into either

of these countries would have to be paid on entering, and again on being exported. The introduction of grain into Russia is prohibited.

It must be evident that it would be very advantageous to the export trade of the Danube, which is at present almost entirely confined to grain, to have some one point where the grain from all the different shipping ports could be brought forward in river craft, and there loaded on board of sea-going vessels. This can only be effected by having a free port established. But this free port would be equally advantageous for imports, which, being brought to one place, could be more conveniently sent forward to their various ports of destination along the Danube.

As steam power for river navigation has such an evident advantage over sailing vessels, it is quite behind the age to take sailing vessels 100 miles up a river for cargo, when the cargo can be brought down more easily and economically to the mouth of the river by steam: it is therefore apparent that, in seeking to establish *a free port on the Danube for the first time*, it ought to be placed as near as possible to the sea. For this reason the fort should be placed either at the Sulina mouth or at the St. George's mouth. As, however, Sulina consists only of a narrow strip of land between the river and a marsh, and as that strip is subject to be overflowed, Sulina is not suited for the site of a town. At the St. George's mouth, on the right bank of the river, the land is high and well suited for the erection of a town, therefore the free port should in preference be placed there. It is probable that, on application being made, the Turkish Government would grant the rights of a free port to the whole of the island Ruselm formed by the Danube, the branch called Donnawitza, the lake Ramsin, and the sea. Even on the left bank, on the island of St. George, the ground is much higher than at Sulina. At the outset the St. George's mouth presents a difficulty in comparison to that of Sulina, namely, whereas the Sulina mouth has only a single bar of about 150 yards broad, the St. George's mouth has banks extending out fully a mile; *but, as the entrance into the St. George's has never been carefully surveyed*, it is not known whether a channel may not extend all the way out, which only requires to be marked out by buoys; but in every case there can be no doubt that a channel could be opened up and kept open, at an expense which would fall very light on the number of vessels likely to enter it, in comparison to the heavy lighterage which they have hitherto had to pay at Sulina. The St. George's branch is much finer than the Sulina; it discharges at least ten times more water than the Sulina does, and this would render it easy to make a deeper channel than at Sulina; it is much broader, and therefore would afford more accommodation for shipping. It may be asked why, when the St. George presents so many advantages over the Sulina, no attempt has been made to render these advantages available? but when it is considered that Russia only held the left bank of this branch, while Turkey held the right bank, whereas Russia held both sides of the Sulina branch, it is evident that it was for the advantage of Russia to keep the St.



George closed, and thus have the whole trade of the Danube under her control.

To show precisely the disadvantage of having to ascend the river with sailing vessels to receive cargo, it may be stated that sailing vessels seldom arrive from Sulina at Galatz in less than fourteen days, and not unfrequently they take a month to come up. Again, in going down, what between putting part of their cargo into lighters in order to go over the shoals in the river, and what by grounding and getting the vessel off again, three weeks or a month are frequently consumed between Galatz and Sulina. But the best proof is in the rates of freight, as a vessel, obtaining 12s. per quarter from Galatz to England, would take cargo from the mouth of the Danube to England for 8s. per quarter.

No doubt a vessel might save much time by being towed up the river by a steamer; but there would always be danger of the vessel grounding, and part of the cargo would always have to be put into lighters. The steamer could bring down four times more grain in proper barges than the vessel could carry, and in less time.

The uncertain political position of the Danube, and the difficulties and delays caused by quarantines, have hitherto prevented steam navigation from taking any considerable extension in that river; in fact, there have not yet been any steamers exclusively for the trade of the Principalities and Bulgaria. The steam navigation on the Lower Danube at the commencement of the present war with Russia was as follows:—The Imperial Royal Danube Steam Navigation Company of Vienna despatch a steamer weekly from Vienna to Galatz, and *vice versa*. A steamer went weekly both up and down between Galatz and Turno Severin, on the Wallachian side of the river; and a steamer weekly between Galatz and Skella Cladova, on the Turkish side of the river. Besides these steamers, this Company had occasionally tug-steamer between this place and Calafat; and within the last four years it has had a number of iron barges, called *shlepps*, on the Lower Danube, to be towed by steamers, for the conveyance of grain and other merchandize. The Austrian Lloyd's Steam Company of Trieste had steamers performing six voyages monthly between Galatz and Constantinople: this Company also kept a steamer plying between Galatz and Ibraila. The Russians had a steamer performing two voyages monthly between Galatz and Odessa.

When, however, the trade and navigation of the Danube shall have been placed on a satisfactory and permanent footing, there can be little doubt that the companies having steamers on the Danube will increase their number, so as to meet the requirements of trade; or, should such not be the case, other companies will be established, as capital cannot be long wanting for an investment which offers at once security and good returns.

Until the war between Russia and Turkey in 1828, grain and tallow from the Principalities could only be sent to Constantinople. Certain Turkish commissioners came yearly to the provinces and pur-

chased grain, fixing their own price for it, and that price was so low as not to be remunerative to the cultivator. Consequently, very little grain was then grown in the Principalities, and it was harvested and brought to market in a most careless manner, having a great deal of earth and dirt mixed with it, and the quality was very bad.

By the treaty of Adrianople, the Russians gave free trade to the Principalities and the cultivation of grain was extended. So soon as the exportation of grain from the Principalities began to take a certain extension, the Russian Government perceived the double error it had committed, and endeavoured to correct it: this double error was, first, the trade of the Principalities was increased, and the attention of Europe was thereby called to them; secondly, the grain exported from the Principalities came into competition and lowered the price of the grain of the Russian ports on the Black Sea. For this end the Russians prevented the establishment of a general entrepot on the Danube; they imposed vexatious quarantine regulations on shipping and merchandise; and they prevented the removing of banks and shoals and other impediments to the navigation of the river.

Notwithstanding all these discouragements and impediments, the exportation of Moldavia and Wallachia by Galatz and Ibraila down the Danube in the year 1852 had reached the following quantities:—

	Galatz.	Ibraila.	Total.
	Quarters.	Quarte s.	Quarters.
Wheat .....	187,555	343,534	531,139
Indian Corn. ....	329,279	725,259	1,054,538
Rye .....	96,900	1,236	98,196
Barley .....	468	80,278	80,746
Millet .....	—	5,180	5,180
Total..	614,202	1,155,597	1,769,799

The exportation of grain from Turkey, and consequently from Bulgaria, was prohibited until the year 1839, when the exportation was allowed by the treaty of commerce made between Turkey and England in that year. The exportation of grain from Bulgaria by the Danube has made very little progress hitherto, and not more than 200,000 quarters of grain of all sorts have been exported by the Danube in any one year.

There are many reasons no doubt for this want of progress; among which are, the improper interference of the Turkish Government, which has already forbidden the exportation of grain four different times, under the pretext that there was a scarcity of grain in Turkey; the interference of pashas and other Turks in authority, who are always endeavouring to have a monopoly of the grain trade of their districts; also the insufficient protection of the cultivators. But another reason, and which had great influence, was the want of a proper place for shipping on board of sea-going vessels, as there is no place on the Turkish side of the Danube with suitable warehouses, and

Turkish grain was not allowed to be warehoused in Wallachia or Moldavia.

Little doubt can be entertained, that inquiry will be made into the causes which prevent the extension of agriculture in Turkey for the purpose of removing them, and that, in consequence, the exportation of grain from Bulgaria will increase rapidly.

Grain of Bessarabia is exported from Reni and Ismail on the Danube, but by far the larger portion of the produce of that province goes to Odessa for shipment, being attracted to that place by the lower rate of freights which prevails there than on the Danube. Were the freights from the Danube reduced to the same rates as those from Odessa, there can be little doubt that nearly the whole of the grain produced in Bessarabia would be brought to the Danube for shipment. The quantity of grain exported from Ismail is larger than what is exported from Reni; in the year 1852 the quantity exported from these two ports may have amounted to 400,000 quarters. It is proper to observe, that although Ismail is situated on the Kilia branch of the Danube, yet the vessels at present frequenting that port enter and go out by the Sulina branch, and would consequently go by the St. George were it rendered more commodious.

From what has been stated it results that the quantity of grain exported from the Danube in 1852 was:—

	Imperial Quarters.
From Galatz .....	614,202
„ Ibraila .....	1,155,597
„ Bulgaria (about) ....	200,000
„ Bessarabia .....	400,000
	2,360,799

But the production of Moldavia and Wallachia goes on increasing at the rate of about five per cent. yearly, and should this free port be obtained, a further impetus will be given to the exportation by the reduction of freights. For the same reason it may be expected that the exportation of Bessarabia by the Danube will be greatly increased, as produce, in place of being carried to Odessa, will be brought to the Danube for shipment. Then as regards Bulgaria, taking into account internal impediments to cultivation, which may be expected to be removed, and facilities to exportation and lower freights, it cannot be doubted that the production and exportation of grain from Bulgaria will increase very rapidly. For these reasons it may safely be reckoned, that ten years after the establishment of peace, and a convenient free port near the mouth of the Danube, the following quantities of grain will be exported from the Danube:—

	Imperial Quarters.
From Wallachia .....	2,000,000
„ Moldavia .....	1,000,000
„ Bulgaria .....	1,500,000
„ Bessarabia .....	1,000,000
	5,500,000

Regarding the present manner of bringing forward grain for shipment on board of sea-going vessels, it is to be observed that all the grain shipped from Galatz comes forward to that place by land. Of that shipped from Ibraila, not over one fifth comes forward by land; the rest is brought down the Danube by river craft, called *kerlatze*, from Calafat, Islas, Giurgevo, Calarrach, &c. Latterly, the Vienna Danube Steam Navigation Company has occasionally brought down grain from Upper Wallachia in *shlepfs* or iron barges. Of the grain shipped from Bulgaria, a portion is shipped from Silistria by small vessels, which go up to that place in spring when the water is high; the remainder is brought down, by *kerlatze*, from Widdin, Sistove, Rustchuk, &c., to Matchin, for shipment. At Matchin some warehouses have lately been built. The grain shipped from Bessarabia is all brought forward to Reni and Ismail by land.

The rate of freight, by *kerlatze*, from Calafat to Ibraila, in the course of the last four years, has ranged from P. 60—P. 120 of the G. S. per 1000 okes, equal per quarter to 2s. 2d. to 4s. 3d.; but P. 80 per 1000 okes may be taken as the usual freight, or per quarter 2s. 10d. for conveyance the distance of 300 miles English. The freight charged by the Austrian Danube Steam Company for conveying grain in iron barges, towed by steamers from Calafat to Ibraila, varies according to the season and demand, but may be taken on an average at 30 *kreutzer* per 100 *funti*, 4s. per imperial quarter. The *kerlatze*, or river craft, perform a voyage from Ibraila up to Calafat, empty and back with a cargo of grain in about two months. A steamer towing *shlepfs* can perform the same voyage in ten days.

The freight from Galatz to England may be taken as 50 per cent. higher than the freight from Odessa to England; thus, when freight from Odessa is 7s. per quarter, the freight from Galatz is 10s. 6d.: these are low freights. But were there a port at the St. George's mouth, the freight from thence to England could never be more than from Odessa, but would probably be 10 per cent. less. Thus allowing 1s. or 1s. 6d. per quarter for freight from Galatz to St. George, there would be a saving, when freights were low, of at least 2s., and when freights were high 5s. to 6s. per quarter, in favour of bringing grain to the ships, in place of sending the ships to the grain.

There would also be a great saving on the Insurance, and in the time of sending the merchandise to market.

CHARLES CUNNINGHAM.

Galatz, April 4th, 1855.

ETHNOGRAPHIC VIEW OF WESTERN AFRICA.—*Senegambia.*

(Continued from p. 492.)

*The Vai Family.*—The first of the six principal families of Northern Guinea in geographical order is that of the Vai, whose chief settlements are about Cape Mount, half way between Sierra Leone and Monrovia.\* This family includes the Timanis and the Bulloms near Sierra Leone, the Deys, the former occupants of Cape Messurado, and the Condoes, the Golahs, and the Menda tribes of the interior. We have placed the Vais at the head of this family because they have signalized themselves by the invention of an alphabet of their own that is now growing into general use among themselves. This discovery or invention was commenced twenty years ago by two uneducated youths of the tribe, and some account of it was published in the number of the *Missionary Herald* for June, 1833. A fuller account has recently been given of it by Captain Forbes of the British Navy, in his book on Dahomy. It has been noticed by the Missionaries of Sierra Leone also, and, recently, several little books have been published by the Church Missionary Society, in London, in this newly invented character, for the use of the Vai people.

The Vai people are very black, of slender frames, but with large and well-formed heads, and of a decidedly intellectual cast of countenance. They are mild and gentle in their character, are fond of agriculture, but, unfortunately, for a long succession of years, deeply implicated in the foreign slave-trade. Of late years, some of them have embraced the religion of Mohammed, but the greater part remain pagans.

*The Manou or Kru Family.*—Under this name are included all the smaller tribes between the Bassa and St. Andrew rivers, or that portion of the coast which was formerly known as the Grain, but more recently as the Liberian Coast. It includes the Bassas, the Fish, the Kru proper, the Sestos, the Grebo, Drewin, and St. Andrew people.

The people of Berebi, Drewin, and St. Andrew have generally been ranked with the Kwakwa family of the Ivory Coast, but the slightest acquaintance with their language, character, and appearance, shows that they belong to the Kru and not to the Kwakwa family. Malte Brun, upon the authority of Lopez, and some of the earlier writers upon Africa, states that all the families on the Grain Coast were once united under a general government, the chief of whom was known by the name of *manou*, *menou*, or *mandou*, and that this whole family was a branch from the kingdom of Amina, which is laid down on the older maps to the east of Sierra Leone and Monrovia. The present inhabitants of the country, at least those about Cape Palmas, have no recollection of the existence of any such government, but they ac-

\* They were frequently denominated the Quodja people by the earlier writers on Africa.

knowledge the term *Mena* as the generic name of all the dialects on this part of the coast.

The Kru family have always had a prominent place in the accounts of those who have written about Western Africa. They are not only employed as labourers on board of vessels which go to the coast, but they visit all the American and European settlements in the country, and occasionally go to England and come to this country as sailors. They possess most of the distinctive features of the Negro race, but these are seldom very prominently developed. Their complexion, as a general thing, is very much like that of the present generation of pure blacks in this country. There are among them, however, a less or greater number whose complexion varies from a jet black to that of a true mulatto, but with no essential variation of features. Some prominence should be given to this fact, as this is the only family in Northern Guinea, in which there is any variation from a jet black, and this is confined to the tribes between Basa and Cape Palmas. Those between Cape Palmas and St. Andrew are black without exception. The person of the Krumen is large, square-built, and remarkably erect. He has an open and manly countenance, and his gait is impressively dignified and independent. His head, however, is small and peaked, and is not indicative of high intellectual capacity. Their children, however, show no inaptitude to be taught, but make as much proficiency as any other in the country.

The Mena language has as many as seven or eight dialects along the sea-board, and perhaps as many in the interior. The Grebo dialect, that spoken near Cape Palmas, has been more thoroughly studied than any other, but has been found to be very difficult of acquisition. It is decidedly monosyllabic, harsh, abrupt, has but few inflections, and is exceedingly meagre in point of words.

The inland tribes are not materially different from those along the sea-board, either in their physical character, their customs, habits, or language. There is a large tribe living along the western slope of the Kong mountains, called the *Panh* people, whose complexion is decidedly lighter than those nearer the sea; and this is found to be characteristic of all the mountain tribes of Africa.

*The Kwakwa or Awekwom Family.*—This family extends from Frisco to Cape Appolonia, and takes in the different communities living at Frisco, Cape Lahu, Jack-a-Jacks, Bassam, and Assaini. The most prominent tribe among these are the Awekwom of Cape Lahu. In size, they are less than the Krumen, but are remarkably well made. Their complexion is very black, their hair is soft, which may be ascribed to their oiling and braiding it a great deal, and their heads are round and remarkably large. They are very pacific in their disposition; but have a good share of self-respect, and affect great contempt for the surrounding tribes. They act as factors for the interior kingdoms of Gaman and Buntaku. Their trade in former years consisted of ivory and gold dust, but of late years palm oil has become an article of much greater commercial importance. In physical character they bear a

much stronger resemblance to the Fantis than to the Krumen, but their language shows very little affinity to either.

*The Inta or Amina Family.*—Under this name are included the Fanti, Ashantis, and all the smaller tribes on the Gold Coast, with the exception of the Akra people, who are supposed to be more nearly related to the Dahomy tribes. The Fanti and Ashanti dialects are so much alike that they can scarcely be regarded even as different dialects of the same language. Both Fantis and Ashantis have a jet and somewhat glossy complexion and woolly hair, but their features, and especially those of the Fantis, are better and much more regular than those of the Krumen. The Ashantis have the Negro characteristics more deeply drawn than almost any other people in this whole region of country.

*Dahomy Family.*—The Dahomy country extends from the river Volta to Lagos, and extends over an interior region of country of equal extent. In this kingdom are five or six different tribes, all of whom are more or less remotely related to each other, among which may be mentioned those of Akra, (which, however, geographically belongs to the Gold Coast,) Popo, Ardrah, Whidah, and the Foy, or Dahomy proper. Prichard represents them as "tall, well made, straight, and robust." Their complexion is black, but not jet or glossy as that of the Fantis, and still less so than that of the Negroes on the Senegal and Gambia.

*Benin Family.*—We apply this name to all the country between Lagos and the Kamerun mountains. It includes all the principal settlements on the rivers which form the Delta of the Niger; amongst which may be mentioned those of the Benin proper, Bony, Bras, Nun, New and Old Kalabar. All these rivers are the outlets of the Niger, and the tribes residing on their banks are supposed to be related to the Mokos and Ibos inland. They are all extensively engaged in the manufacture and sale of palm oil, and the number of vessels which go there for the purpose of carrying on this trade, especially from Liverpool, is greater than is to be found upon any other part of the coast.

The country they inhabit, however, is very uninviting and unhealthy, and the character of the people, with the exception of those of Old Kalabar, is that of a comparatively low order of savages. They are generally very black, and have the Negro features more fully developed than any of the other communities we have been considering. The natives of Old Kalabar form an exception to these general remarks. They have had, for more than a century past, a greater or less number of persons among them who could read and write, and they have kept a kind of historic record of all the important events that have occurred among them for a long time past. A Scotch mission has recently been established among them and their language has been reduced to writing, but it discovers very little affinity for the other languages of Northern Guinea, except in some of its grammatical principles. It has no affinity whatever, either verbal or grammatical, with the Duali on the opposite side of the mountain of Ka-

merun, so that this may be regarded as the southernmost of all the tribes of Northern Guinea

*How far are these different Families of Northern Guinea related to each other?*—We want material to settle this question. It is doubtful whether they all belong to one original stock. Their spoken dialects differ so widely that it is almost impossible to say that they belong to one family, and their agreement, if, indeed, there is any, must be in some general principles of inflection and not in words.

Comparative vocabularies of all these languages, with the exception of the Vai and the Dahomy, have been published in the journal of the Oriental Society; from which it may be seen how far there are verbal resemblances among them. Taking the Grebo as the standard, we find that the Vai and the Mandingo have each about five or six words of apparently common origin; and they agree further in the fact that all their nouns, and perhaps their verbs, commence with consonants, and form their inflections almost entirely upon the final syllable. The Vai agrees with the Grebo further in having a large number of monosyllabic nouns. These two families, it will be remembered, are to the north of the Grebos, who live in the vicinity of Cape Palmas. Going eastward, there are an equal number of words in the Avekwom, the Inta, and the Dahomy languages, that would seem to have a common origin with those of the Grebo, but all these differ from it again in having a large number of their nouns and verbs commence with the letters *e* and *a*, and show no disposition whatever to use monosyllabic nouns. The Fanti differs still further, in deriving the plural forms of its nouns from the singular by changes on the incipient instead of the final syllable, a circumstance which almost isolates it from the other families of Northern Guinea. How it is in this respect with the Avekwom and the Dahomy is not known. The old Kalabar or Efik forms its plurals by changes on the last syllable or suffixes.

But, whatever discrepancies there may be in the languages of the principal families of Northern Guinea, there is a striking similarity in their physical character, their customs and usages, their religious notions and superstitious practices, and in their intellectual character; and especially so when contrasted with the families of Southern Guinea, which we are now about to consider.

Formerly, Cape Lopez, lat.  $1^{\circ}$  S., was assumed as the northern boundary of Southern Guinea, but the great Ethiopian family evidently begins at the southern base of the Kamerun mountain, and this, therefore, should be regarded as the proper dividing line between Northern and Southern Guinea. The mountain itself is a notable land-mark. It rises up almost from the water's edge to the height of 14,000 feet, and has the appearance of being covered with perpetual snow. The language of Old Kalabar on the north and the Duali on the south side of this mountain are as different from each other, with the exception of a few words that they have borrowed by frequent intercommunication, as any two dialects that might be selected from the remotest parts of the country.



In geographical area, Northern Guinea is more than a third greater than Southern Guinea; but, from its peculiar position, on the map of Africa, it does not extend over more than three or four degrees of latitude, whilst Southern Guinea extends over eighteen or twenty. This circumstance would naturally lead to the expectation of a more uniform type of physical character among the inhabitants of the former than the latter. And this is actually the case. The inhabitants of Northern Guinea, with the exception alluded to in the Kru family, are generally very black, whilst among those of Southern Guinea, as we shall show more fully in another place, we find every shade of colour, from a jet black to a light brown. There is great variety of physical type in the same communities, however, which may be accounted for by the intermixture of the maritime and the mountain tribes, a process which the foreign slave-trade would naturally promote. Why the same phenomena are not developed in Northern as well as Southern Guinea we are not prepared to say.

*General Division of Southern Guinea.*—It is well known that the inhabitants of Southern Guinea constitute a part of one great family, which extends over the whole of the southern half of the continent of Africa and is known as the Ethiopian, in distinction from the Nigritian, which is to be found on the north side of the Mountains of the Moon. We shall not stop to point out the relationships existing between the different and distant members of this great family, as this has already been done by Vater, Prichard, Latham, and others, but will proceed to compare the maritime provinces of the Ethiopian family with the corresponding portions of Nigritia.

Southern Guinea comprises five families, viz.:—1st. The Pongo family, occupying all the sea-coast region from the Kamerun mountain, lat. 4° N., to Mayumba, lat. 3° S., and comprehends the Kamerun people, Banaka, Corisco or Benga, Gabun or Mpongwe, Cape Lopez or Orunga, St. Catherine or Kama, and Mayumba. 2nd. Loango, extending from Mayumba to the Kongo or Zaire river, and embracing the Loango people, the Kakongoes, and the Angoys. 3rd. The Kongo people, occupying all the country between the Kongo and the Ambriz rivers. 4th. The Dongo, embracing all the aboriginal inhabitants of the Portuguese provinces of Angola and Benguela. 5th. The Azinko family, embracing the Jagas, the Azinko proper, and the Pangwe people. Of this last family, the Jagas are scattered along the eastern borders of the old kingdom of Kongo; the Azinkos to the east of Loango; and the Pangwes along the westerly slopes of the mountains opposite the Pongo country. These may be regarded as the mountain tribes of Southern Guinea. The Pangwes have recently descended in large numbers from the mountain regions, and have formed, in the course of ten years, more than twenty large villages on the head waters of the Gabun, and it is probable they will become dominant over this whole region of country before long. Our knowledge of the dialects of these mountain tribes is not sufficient to authorize the grouping of them into one family. But in physical character, in their

habits, pursuits, amusements, modes of warfare, and implements of war, they are very much alike, and when their languages are better understood, it will probably be seen that they are closely related.

As to the maritime tribes, it must not be inferred that their family relationships always correspond to their geographical position, but they do sufficiently so for the purposes of general comparison. The Pongo and the Loango families are very nearly related to each other, and it is probable that the Kongo and the Dongo are equally so; but we are not sure that there is as much resemblance between these two families on the opposite sides of the Zaire, as there is between them and some of the families on the east coast—the Pongo and Loango being more like the Swahere and other dialects about Zanzibar, whilst the Kongo and Dongo seem more like those of Mozambique.

*Pongo Family.*—On the Pongo coast, as in every other portion of Southern Guinea, we have a good deal of variety of physical type, not only among the different communities as such, but among individuals of the same community. This should be borne in mind as one of the distinguishing characteristics of the Ethiopian family.

Of the six principal communities of the Pongo coast which have already been mentioned, those of Kamerun and Corisco are the most alike and have less variety of complexion. They are tall, slender, and not well formed, with black complexion and woolly hair, but with comparatively regular features. They are industrious, energetic, and exceedingly fond of being on the water in their canoes and boats.

The inhabitants of the Gabun, better known as the Mpongwe people, and those of Cape Lopez and St. Catherine, are essentially the same people in every important ethnographic respect. Among each one of these there are at least five or six different types of character. In the Gabun there are at least five very marked types. 1st. There is the *Jewish type*, where the profile is strikingly Jewish, the complexion either a pale or reddish brown, the head well formed, figure slender but well formed, and the hair nearly as woolly as that of the pure Negro. 2nd. There is another, that may be regarded as the *Fulah type*, where the stature is of middle size, complexion a dark brown, the face oval and features regular, the hair in some cases crisp or woolly, and in others soft and even silky. 3rd. The *Kafir type*, where the frame is large and strong, the complexion a reddish brown, the lips thick but not turned out, the nose somewhat dilated but not flat like the Negro, the hands and feet well formed, but the hair is crisp or woolly. 4th. A type corresponding to the description given of the Kamerun and Corisco men, and in some cases showing a decided approximation to the features of the Somaulis represented in Prichard's work on the physical history of man. 5th. What may be regarded as an approximation to the true Negro type, the most striking instance of which we have ever seen is that of a man by the name of Toko, whose likeness is to be found in the *Day Star* for 1847. But even this shows a much better formed head and a more intelligent countenance than belongs to the pure Negro. The females of this region are the handsomest perhaps to be found on the coast of Africa. They

exhibit the same variety of complexion, stature, and features that exist among the men, but their forms are delicate, their limbs are small and tapering, and their countenances are decidedly intelligent, mild, and pleasing.

But the Banaka people are the most remarkable family on this part of the coast. They are located, it will be remembered, intermediate between the Kamerun and Corisco people, and have settled on the sea-coast within the last twenty-five or thirty years. It is not known from what direction they came to this part of the coast, but no one could fail to be struck with the peculiarity of their looks. Their complexion is of a reddish brown, and in many cases very much freckled, the hair in some individuals corresponds with the colour of the skin, and they have a peculiar expression of countenance which cannot easily be described. If found in South Africa, they would be regarded as Kafirs, though they have not the athletic forms of the Amakosah Kafirs. Their women disfigure themselves by making large holes in their ears and through the cartilaginous part of the nose, into which they frequently insert pieces of fat meat, a custom which is practised by the Gallas and other tribes along the confines of Abyssinia. But although so peculiar in their appearance, their language is closely allied to that of Corisco and the Bakeli, unless they have borrowed largely from these dialects.

*Loango Family.*—The inhabitants of Loango do not differ materially from those of the Gabun and Cape Lopez. It is probable that the Jewish type of character above mentioned forms a larger element of population here than it does on the Pongo coast; and this, doubtless, was what led the Roman Catholic Missionaries who laboured here during the sixteenth and seventeenth centuries, to the conclusion that they had found *black Jews* in Loango. This type of character, combined with the practice of circumcision, naturally enough led to this opinion. But this rite is nearly universal throughout the country, whilst this particular cast of countenance is only one out of a good many varieties that cannot be accounted for.

Barbot states that in the reign of Don John II., and about the close of the fifteenth century, large numbers of Jews were expelled from Portugal and taken to the coast of Southern Guinea; that the island of St. Thomas, which is not more than one hundred and fifty miles from the mainland, was populated by mulattoes descended from these Jewish exiles and Angola women. It is possible that the Jewish type of character noticed at the Gabun and Loango may have originated from this source; but if so it is unknown to the present inhabitants of the country, and it would have been somewhat singular if the Roman Catholic Missionaries at Loango had not detected this circumstance, instead of regarding them as a pure African family of Jews.

*Kongo and Angola or Dongo People.*—There have been so many of the Kongos and Angolas brought to this country in former years, while still greater numbers have been imported into Brazil of late, that it scarcely seems necessary to give a very minute account of them in this place. It is important to remark, however, that these families in

Africa cannot be fairly estimated by such specimens of the nation as have been brought to America; for the subjects of the slave trade have almost invariably been gathered either from certain degraded clans that are interspersed among the more powerful tribes, or from the weaker and more debased individuals of these more powerful families. But of this we shall speak more fully in another place.

*The Azinko Family.*—The Jagas or Giaghi, as they are sometimes called, are well known as a wild and savage horde, who were at one time as great a scourge to the people of Kongo as the Gallas in the East have been to the kingdom of Abyssinia. They overran the kingdom of Kongo several times during the sixteenth century, and would, doubtless, have subjugated the whole country had it not been for the interference of the Portuguese. They are represented as man-eaters, and were said to be exceedingly ferocious. The Azinkos proper or Azinguese live on the eastern borders of Loango, are much milder in character than the Jagas, and have never invaded or molested the maritime tribes.

The Pangwes are still further to the north, but never crossed the west side of the mountains until within the last fifteen years. They have emerged from the mountain fastnesses in the greatest numbers near the head waters of the Gabun, and have already formed between twenty and thirty large villages along the banks of its tributaries. It is difficult to form a correct idea of the size of the family which these represent. Those on the Gabun speak of themselves as but a handful compared with the immense number they have left behind. They are more pacific than the Jagas, but have enough of the war element, however, to cause the Bakelis, Shekanis, and other intermediate tribes a good deal of anxiety; these latter are gradually getting nearer to the seaboard, in order to keep out of their reach.

In many respects the Pangwes are a very remarkable people. Their complexion is at least two shades lighter than the true Negro, their hair is softer and braided so as to hang quite below their shoulders. They are square built and in stature quite equal to the Krumen. Their features are intermediate between that of the Arab and Negro; their heads are round and large, and their gait and general mien is that of perfect independence. They wear no clothing except a narrow strip of bark cloth in front, and besmear their bodies with a kind of red paint. They are always armed with a bundle of long spears, such as are used by the Nubians, carry a singularly shaped tomakawk, suspended from the left shoulder, a long knife or sabre in a case covered with snake or guana skin, and in times of war they carry a broad shield made of elephant hide. They use also crossbows, with which they shoot poisoned arrows with great precision and to a very great distance. They smelt their own iron, and manufacture all their own implements of war. They show a good deal of mechanical skill in the manufacture of brass, iron, and ivory ornaments; and the iron which they manufacture is so much superior to that offered for sale along the sea-coast, that they would scarcely receive the latter as a present. They have a circulating iron medium, by which all their

commerce is regulated. They cultivate the soil sufficiently for the means of subsistence, but spend much the greater part of their time in fishing and hunting, and especially in hunting the elephant, which is valued both for its flesh and its tusks. The only articles of foreign manufacture which they have heretofore cared for are brass pans and white pound-beads. The former they manufacture into ornaments, particularly bracelets and anklets; the beads they work into broad belts to be worn round the arms, or work them into their hair so as to form a complete bead wig. They live in small huts, the sides of which are enclosed with bark and the roofs are covered with leaves.

The first attempt that was made to acquire a knowledge of the Pangwe language induced the belief that very nearly all of its words were monosyllabic, and had little or no affinity with the surrounding dialects; but a more thorough examination has led to the conclusion that its monosyllabic character arose from the hurried and energetic mode of enunciation, in which they clipped their words or forced two syllables into one, and when expressed more slowly and fully it showed a decided affinity to the other dialects of the country. It is probable that the Pangwes are more nearly related to the tribes south-west of Abyssinia than to those along the western shores.

*General Remarks on the Families of Southern Guinea.*—If the families of Northern Guinea can be characterized by homogeneity of complexion, with very limited traces of linguistic affinity, those of Southern Guinea may be represented by just the reverse. Here we have homogeneity of language with almost every variety of complexion and feature. The sameness of complexion in the former case, may be ascribed in part to a sameness of climate, but the variety in the latter case must be ascribed to a different cause;—but what that cause is we shall not undertake to decide. We would merely suggest, however, whether it may not be an intermixture of races which, instead of manifesting itself by an intermediate type of character, has assumed that of a capricious variety. The cause may be the difference of altitude at which different communities have long lived.

(To be continued.)

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#### EXTRACT OF A LETTER FROM THE WHITE SEA SQUADRON.

We sailed from the Downs on the 10th of May, in company with our consorts the *Phoenix* and *Ariel*; when off the Firth of Forth we fell in with the wreck of the brig *Sarah and Mary* of Leith, deserted, dismasted, and waterlogged, caused, as we imagined, by a collision with another vessel.

As we progressed to the northward, a great change was experienced in the temperature, and although in the latter end of May, great coats, comforters, and mittens were put in requisition.

When off the coast of Norway, N.E. winds, with dense fogs, prevailed for many days; under these circumstances it was deemed unadvisable to approach within eighty miles of Jan Meyen Island, in consequence of the rock said to exist in its vicinity.

We were afterwards informed that the island itself was seen by the *Phoenix*; but although in company with her it was not observed from the *Mæander*.

At midnight on the 28th, whilst at night quarters, a man fell overboard; but thanks to the promptitude displayed in bringing the ship to and lowering a boat, the man was safe on board, the ship steering her course, and quarters resumed, within fifteen minutes of the accident.

After passing the Arctic Circle numerous arctic birds hovered around the ship, particularly looms, dovekies, and mollemauks, besides several land birds, including the dunlin, the latter after a short time becoming so tame as to perch on the shoulder of the officer of the watch.

On the 31st of May we rounded the North Cape, at the rate of ten miles an hour; but thick misty weather prevented our obtaining a view of this remarkable headland.

It is much to be regretted that the thermometers intended to be supplied did not arrive previous to our departure, the more so as the only two thermometers on board, belonging to Capt. Baillie and myself, both of which were used in registering the temperature of the air and water, were unfortunately broken within a week of our leaving the Downs.

Dense fogs and boisterous weather rendered our progress along the coast of Russian Lapland somewhat slow; but at length, on the 6th of June, we arrived at our rendezvous, Sosnovets or Fir Island, better known to Englishmen, however, as Cross Island, from the numerous crosses erected on various parts of the island. A large square tower painted red, in the centre of the island, forming an admirable landmark, had not been disturbed.

Here we found the *Phoenix* and *Ariel*, with a collier brig, which the latter had towed from Hammerfest.

Time being an object, we immediately commenced watering from the little river of Sosnovets opposite the island. The village of the same name, situated at the mouth of the stream, had been deserted very recently, as was apparent from the fact that the household utensils, nets, boats, &c., had not been removed.

After completing, the squadron sailed for Archangel, and anchored off the mouth of the Dwina on the 11th, and under the protection of a flag of truce, a notification that the blockade was established was despatched to the various foreign Consuls at Archangel.

On the 15th we were joined by the French frigate *Cleopatre*, and a few days after by two small steamers, the *Cocytus* and *Petrel*. We now have the considerable force of two frigates and four steamers, consisting of:—English, *Mæander*, Capt. Baillie, 44 guns, 309 men; *Phoenix*, Comdr. Hayes, 8 guns, 130 men; *Ariel*, Comdr. Luce, 9

guns, 100 men. French, *Cleopatre*, Capt. Guilbert, 32 guns, 375 men; *Coccyte*. Lieut. Dubuisson, 6 guns, 120 men; *Petrel*, Lieut. Arpin, 4 guns, 100 men: making a total of 103 guns, and 1134 men.

Civilities having been interchanged between the officers of the French squadron and ourselves, we are now on the best of terms, and I trust the good feeling may be as permanently established between the two great nations we represent in this quarter of the globe.

Having little or no excitement, our life, as may be supposed, is somewhat dull; and I firmly believe officers and men would make no small sacrifice to have a brush with the enemy.

From the ship the people on shore can be distinctly seen, even to the colour of their dress; and many of the officers considered it a break in the dull routine to watch a young lady taking daily exercise in a swing erected near the lighthouse.

At the beginning of this month the *Ariel*, Comdr. Luce, was despatched to the Gulf of Meyen, and with her boats proceeded up the river to within a mile of the town. They succeeded in burning a brigantine and two lodyas (or luggers), the latter being coasting vessels peculiar to the White Sea. Sheep and poultry were also obtained, as no opposing force was observed it was supposed the armed inhabitants were concentrated in and about the town for its defence.

The *Phoenix* and *Petrel* have been cruising in the Gulf of Onega; the former vessel's boats, with a flag of truce flying, were fired on whilst pulling towards the town of Liamtsi; this is not without precedent in this sea, for Capt. Ommanney states the flag of truce was violated in 1854 near the same place. The perpetrators of this atrocious act were stationed on two almost inaccessible hills, commanding the town, and it is worthy of remark that the heaviest fire came from the church built on one of the heights, from which also the first shot was fired.

On the 16th inst. we anchored off the town of Kouzemen, situated on the North side of the White Sea, at the entrance of the Gulf of Kandalak. The pinnace, barge, one cutter, and gig, manned and armed, (save the boats' guns,) proceeded to the shore, and the men, 60 in all, landed on the sandy beach abreast of the village for the purpose of reconnoitring. The whole force was commanded by Lieut. Hugh M. Elliot, supported by Lieut. Gooch, myself, Mr. Williams, Mate, Mr. Parry, Midshipman, and Messrs. Elliot, Scott, and Sandys, Naval Cadets; the Marines, twenty-four in number, were commanded by Lieut. Bennett, R.M.; Medical Officers, Mr. Duncan, Assistant-Surgeon, and Mr. O'Connell, Dresser.

On approaching the town with a flag of truce, no less than 350 armed men were observed, drawn up in two or three different bodies in and around the houses; this was not expected in a small town so unpresuming in its appearance.

We were met about the midway between the two forces by three or four men, one of whom carried on a short stick a dirty cotton handkerchief, as a substitute for a flag of truce. Desiring them to procure provisions for the use of the ship, we retired to allow our friends to

consult with the chief of the village. They shortly after waved the flag for us to advance, which we accordingly did, beyond the place of our former consultation, but observing them to be stationary, we halted, as it was properly supposed they had some treacherous object in view.

After some time we retired towards our boats, and one was shortly despatched to the frigate requesting that more men and the boat guns, should be sent, without which it would have been preposterous for our small party to have attacked 350 men with such advantage of position, &c.

The Captain, however, did not deem the village worth the risk of life, and we accordingly returned on board, not without a feeling of regret at leaving the Russians in quiet possession of the field.

Leaving Kouzonen, we made sail for Archangel on Thursday last, the 19th inst., being within sight of the tower of Mondiga Island. The *Phoenix* was observed firing shot and shell close to Cape Kerets. We immediately closed, and on communicating heard with much regret that one of her seamen had been shot through the head by the inhabitants of a small hamlet whilst attempting to land. The village was in flames before the *Phoenix* joined company.

We anchored here at 1h. a.m. yesterday, and are in hourly expectation of the arrival of the *Ariel* from the Gulf of Onega, on her way to Vardhuus with letters, from thence she will bring a return mail for the squadron.

In conclusion, I may observe that the object of the blockade has been most effectually carried out; the trade with Archangel, Onega, Kern, and other places of minor importance in the White Sea, has been entirely destroyed. As a proof I may state that whilst in 1854 no less than 700 vessels cleared out of the Dwina, the number this year has been diminished to eight, and had we been on the station earlier they would have been turned back.

The naval force in and about Archangel consists of a brig of 12 guns and twenty gun-boats; the latter, it is said, are each manned by sixty men, and carry two 24-pounders. I have not been able to ascertain, with any degree of correctness, the strength of the military force, but they are said to number 6,000 men.

On Mondiga Island (opposite the ship) at the entrance of the Dwina, a masked battery of eight guns is said to command the channel over the bar.

When first we arrived, 100 soldiers only were stationed there; but since that the force has been increased by 200 more from Archangel.

Our provisions now on board will last only until the latter end of August or the beginning of September. Should the *Ariel*, on her return from Vardhuus, bring no tidings of any more being sent out, we must leave the White Sea by the middle of August; but we are all in hopes for the best, and that we shall not be obliged to retreat before the weather renders it necessary.

On the whole the weather has been remarkably fine, although



the temperature is very changeable. One day it is quite a luxury to bathe, the next warm clothing may be required to be at all comfortable.

Whenever an opportunity offers, I have invariably taken sketches of headland, and through the kindness of Capt. Baillie have been enabled to obtain a few soundings, when despatch was not deemed necessary.

Observations for the variation of the compass have also been taken, but the results differ materially, in many places, from the variation inserted in the chart.

Our stay at Cross Island has up to this period been so short as to prevent my obtaining any decisive observation on the tide. A pole is, however, prepared, and should our stay enable me to do so, I will, if possible, obtain a fortnight's observations, including two springs.

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#### A HOT WIND OFF THE CAPE.

Ship *Themis*, April 30th, 1855.

Sir,—Perhaps the following notice of a hot wind off the Cape of Good Hope may be worth insertion in your columns.

Yesterday, April 29th, the land about Algoa Bay being in sight, but very distant—probably fifty to sixty miles off,—we had a moderate top-gallant breeze at north; the sky cloudy, indicating a change of weather, but fine in appearance, although the barometer had fallen four-tenths since the previous evening. The wind had been for some days previous steady from the eastward, with a clear sky. On the morning under notice the air was somewhat milder than it had been, and about 7h. a.m. some very large drops of rain fell, but so few that they did not wet the deck entirely. At 8h. a.m. the air suddenly became hot and continued so for about half an hour, when it resumed its previous temperature. The only thermometer on board was that attached to the barometer, which was fixed below, and the actual rise of temperature was not observed, but judging by the feelings, it could not have been less than 20° Fahrenheit. This current of wind was so hot as to cause a very unpleasant feeling at the time;—it was that of suffocation and starting of the eyeballs and a slight nervous tremour all over the body, and in some persons sickness and inclination to vomit. The air was felt so sensibly hot that on holding up the palm of the hand it was like warming it at a fire. Shortly afterwards the wind veered round to the westward, but no other change took place; there was no lightning, nor thunder.

I have experienced hot winds on the coasts of India, but never any so remarkable and, to my idea so out of place as this. Hot winds usually blow over sandy and barren plains, and under a hot sun, but here everything is the contrary, the land is mountainous and the season cold; besides the early hour of the day and the distance off shore are

against the supposition that this hot air may have been generated on the land, and the natural question arises, How and whence came it? Perhaps some of your readers may answer this question.

I remain, &c.,

J. W. MILLER,  
Passenger per *Themis*.

P.S.—It appears to be my fate to meet with storms during my peregrinations almost as certainly as the Knight of La Mancha met with castles and giants, and, like that worthy, I have not always escaped without buffets. On the present voyage, however, I had better luck. In lat.  $9^{\circ} 20'$  S. and long.  $89^{\circ} 46'$  E., the weather and barometer indicated that a "lion was in the path"—that we were in the vicinity of a cyclone. The mercury went down above half an inch, it blew till we were brought to double reefs, with the usual accompaniment of heavy rain, &c. Captain Nickels, having more faith in the law of storms than in that of chivalry, evaded rather than provoked the encounter, with so formidable an adversary, and I have no doubt saved the ship from the usual consequences of running into a cyclone. I think it unnecessary to enter into a detail of the means adopted to avoid this cyclone, suffice it to say they were successful, and, as they have been published frequently, ought to be as familiar to every seaman as the working of a day's work. I have seen a good many hurricanes and repeat here an opinion stated more than once before in your columns, that, with the exception of a very few awkward positions in which a ship may be overtaken by them, hurricanes are as easy to be avoided as islands and other dangers of the sea, and also that favourable advantage may often be taken of them to make a good run.—J. W. M.

To the Editor of the *Nautical Magazine*.

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#### THE BALTIC FLEET.

##### *Report of the Proceedings of H.M.S. "Firefly" in the Gulf of Bothnia.*

The following account of the proceedings of the *Firefly* are contained in a letter to the Commander-in-Chief, and relate to a visit of that vessel to a place called Wasa, about half way up the Gulf of Bothnia.

H.M.S. *Firefly*, Korsoren Beacon,  
August 11th, 1855.

Sir,—I beg leave to acquaint you that after leaving Fogle Fiord on the 27th ult., I communicated with H.M.S. *Harrier*, and his Imperial Majesty's corvette *D'Assas*, on their stations, and on the evening of the 31st, despatched H.M.S. *Driver* to you from Noorskar Light. At

10h. a.m. on the 1st of August, I anchored H.M.S. *Firefly* half a mile outside of Korsoren Beacon, and, with the two paddlebox-boats and the gig, accompanied by Lieut. Ward and Mr. Bull, pushed on to the South-East; on our way, we got information of a large bark at anchor to the eastward of Wasklot, and also that there was a military force in the neighbourhood.

On arriving within two miles from Brandon, a telegraph was observed on a small island in Korsham Fiord, signalling with three large balls, and on pulling in towards it, two men in a boat pushed off from the land with a flag of truce; fortunately I did not fire, for the flag was so large I mistook it for the boat's mainsail, and concluded they were trying to escape.

This very improper opportunity of using a flag of truce could not be recognized, and I ordered the telegraph to be cut down, but released the men and their boat.

No time was now to be lost, as the signal had been answered from the main; I therefore pushed on with all expedition, and on rounding the East point of Wasklot, observed the object of our search in the mud, which with little difficulty was got off, and towed out of range of any guns that could be brought to bear. The prize proved to be the *Fides*, of 300 tons, with from 200 to 300 casks of tar on board.

At midnight two Russian deserters came on board, and stated that the troops had moved off to Wasa on seeing the boats approaching, thinking an attack was contemplated on that place.

At 8.30 a.m. on the 2nd of August I returned to the *Firefly*, and immediately got under way for Korsoren Fiord, but the navigation was so difficult that it was not until 5.30 p.m. I came alongside the prize. At 8.30 p.m. I wayed and proceeded towards Brandon, the seaport of Wasa, and a great ship-building place; it had immense magazines on an island, separated by a very narrow deep-water channel from the town, with a Custom-house and barracks.

At midnight I anchored within 400 yards of the town, and sprung the broadside to enfilade the channel and protect the boats which were sent under Lieut. Ward to examine the magazines. Some of them were opened and found to be empty; others contained coals, tar, resin, salt, spars, anchors and cables, boats, salt fish, hawsers, and numerous piles of three-inch deals, but no sails or rigging, as we were led to expect. On a few of the principal inhabitants joining us on the island, they were told that the barque must be given up, and they immediately sent to Wasa to Mr. Wolf, a wealthy merchant and shipowner, but he refused. I, therefore, determined to burn the magazines; but, as the wind was blowing directly on the town, I agreed to wait a reasonable time until a change took place, and gave the inhabitants notice that they were at liberty to remove anything from the island that belonged to them, except ship's stores. For this forbearance they expressed themselves very grateful.

Towards the afternoon Lieut. Burstal brought in a schooner, and reported having discovered two fine barques and two brigs in a creek a mile and a half distant.

As the wind was still on the shore, and the destruction of the town inevitable had the magazines been fired, I directed the schooner to be hauled close into the island, and a working party to put some casks of tar and deals into her. Everything had the appearance of security: ladies were walking about the beach, parties of pleasure sailing round the ship, and the people employed taking their property from the island.

At eight p.m. I landed to communicate with the First Lieutenant, and had just visited the sentry placed on a building platform when a heavy fire of musketry from different parts of the town was opened upon the working party and the ship, and was immediately replied to by the latter with shot and shell, which appear to have done great execution.

The deck of the schooner was so enfiladed that it was impossible to get on board for the arms, and, had it been practicable to do so, not a man could be seen from her to fire at. Providentially, all escaped uninjured, and Mr. Bull having returned in the paddlebox-boats, with a fine barque in tow, a fire from the four guns and rifles was kept up so hotly, that in about an hour and a half the fusillade from the shore nearly ceased.

At midnight I moved the ship into a better position for sinking the schooner, and the bows being nearly driven in by the shot, I proceeded to the destruction of the barque and two brigs before the enemy could rescue them. This was successfully performed with the assistance of the second master, Mr. Bull, and Mr. Salter, gunner.

It was ascertained afterwards, from two different sources, that the enemy had twenty-five killed and from four to eighteen wounded; the injury appears to have been inflicted chiefly by the first three shots, while the troops were drawn up abreast of the ship.

On our side I am thankful to report that no more serious casualties occurred than a man and a boy being struck with spent balls.

During the 6th and 7th the weather was so wet and boisterous that it was impossible to act against the enemy, but I ascertained during the night that reinforcements had arrived to the amount of 200 or 300 sharpshooters and Cossacks, with several guns.

On the morning of the 8th, the weather being moderate, I took up a position 1500 yards from the magazine, and the same distance from a battery of four guns, and opened fire upon the latter, which not being returned I commenced firing red hot shot at the magazines.

At 2.30 p.m. smoke began to issue from the houses, and Lieutenant Ward, having volunteered to try and cut out the schooner, pushed in with the paddlebox-boat, and with great gallantry drove the soldiers three times out of the woods, but ultimately was obliged to retire before an overwhelming force secreted in the Custom-house; the boat was struck in many places; but, I am thankful to say, not a man was hurt.

At eight p.m. the principal magazines being all in a blaze, and their destruction inevitable, I closed the battery to 1000 yards, but still receiving no return, (though both guns and soldiers could be seen) and

the ammunition being nearly expended, I was backing out, when suddenly several heavy guns, from an elevated position masked by trees, opened fire, chiefly with shells, and at the same time the whole force of riflemen, and the power of these weapons may be imagined when I mention that a ball cut through a spar on the bridge, two inches thick, at a distance of 1500 yards.

It is with the greatest pleasure I have to speak of the coolness of the officers and men at this trying juncture; the narrowness of the channel and shoalness of the water (at the most  $2\frac{3}{4}$  fathoms) rendered it injudicious to attempt turning the *Firefly* round, and she was slowly backed astern a mile and a quarter before she was out of range, an evolution which, from the lightness of the wind, was not performed under forty minutes.

I cannot conclude without mentioning how much I am indebted to the First Lieutenant, Mr. Edward Burstal, who so materially assisted in inflicting this serious blow on the enemy's property.

I have, &c.,

HENRY C. OTTER, Captain.

Captain Frederick Warden. C.B., H.M.S. *Ajax*.

*A List of Vessels and Property belonging to the enemy taken or destroyed by H.M.S. "Firefly" from the 1st to the 11th of August, 1855.*

The *Fides*, barque, 300 tons; cargo, 228 barrels of tar; cut out of Wasklot, near Brandon.

The *Precioso*, barque, 420 tons; cargo, none; cut out of Wasklot, near Brandon.

A barque, 300 tons; cargo, none; burnt in a creek near Brandon; pierced for twenty guns; not quite finished.

A brig, 230 (?) tons; cargo, none; burnt as above.

A schooner, 230 (?) tons; cargo none; burnt as above.

A flat, 15 tons; cargo, firewood.

A boat, 10 tons; cargo, salt.

A sloop, 20 tons; cargo, eight tons of salt and five bales of cotton.

The Island Smoltan, near Brandon, having fifty to sixty magazines, containing coals, tar, resin, salt, spars, boats, &c.

### THE FALL OF SEBASTOPOL.

"Sebastopol has fallen" is the news that swallows up all others of the week. Long expected; for a dreary twelvemonth of war has passed since the expedition left Varna for Old Fort. The gallant victories with which the campaign opened—the desolating hardships of the winter—and the wearying succession of sorties and night attacks; surprises and repulses;—all these have passed before us, till we began to think them endless; but at last the end has come, and Sebastopol is ours.

*Official Despatches.—From the London Gazette Extraordinary.*

War Department, September 22nd, 1855.

Major the Hon. Leicester Curzon arrived this morning with a despatch from General Simpson to Lord Panmure, of which the following is a copy:—

Before Sebastopol, September 9th.

My Lord,—I had the honour to apprise your Lordship in my despatch of the 4th inst. that the Engineer and Artillery officers of the Allied Armies had laid before General Pelissier and myself a report recommending that the assault should be given on the 8th inst., after a heavy fire had been kept up for three days.

This arrangement I agreed to, and I have to congratulate your Lordship on the glorious results of the attack yesterday, which has ended in the possession of the town, dockyards, and public buildings, and destruction of the last ships of the Russian Fleet in the Black Sea. Three steamers alone remain, and the speedy capture or sinking of these must speedily follow.

It was arranged that at twelve o'clock in the day the French columns of assault were to leave their trenches, and take possession of the Malakhoff and adjacent works. After their success had been assured, and they were fairly established, the Redan was to be assaulted by the English; the Bastion, Central, and Quarantine Forts, on the left, were simultaneously to be attacked by the French.

At the hour appointed our Allies quitted their trenches, entered and carried the apparently impregnable defences of the Malakhoff with that impetuous valour which characterises the French attack; and, having once obtained possession, they were never dislodged.

The tricolour planted on the parapet was the signal for our troops to advance.

The arrangements for the attack I entrusted to Lieut.-General Sir William Codrington, who carried out the details in concert with Lieut.-General Markham.

I determined that the Second and Light Divisions should have the honour of the assault, from the circumstance of their having defended the batteries and approaches against the Redan for so many months, and from the intimate knowledge they possessed of the ground.

The fire of our Artillery having made as much of a breach as possible in the salient of the Redan, I decided that the columns of assault should be directed against that part, as being less exposed to the heavy flanking fire by which this work is protected.

It was arranged between Sir W. Codrington and Lieut.-General Markham that the assaulting column of 1,000 men should be formed by equal numbers of these two Divisions, the column of the Light Division to lead, that of the Second to follow. They left the trenches at the pre-concerted signal, and moved across the ground preceded by a covering party of 200 men, and a ladder party of 320. On arriving at the crest of the ditch, and the ladders placed, the men immediately stormed the parapet of the Redan, and penetrated into the salient

angle. A most determined and bloody contest was here maintained for nearly an hour, and, although supported to the utmost, and the greatest bravery displayed, it was found impossible to maintain the position.

Your Lordship will perceive by the long and sad list of casualties, with what gallantry and self-devotion the officers so nobly placed themselves at the head of their men during this sanguinary conflict.

I feel myself unable to express in adequate terms the sense I entertain of the conduct and gallantry exhibited by the troops, though their devotion was not rewarded by the success which they so well merited, but to no one are my thanks more justly due than to Colonel Windham, who gallantly headed his column of attack, and was fortunate in entering, and remaining with the troops during the contest.

The trenches were subsequently to this attack so crowded with troops that I was unable to organise a second assault, which I intended to make with the Highlanders, under Lieut.-General Sir Colin Campbell, who had hitherto formed the reserve, to be supported by the Third Division, under Major General Sir William Eyre. I, therefore, sent for these officers, and arranged with them to renew the attack the following morning.

The Highland Brigade occupied the advanced trenches during the night. About eleven o'clock the enemy commenced exploding their magazines, and Sir Colin Campbell having ordered a small party to advance cautiously to examine the Redan, found the work abandoned; he did not, however, deem it necessary to occupy it until daylight.

The evacuation of the town by the enemy was made manifest during the night. Great fires appeared in every part, accompanied by large explosions, under the cover of which the enemy succeeded in withdrawing their troops to the north side by means of the raft bridge recently constructed, and which they afterwards disconnected and conveyed to the other side.

The men of war were all sunk during the night.

The boisterous weather rendered it altogether impossible for the Admirals to fulfil their intentions of bringing the broadsides of the Allied Fleets to bear upon the Quarantine Batteries; but an excellent effect was produced by the animated and well directed fire of their mortar-vessels, those of Her Majesty being under the direction of Capt. Willcox, of the *Odin*, and Capt. Digby, of the Royal Marine Artillery.

It now becomes my pleasing duty, my Lord, to place on record the high sense I entertain of the conduct of this Army since I have had the honour to command it. The hardships and privations endured by many of the Regiments during a long winter campaign are too well known for me to comment upon. They were borne both by Officers and men with a patience and unmurmuring endurance worthy of the highest praise, and which gained them the deserved applause and sympathy of their country.

The Naval Brigade, under the command of Captain the Hon. Henry Keppel, aided by Capt. Moorson, and many gallant officers and sea-

men who have served the guns from the commencement of the siege, merit my warmest thanks.

The prompt, hardy, and efficacious co-operation of Her Majesty's Navy, commanded by Rear-Admiral Sir Edmund Lyons, and ably seconded by Sir Houston Stewart, has contributed most materially to the success of our undertaking; and here, perhaps, I may be permitted to say, that if it had pleased God that the successful result of this memorable siege should have been reported by my ever-to-be-lamented predecessor in this command, I am sure that it would have been one of his most pleasing duties to express the deep sense which I know he entertained of the invaluable assistance and counsel he received on all occasions from Sir Edmund Lyons. When at times affairs looked gloomy and success doubtful, he was at hand to cheer and encourage; and every assistance that could tend to advance the operations was given with the hearty goodwill which characterises the British Sailor.

Nothing has contributed more to the present undertaking than the cordial co-operation which has so happily existed from the first between the two services.

I cannot sufficiently express my approbation of the conduct of the Royal Engineers under Lieut.-General Sir Harry Jones, who has conducted the siege operations from the beginning of this year. For some time past he has been suffering on a bed of sickness, but the eventful hour of the assault would not permit him to remain absent; he was conveyed on a litter into the trenches to witness the completion of his arduous undertakings.

My warmest thanks are due to the Officers and Soldiers of the Royal Artillery under the command of Major-General Sir R. Dacres, who, during the arduous operations of this protracted siege, have so mainly contributed to its ultimate success.

I must beg further to record my thanks for the cordial co-operation and assistance I have received in carrying out the details of the service from the Chief of the Staff, the Adjutant and Quartermaster Generals, and General Staff, as well as Generals commanding Divisions and Brigades of this Army.

I must reserve to myself, for the subject of a future despatch, bringing before your Lordship the particular mention of Officers of the various branches of this Army, whom I shall beg to recommend to your favourable notice.

I entrust this despatch to the care of Brevet Major the Hon. Leicester Curzon, who has been Assistant Military Secretary to my noble predecessor and myself since the commencement of this war, and who will be able to give your Lordship more minute details than the limits of a despatch will allow.

I have, &c.,  
JAMES SIMPSON, General Commanding.

The Lord Panmure, &c.



Admiralty, Sept. 22nd.

Despatches, of which the following are copies, have been received from Rear-Admiral Sir Edmund Lyons, Bart., G.C.B., Commander-in-Chief of Her Majesty's ships and vessels in the Mediterranean and Black Sea.

*Royal Albert*, off Sebastopol, Sept. 10th.

Sir,—Of the operations on shore, which have produced the successful result of the singular and memorable siege of Sebastopol, her Majesty's government will be informed by General Simpson; but it is my duty to report to the Lords Commissioners of the Admiralty what has taken place afloat and on the sea-board under my own observation.

It had been arranged by Generals Simpson and Pelissier, Admiral Bruat and myself, that precisely at noon on the 8th inst. the Allied fleets should open fire upon the Quarantine batteries that enfiladed the approach of the assaulting columns; but unfortunately the weather, which had been fine for some days, changed on the morning of the attack, and a N.W. gale and heavy sea rendered it impossible for any vessels to act upon batteries situated on the lee shore of this exposed roadstead. It will, however, appear by the enclosed reports from Capt. Willcox, of the *Odin*, and Capt. Digby, of the Royal Marine Artillery (whom, as well as the junior officers mentioned by them, I beg leave particularly to recommend to the favourable consideration of their Lordships), that the mortar-vessels attached to the fleets kept up a very effective fire from their position in the Bay of Strelitzka.

As the day closed, things in the harbour seemed to be in the same state as they were in the morning, but during the night several heavy explosions were heard, and at dawn we observed that the fortifications on the South side were in flames, and that the six remaining ships of the line had been sunk at their moorings, leaving afloat no more of the late Russian Black Sea fleet than two dismasted corvettes and nine steamers, most of which are very small.

Soon afterwards the enemy were seen retreating across the newly-constructed bridge, until the South side of the harbour, on which the naval and military arsenals, the public buildings, and the town of Sebastopol are situated, appeared to be completely evacuated, and then the southern portion of the bridge was hauled over to the North shore.

It is now my pleasing duty to render justice to the admirable conduct of all whom I have had the honour and happiness to command during the last nine months of this arduous struggle, and whose duties I shared in before; for although, with the exception of the Naval Brigade in the camp, whose gallant bearing from the beginning under the command of Sir Stephen Lushington, has been beyond all praise, and never more so than during the last two bombardments under the command of the Hon. Capt. Keppel, it has not fallen to the lot of the navy on this occasion to perform distinguished deeds of arms such as those of their gallant brethren in the army; still, whilst straining every nerve, night and day, under very trying circumstances, to supply the means for carrying on the siege, in the glory of which they could not share, the generous cheer of encouragement, unalloyed by

envy, has always been heartily given in the day of triumph; nor have sympathy and assistance ever been wanting in the hour of distress and suffering; the same sentiments have pervaded all ranks—captains, officers, seamen, and marines, all agreeing with each other in following, as I believe I have said once before, the excellent example set them by my able second in command and coadjutor Rear-Admiral Houston Stewart.

Perhaps in closing this letter I may be permitted to indulge in the expression of the gratification I feel in reflecting that under all the circumstances to which it relates, my gallant colleague, Vice-Admiral Bruat, and I have gone heart and hand together, and that the most perfect understanding and hearty co-operation in the great cause of humanity in which we are all engaged, have invariably prevailed throughout both fleets.

I am, &c.,

EDMUND LYONS,

Rear-Admiral and Commander-in-Chief.

To the Secretary of the Admiralty.

Strelitzka Bay, September 8th, 1855.

Sir,—I have the honour to report that, in pursuance of the orders which I received from you this morning, I opened fire from the mortar-vessels, at 8.30 a.m., upon the Quarantine Battery, and a general or more rapid fire, from noon until 7h. p.m., upon the Quarantine Battery and Fort Alexander. The two outward vessels were much exposed to the swell which set into the bay, rendering a large object desirable, and I therefore directed their fire between Artillery Bay and the Bastion de Quarantine, where I had been informed that Russian reserves were placed.

The force of the wind and heavy swell which prevailed were singularly unfavourable to accuracy, and the general satisfactory nature of the firing was due to the ability exercised of the officers of the Royal Marine Artillery who conducted it: and I beg to submit to your notice the names of First Lieutenant Starr, First Lieutenant Hewett, First Lieutenant Brookes, First Lieutenant Festing, and First Lieutenant Pitman, the officers employed.

The non-commissioned officers and gunners also performed their duties in a most satisfactory manner; and I may especially mention the services of Colour-Sergeant Horner, who, in the absence of an officer, undertook the firing of the *Firm*, mortar-vessel.

Owing to the state of the weather, and the smallness of the means at their disposal, the officers in command had to overcome great difficulties in maintaining the position of their vessels; and I beg to be allowed to express my high opinion of the services of Messrs. Leet, Creagh, and Pearson, Brent, Hart, and Vaughan, Mates, who so ably performed these duties, and greatly contributed to the success of the firing.

I have, &c.,

G. DIGBY, Captain R.M.A.

Rear-Admiral Sir Edmund Lyons, Bart, &c.

H.M.S. *Odin*, off Sebastopol, September 8th.

Sir,—I have the honour to acquaint you that, acting in pursuance of your directions, and in conjunction with Capt. Bachm, commanding four French mortar-vessels, you did me the honour of placing under my command, [a fire was kept up] till 7h. p.m., against the Quarantine Fort and outworks, as well as upon Fort Alexander and the upper bastions (where, near to the latter place, a large number of the enemy's reserve were posted,) keeping their fire so completely under that only a few shot and shell were returned, and but few fired into the French battery and advanced works before us. A small number of carcasses were also successfully thrown into the town and upper bastion, which produced a conflagration of some extent.

To Captain Digby, Royal Marine Artillery, and the Artillery officer in each vessel, I must attribute the successful practice, and I am glad of the opportunity of bringing to your notice the indefatigable and zealous conduct of Mr. H. K. Leet, Mate, in charge of the *Firm*, who, from being the senior officer of the mortar-vessels, has always ably carried out my instructions; and I am happy to bear testimony to the praiseworthy conduct of Messrs. J. B. Creagh, T. L. Pearson, H. W. Brent, A. F. Hart, and Henry Vaughan, Mates, in charge of the other mortar-vessels.

I have also great pleasure in stating that no casualty occurred, and that neither the mortars or vessels were at all damaged by the heavy firing.

I have, &c.,

J. A. WILLCOX, Captain.

Rear-Admiral Sir Edmund Lyons, Bart., &c.

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*Proceedings of the Naval Brigade.*

*Royal Albert*, off Sebastopol, September 10th.

Sir,—I beg leave to enclose, for the information of the Lords Commissioners of the Admiralty, copy of a letter from Captain the Hon. Henry Keppel, reporting the proceedings of the Naval Brigade under his command, on the 7th and 8th instant, and enclosing a list of casualties.

I am, &c.,

EDMUND LYONS,

Rear-Admiral and Commander-in-Chief.

To the Secretary of the Admiralty.

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Royal Naval Brigade, before Sebastopol, Sept. 9th.

Sir,—I have the honour to inform you that, in pursuance of instructions, a vigorous fire was opened from the batteries at six o'clock on the morning of the 7th, and was maintained throughout the day; the fire was recommenced yesterday morning with increased vigour,

preparatory to an assault to be made by our Allies on the Malakhoff, and subsequently by ourselves on the Redan.

At noon the French were observed to start *en masse* from their trenches and possess themselves in gallant style of the Malakhoff Battery, on which the tricolour flag was hoisted and the Imperial eagles planted within ten minutes of their quitting their trenches.

The French flag was no sooner displayed on the Malakhoff than our storming party issued from their trenches and assailed the salient angle of the Redan, but the enemy were by that time prepared to meet them, and as the supporting party advanced, a heavy fire of grape and canister was opened on them, in spite of a brisk fire kept up from our batteries on all parts of the Redan not assailed, as well as on the flanking batteries.

After maintaining the footing they had gained for some time, our troops were obliged to retire, the killed and wounded left on the ground sufficiently testifying how gallantly they had fought.

The fire from our batteries was kept up until dark, and at about eleven o'clock the enemy evacuated the Redan after having fired a train that exploded the magazines.

This morning's light showed how successful and complete had been the victory gained by the Allied forces.

The enemy had evacuated all their positions on the south side of the harbour; the town, Fort Nicolai, Fort Paul, and dockyard, were in flames, and their line-of-battle ships had been sunk in the positions they were last seen in when at anchor.

The conduct of the officers and men of the brigade under my command has been such as to continue to merit the high opinion you have been pleased to express of them.

I have the honour to enclose a list of casualties for the 7th and 8th.

I am, &c.,

HENRY KEPPEL,

Captain Commanding Royal Naval Brigade.

Rear-Admiral Sir Edmund Lyons, Bart., &c.,

Commander-in-Chief.

The following is stated to be the number of Russian ships destroyed at Sebastopol:—

*Ships of the Line.*

	Guns.		Guns.
<i>Twelve Apostles</i> .....	120	<i>Selaphael</i> .....	84
<i>Paris</i> .....	120	<i>Three Hierarchies</i> .....	84
<i>Three Saints</i> .....	120	<i>Tro-Sviatitalia</i> .....	84
<i>Grand Duke Constantine</i> .....	120	<i>Varna</i> .....	84
<i>Vladimir</i> .....	120	<i>Gabriel</i> .....	84
<i>Sviotoslaw</i> .....	84	<i>Empress Maria</i> .....	84
<i>Rostislaw</i> .....	84	<i>Tschesme</i> .....	80
<i>Frigates.</i>			
<i>Cagul</i> .....	60	<i>Kavarna</i> .....	60
<i>Kouleffi</i> .....	60	<i>Medea</i> .....	60

*Corvettes and Brigs.*

	Guns.		Guns.
<i>Calypso</i> .....	18	<i>Theseus</i> .....	20
<i>Pylade</i> .....	18	<i>Eneas</i> .....	20
<i>Ptolemy</i> .....	20		

*Smaller Vessels.*—The *Nearch*, *Streilla*, *Orlanda*, *Drofik*, *Ziabiaka*, *Lastorga*, *Smaglaga*, eleven transports, and sixty-four gunboats.

*Steamers.*—Twelve—six large and six small. Among the first are the *Vladimir*, *Bessarabia*, and *Gromnostetz*, which were remarkable for their power and the range of their guns.

In all one hundred and eight sail, mounting two thousand two hundred guns.

The existence of this imposing fleet continually threatened Turkey. Created at an immense cost, it has been destroyed without having achieved anything from the time of its building but the disgraceful murder of four thousand Turks at Sinope. Admiral Nachimoff, who commanded on that occasion, is dead. Never did ships meet with a more ignominious end—sunk by their own commanders, without the glory of a fight!—the Admiral killed, with an unenviable reputation attached to his memory!—the crews shot down whilst working the guns of Sebastopol!

In the *Moniteur* appears the following despatch from General Pelissier:—

Sebastopol, Sept. 17th.—In their work of destruction the enemy respected the docks (which are magnificent constructions), the establishments in the vicinity, the Barracks of Fort Nicholas, and the Quarantine Fort.

The Anglo-French Commission appointed to draw up a return of the Russian material at Sebastopol has commenced its labours. The result may be summarily stated as follows:—

We have found in the town about 4,000 cannon, 50,000 cannon-balls, a few hollow projectiles, a large quantity of grape, a great amount of gun-powder—despite the explosions, 500 anchors—half of which are excellent, 25,000 kilogrammes of copper, two steam engines of thirty horse-power, a considerable number of masts sawn in two for defensive purposes.

Accounts from the Crimea to the 14th inst. have been received by way of Varna. On the 11th some small detachments of French troops entered Sebastopol. They found the streets full of ruins, and barricades erected in different parts. On the 12th the rest of the troops began to enter. Barricades and entrenchments extended almost up to the cathedral and the great square, but became less numerous beyond the latter point. In the night of the 11th several small vessels of the allied fleets attempted to enter the port by the side of the old Quarantine Fort, and the obstacles at the entrance of the port were about to be removed, to admit of the entrance of the large vessels. General Pelissier, in a despatch dated September 19th, states that of the 4,000 cannon found in Sebastopol, at least fifty are of brass. Others, which were thrown into the harbour at the moment of retreat, will be recovered. Already 200,000 kilogrammes of powder have been removed, and more is continually being discovered. The number of projectiles left by the Russians will exceed 100,000.

By a telegraphic despatch of the 19th, Admiral Bruat announces to the Minister of the Marine that the steamers *Milan* and *Fulton*, with an English gunboat, destroyed in the Sea of Azof, between the 6th and 11th, five fishing

establishments on the coast of Semviank, and sixty-eight in the lakes and rivers of the neighbouring coasts; also burnt thirty-one storehouses, containing nets or provisions, and ninety boats laden with forage and other supplies.

On all this it has been justly remarked :

The story of the destruction by the Russians of the sea forts, their firing of the magazines, and the terrible carnage that has already been the cost of our own entrance into Sebastopol, is horrible and sickening. But it is also a hopeful, solemn, and warning lesson. Contrast the haughty pride and insolent wantonness of wrong with which Russia embarked in her war of aggression against Turkey, and the significant complacency with which she pointed to Sebastopol as the immovable basis of her ultimate operations against the entire Turkish Empire in Europe and Asia, with the beaten, dilapidated, and crest-fallen aspect of her vaunting Generals and her crippled army. Did the Divine Justice ever permit us to contemplate a more impressive lesson on the manner in which

“ Vaulting Ambition thus o'erleaps himself ! ”

And what a lesson of gratitude and respect (after that first of all lessons, thankfulness to the over-ruling Providence which has decreed this mighty change in the relative position of the belligerents in favour of those who are warring *for*, and not *against* the rights and liberties of nations) does the same spectacle suggest to us, to the gallant and undaunted Army and Navy of the Allies? They have fought, and bled, and suffered, rallied, reformed, and carried against all human probabilities the objects they have proposed, against far surpassing numbers, means, and advantages on the side of their enemy. Thus far they have conquered. Assuredly, they are destined to carry through to a triumph still more permanent and complete the noble mission on which they have entered in the cause of suffering and oppressed humanity. With deep and earnest expectation, but with unwavering hope and calm confidence, we await the concluding scene of the great issue that we heartily believe is to affix the seal of an existence of ages on the glorious Alliance of Great Britain and France. All honour to their valiant and associated sons in arms!

We cannot help adding the following from the *Moniteur*.

Paris, Sept. 22nd.

In England, as in France, the capture of Sebastopol has excited the liveliest joy. It was proper, indeed, that, after sharing the dangers and sacrifices of this war, the two peoples should equally take part in the glory of the triumph. From the commencement of the contest, France and England, united in a strict community of views and efforts, have felt a kind of emulation in furnishing, each according to her resources, the means of ensuring success. If France has been able to place in line more soldiers, England has supplied a greater number of ships, and has not the less on that account sent in succession to the Crimea 80,000 troops, collected from all parts of her immense empire.

Owing to the prodigious naval armament of the Allied powers, their flags dominate over every sea, and forbid it to Russia. The enemy has seen his ships blockaded or burnt in his harbours, his sea-board ravaged, his commerce annihilated, his foreign relations destroyed. From the Sea of Azof to the White Sea, from the Baltic to Kamschatka, Russia is imprisoned by our fleets. Whilst the courage of our soldiers was triumphing over the desperate resistance of the Russian army, the combined squadrons were destroying his stores of provisions, and intercepting his communications, at the very time that they

were maintaining abundance in the Allied armies and conveying to them every day fresh reinforcements.

Our maritime resources would hardly have sufficed for the transport of our troops and enormous quantity of munitions required for such a war, at a distance of 800 leagues from our country. The English Admiralty placed at the disposal of France 50 vessels of her royal navy and her merchant service, which have conveyed to the Crimea more than 40,000 men of our troops, together with 2,000 horses, and 7,000 tons of *materiel*. Every one knows, besides, that if Bomarsund fell beneath the blows of our soldiers, it was chiefly the English navy that conveyed them thither.

In all the phases of war, at the Alma and at Inkermann, as at Bomarsund and Sweaborg, the armies and crews of England and France have mingled their blood and fought with bravery for the common cause. At the Tchernaya our Allies hastened up to support us, as we had hastened towards them at Balaklava. In the last and victorious efforts against Sebastopol the English and French equally accomplished their heroic task. If out of several points attacked one only was conquered at first, the triumph was not the less on that account due to all the corps of the Allied army, which, mutually supporting each other and dividing the resistance of the enemy, compelled him at length to abandon the walls of that city which his very despair could no longer defend. Therefore the General-in-Chief of the French army has been merely just when he assigned to the English army a large share of the glory in the success of that great day.

The pecuniary sacrifices that our Allies have imposed on themselves equal our own, even if they do not surpass them. Without speaking of the Turkish loan of 100 million (of francs), guaranteed, it is true, by France as well as England, but contracted exclusively among our neighbours, nor of the 50 millions (of francs) advanced by them to the Piedmontese government, for enabling it to give us the most useful assistance of its brave soldiers, England expended on this war, last year, nearly 400 millions (of francs), and has foreseen that she might have to expend on it this year a further sum of more than a milliard.

This enormous burden and all these sacrifices are supported by the English people, as by the French people, not with resignation, but with that energy which proves that no expense will be spared in the attainment of their object. We may say of our neighbours as of ourselves, that the nation is not satisfied with following and supporting its government, but that it outstrips it in a manner, by lavishing on it all the means requisite for ensuring the triumph of a cause the justice and grandeur of which are equally comprehended by the two peoples.

#### DESTRUCTION OF PETROPAULOVSKI.

The Allied fleets, consisting of eight ships and steamers, arrived off Petropaulovski on the 15th of May, with the intention of attacking it. The whole of the garrison had made their escape in the Russian frigates *Aurora* and *Dwina*, having availed themselves of a dense fog on the 17th of April, and eluding the British frigates *Barracouta* and *Encounter*, which for a long time had been blockading the Fort. The place has been completely destroyed, and fifty-one guns taken. The Allied fleets have sailed for the Amoor river, to which the garrison of Petropaulovski have fled.

[Petropaulovski, or Petropaulshafen, is the capital town of Kamschatka on

its East coast, on the North side of the Bay of Avatska, in lat. 53° 27' N.; long. 158° 40' 13" E. Its port is small, and it has less than 1000 inhabitants, but it is the principal Russian military station in this remote province. Amoor, Amour, or Saghalin, is a large river of Eastern Asia, formed, [near lat. 58° N., long. 125° E., by the union of the Shilka and Argun; the first rising in the Russian government of Irkutsk, and the latter near Ourga, in Mongolia, and forming, for about 400 miles, the boundary line between the Russian and Chinese empires.]

Despatches, of which the following are copies, have been received at the Admiralty from Rear-Admiral Bruce, Commander-in-Chief of her Majesty's ships and vessels on the Pacific station:—

*President*, at Petropaulovski, June 15th.

Sir,—I have to report, for the information of the Lords Commissioners of the Admiralty, that, arriving off this port on the 30th of May, I found the place completely evacuated,—not a ship, gun, or person to be seen,—nothing but empty embrasures and deserted houses.

I entered the inner harbour on the following day in the *Barracouta*, accompanied by Capt. Penanros, of the French frigate *Alceste*, when we found three Americans, (the only residents left,) from whom we learned that the Russian ships named in the margin (*Aurora*, 44; *Dwina*, 20; *Olivatza*, 20; transports, *Baikal*, *Irtisch*,) were cut through the ice, and took their departure on the 17th (the 5th) of April, with all the guns and munitions of war, and all the soldiers and Government *employés*, 800 in number, but of their destination we could obtain no clue.

I reached the rendezvous, lat. 50° N., long. 160° E., in my flag-ship, on the 14th of May, and the *Dido* and *Pique* arrived the same day; the *Encounter* and *Barracouta* had been there since the 14th of April. Great credit is due to Capt. O'Callaghan and Comdr. Stirling for the zealous exertion by which they effected this object; and their Lordships will remark the promptitude with which they were despatched by Rear-Adml. Sir James Stirling.

The French frigate *Alceste* and the *Brisk* were in the vicinity of the rendezvous at the same time, but the prevalence of thick fogs and adverse weather prevented my seeing the Bay of Avatska before the 20th ult., when, six of the ships being together, I trusted to the prompt appearance of the seventh, and accordingly proceeded to the port, in tow of the *Barracouta*, followed by the *Alceste*, in tow of the *Brisk*. The *Dido*, *Pique*, and *Encounter* arrived the same evening.

Comdr. Stirling, of H.M. steam sloop *Barracouta*, while separated from the squadron, having, during a break in the fog, looked into the anchorage to see if it was there, took, with much judgment, that opportunity of reconnoitring the harbour; and I was informed by him of the ships being no longer in it.

The *Amphitrite*, from Honolulu, having met me on the 11th inst., while I was in the act of following the Russian ships into the Sea of Okhotsk, and given me such information as to convince me that a combined English and French force was already there, instead of proceeding I despatched H.M.S. *Pique* and *Barracouta* on the 13th, and the *Amphitrite* on the 14th, to reinforce the squadron of Sir James Stirling at the mouth of the Amoor. The *Encounter* sailed on the 13th for Sir James Stirling's rendezvous at Hakodadi, in the Straits of Matsmai, to inform his Excellency of the movements of the other ships, in case he should not have left there. The *Amphitrite* will rejoin my flag off Sitka as soon as Capt. Frederick finds her services are not required in the Sea of Okhotsk.



Resuming the subject of Petropaulovski, I would observe, that the enemy must have worked in an indefatigable manner after the departure of the Allied squadron last year, as we found nine batteries for 54 guns had been constructed with much skill and labour, by means of fascines strongly bound together, 25 feet thick, staked and filled in with earth, and some of them ditched round, with covered ways leading from one to the other, and trees planted in the rear. Every possible preparation had been made to receive us prior to the orders arriving from St. Petersburg to evacuate the place.

I caused the batteries to be destroyed, but having met with no opposition on approaching Petropaulovski, I considered it a point of honour to respect the town.

I found hidden in the Rakovia Harbour a fine Russian whaler of 400 tons, called the *Aian*, built at Abo in 1853. She would have sailed from here three weeks since for Aian, with the family of the Governor of the place, and, among other articles of cargo, an engine for a small steamer said to be there, but the opportune arrival of some of the squadron off the port prevented her leaving. As I found her deserted, and her sails, boats and anchors are not to be found, she will be destroyed.

I am disappointed in not having succeeded in opening a communication with the inhabitants, who have fled from the town, for I hoped to obtain the release of the two English prisoners they have among them. I learn, however, from the Americans, that they are very well treated.

In conclusion, I desire to add that, although it has necessarily been a great disappointment to the squadron under my command to find upon arrival at this place, more than 2000 miles outside their station, that the enemy had escaped and the batteries were deserted, yet their Lordships will not fail to observe that not the less credit is due for the great zeal and anxiety that have been shown by each of the ships in pushing onward in the hope of being in time to take part in the anticipated operations at this port.

The best understanding subsisted between Capt. Penarros, of the *Alceste*, and me, and I cannot say too much in favour of the zeal and activity he displayed to meet every wish of mine and to keep the appointed rendezvous; the same continues with respect to Rear-Adml. Fournichon.

I am, &c.,

H. W. BRUCE,  
Rear-Admiral and Commander-in-Chief.

The Secretary of the Admiralty.

*President*, off Sitka, July 17th.

Sir,—I request you will inform the Lords Commissioners of the Admiralty that before leaving Petropaulovski I succeeded in opening a communication with Capt. Martinhoff, the temporary Governor of that place, who had retired into the interior, having for its object the release of two prisoners taken last year, as reported in my general letter of the 15th ult. No. 44.

Having forwarded a safe-conduct to Capt. Martinhoff, through the kind offices of an American resident in Petropaulovski, that officer sent 150 versts inland for them, and on their arrival, on the 25th ult., delivered them up to Capt. Houston, of H.M.S. *Trincomalee*, and three Russians, who had been detained on board the French brig *Obligado* since last year, were given in exchange.

The two men proved to be William Garland, ordinary seaman, of H.M.S. *Pique*, and Pierre Langois, of the French frigate *Forte*. The latter will be handed over to the *Forte* on my arrival at San Francisco, and the former will,

at his own request, be appointed to the *Brisk*, his proper ship having sailed for the China station. Both appear to have been treated with much kindness during the time they have been in the hands of the enemy.

I have, &c.,

H. W. BRUCE.

The Secretary of the Admiralty.

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By the mail steamer from the United States, which arrived at Liverpool on the 8th September, we have full accounts of the operations of the Allied fleets against the Russian possessions on the northern shores of the Pacific Ocean, both in Asia and America. These accounts reached the United States by way of California.

It will be recollected that the Allied squadron in the Pacific made an attack upon Petropaulovski in the early part of last September; and having been rather roughly handled sailed southward without having effected the reduction of the place. Petropaulovski is the capital of Kamschatka, and is a place of considerable importance. It is situated on a kind of inner bay, divided from the outer one by a sand bar, which runs parallel to the town, leaving a narrow entrance for vessels seeking the inner harbour. It will be recollected that the *Dwina* was moored behind this bar when the first attack was made on the place, and, being completely sheltered from the guns of the Allied fleet did good execution.

From time to time intelligence has been received of the movement of all the vessels belonging to the Allied fleet in the Pacific to the northward during the past spring, and it appears that it was determined that another attack was to be made on Petropaulovski, and its reduction was to be effected at any cost. Accordingly, in the early part of last May the Allied fleet, augmented by the arrival of other vessels of war, appeared before the devoted town, and commenced preparations for the attack. When they approached sufficiently near to be able to discern objects on the shore, they were greatly surprised to find that the American flag had been substituted for the Russian, and that a most extraordinary stillness reigned around. On landing, they found that the town had been deserted and not a single human being remained save two Yankees, and a Frenchman who acted as their servant. From them they learned that orders had come from Siberia for the removal of the Russian troops to the garrison at the mouth of the Amoor river, and that the inhabitants had also fled to the village of Avatska, some miles distant. Immediately after the desertion of the place, the American flag was hoisted by the two Americans, who remained behind, as a signal to the Allied fleet, which it appears was expected. The town, after the desertion of the garrison and the inhabitants, presented of course a very lonely appearance. Packs of dogs scoured through the silent streets in search of food. The houses were all tenantless, and a solemn stillness reigned around.

It appears that on the repulse of the Allies last fall, it was determined to strengthen the fortifications of the place, in order that they might be able to give them a warmer reception on their second appearance. The fortifications were composed of logs of wood, fascines, and earth, about fifteen feet in thickness; and the embrasures indicated the fact that no less than fifty-one guns were mounted, and these of the heaviest calibre; but, strange to say, not one of the guns, nor any of the ammunition and stores, could be found by the Allies when they arrived there last May. They were either carried to the Amoor river, or buried. The probability is that they were disposed of in the latter way. The arsenals, magazines, &c., which were principally frame buildings, were burned down by the Allies, and all the property belonging to

the Government which could be found was destroyed. The stores and private dwellings were, however, scrupulously respected.

From the two Americans the Allies learned the particulars of the exodus of the garrison and the inhabitants. It appears that on the receipt of the news of the defeat, on the first attack, in England, the English screw-steamer *Encounter*, fourteen guns, and the steamer *Barracouta*, six guns, were ordered from China to Petropaulovski, to watch the movements there. Both lay off the coast, some distance from the town, during the whole spring; but on the 17th April the whole garrison embarked on board the *Aurora* and the *Dвина*, and four merchantmen, and, taking with them all their stores and ammunition, set sail for the Amoor river. The movement was not perceived on board the English steamers in consequence of the thickness of the weather occasioned by the snow and fogs. The inhabitants all moved to the village of Avatscha, where the wife of the Commandant also remained, not being able to proceed with the troops in consequence of the delicate state of her health at that time.

Before leaving, the Allies destroyed all the fortifications, and erected a fence around the graves of Admiral Price, and the English and French who fell on that occasion, having been drawn into an ambuscade while marching upon one of the batteries by which the harbour was protected. It is difficult to divine what were the reasons of the Russians in abandoning the place. It was well fortified both by nature and art, and the result of the first attack showed that the place could be successfully defended even against a larger force than the Allies could muster in the Pacific.

The *Obligado*, Captain de Rosencourt, which arrived at San Francisco on the 18th July, left at Petropaulovski, the British man-of-war *Trincomalee*, on board of which two Russian prisoners had been placed, for the purpose of exchanging them for a French sailor who had both his arms cut off in the attack made on the place by the Allies last fall, and was afterwards captured by the Russians. It is stated that he received the kindest treatment. The British frigates *Pique* and *Amphitrite*, after the destruction of the works at Petropaulovski, sailed for the Ochotsk Sea. The English vessels were to proceed to Vancouver Island, and the French to San Francisco. A portion of the fleet was to remain at the North for some time, and cruise around the Aleutian Islands.

In a despatch, dated Petropaulovski, from Rear-Admiral Fourichon, of the French fleet, he states, after briefly recapitulating the facts above enumerated, that the Russian garrison, numbering some 1,200 men, had doubtless sailed for the mouth of the Amoor river, which drains the southern portion of Siberia, and flows into the Gulf of Saghalien, an arm of the Sea of Ochotsk. They left for this port on the 17th of April, and were there before the French and English arrived at Kamschatka. This river is regarded as the dividing line between China and Asiatic Russia, and at its mouth is a very strong series of fortifications, which have been greatly strengthened from time to time by the Russians. It is thought by some of the officers of the *Obligado* that the immense armament of Petropaulovski was carried there with the garrison.

After the destruction of Petropaulovski, a portion of the Allied fleet paid a visit to Sitka; but the compact between the Russian and British Governments, whereby the Russian-American Company and the Hudson Bay Company are mutually exempted from an assault on land from either of the two belligerent Powers, was completely respected by the Allies. The object of their visit seems merely to have been to ascertain whether any naval force belonging to the Czar was to be found in that quarter; and, satisfied upon this point, the Admirals did not think proper to exercise a right reserved in the compact—that of blockade.

On arriving off the harbour, the Allied ships did not enter, but the English and French Admirals, with their suites, embarked on board the English steamer *Brisk*, and entered the port. They were waited upon by a boat from the shore, containing the Governor's Secretary, who communicated the information that, in accordance with the spirit of the treaty between England and their Government, no preparations for defence had been deemed necessary, and that none had been made. If the French Admiral should think proper to assail the town, no resistance would be offered, and they could only ask that they be taken on board the men-of-war as prisoners for if their defences against the hostile Indians were destroyed and the town burnt, the whole population—men, women, and children—would be at the mercy of the savages, who surrounded the place in such numbers that their destruction would be inevitable.

The fleet arrived at Sitka in twenty-three days from Petropaulovski, and sailed on the 18th July for San Francisco.—*Illustrated London News*.

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LOSS OF H.M.S. "WOLVERINE."—The following intelligence has been received at the Admiralty:—The *Wolverine* was lost on the night of August 11th on the S.S.E. part of the Courtown Bank, while proceeding to Greytown. Jamaica papers give the following particulars:—H.M.S. *Buzzard*, Captain Dobbie, had arrived in Jamaica, bringing accounts of the total loss of H.M. brig *Wolverine*, Captain Corbett, on some Cays, distant about a hundred and sixty miles to the north of Greytown. The officers and crew, we were glad to hear, were saved. The information of the loss of the *Wolverine* was communicated to the Commander of the *Buzzard*, while lying at Greytown, by the pinnace of the *Wolverine*, under the command of the Second Lieutenant, which left the Cays on the 14th and arrived on the 16th. The *Buzzard* immediately proceeded to render what assistance might be necessary, but finding the officers and crew under tents, and the Commander desirous of saving as much of the stores and guns as possible, the *Buzzard* left for Port Royal, with the account of the loss. She took in coals and provisions, and proceeded to the wreck with the least possible delay.—*Idem*.

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THE USE OF HELIGOLAND.—At the foot of Denmark, out in the North Sea, in front of the mouths of the rivers Elbe and Weser, facing Cuxhaven in Hanover, and also commanding the island of Neuwerk, is another little island, called by us Heligoland (Helgoland by the Germans). Britannia has struck her trident on the isle of Heligoland, and hoisted the union jack on the top, to give notice to all whom it may concern that here is a depot for the Foreign Legion which the English Government is raising in Germany, to help us and our real allies in the Crimea. Look at the map of Europe; there is a spice of humour in the choice of the spot. The advantages which it offers for the purpose, are quite out of the common way. In time of peace Heligoland is an advanced sentinel, who can constantly keep her eye open on what is passing in the North of Germany. In war she is a little Gibraltar, from which, as a centre, Britannia can send her cruisers to wander about, her scouts to spy, and even her smugglers to trade. At all times, therefore, in spite of its tightness and exiguity, Heligoland is by no means to be sneered at as a possession of importance to the United Kingdom, being a sort of outstretched snail's eye, which allows us to watch whatever is in the wind on the North German coast at the mouths of its two main commercial arteries—Holstein and Holland.

According to the reports of the Government agents from all quarters, recruiting for the Foreign Legion goes on most satisfactorily, notwithstanding the covert repugnance of some Governments and the open hostility of others. Great numbers of recruits are constantly arriving at the Heligoland depot, where a considerable number are still being trained and organized, and where they are behaving themselves so well that the fashionable world of the Hanse Towns, although a little frightened at first, are again flocking to their favourite dot in the ocean for their annual sea-dips in it.—*Daily News*.

## NAUTICAL NOTICES.

### PARTICULARS OF LIGHTS RECENTLY ESTABLISHED.

(Continued from p. 504.)

Name.	Position.	F. or R.	Ht. in Feet	Dist in Mls.	Remarks on the Lights.
31. Mauritius.	Flat Island.	R.	365	25	Est. 1st Dec., '55. Light is in 19° 53' 4" S., 57° 41' 9" E. Duration of light 90 seconds—once every minute.
"	Cannonier Point.	F.	38	10	Est. 1st Dec., '55. Light is in 20° 0' 6" S., 57° 35' 4" E. When seen from the Southward, bearing anything to the Northward of N.E. & E. will appear <i>Red</i> , thereby warning the master of a vessel, when within 6 miles of it, that he is too near the land.
"	Fort George.	F.			Harbour light <i>Green</i> .
"	Mortella Grand R.	F.			Harbour light <i>Red</i> .
32. Falkland Isl.	C. Pembroke	F.	58	12	Est. 1st Dec., '55. Cape Pembroke in 51° 40' 8" S., 57° 41' 7" W. Entering Port William, pass it on port hand and avoid passing within Seal Rocks, on account of tide, unless having a commanding breeze.
33. Passages, Spain.	C. La Plata.	F.	152	14	Est. 1st Oct., '55. Cape La Plata in 43° 20' 3" N., 1° 58' 4" W. The light is to the West of Passages.

F. Fixed. Ff. Fixed and Flashing. R. Revolving. I. Intermittent. Est. Established.

**BLACK SEA. COAST OF KRIMEA.**—The several buoys, the positions of which have are herein given, have been laid down in five fathoms water, to indicate the shoal ground off Kazach Point, and at the entrance of Kamiash Bays, by orders of the Commanders in Chief of the allied squadrons in the Black Sea.

**Buoys off Kazach Point.**—Vessels proceeding to the North Eastward, or for Kazach, or Kamiash Bays, after rounding Cape Khersonese, will pass these buoys as follows:—

The first or southernmost buoy lies with Khersonese Lighthouse bearing S.W.b.W. distant one mile, and the naval hospital on Kazach Point bearing South, distant one cable and three quarters. Immediately within this buoy is a rocky pinnacle carrying only three fathoms.

The second buoy lies with the N.W. point of Kazach Bay, bearing South, distant two cables and a half. At less than a cable's length within this buoy is a rocky patch carrying only two fathoms.

The third buoy lies with the N.W. point of Kazach Bay bearing S.W., distant two cables and a quarter.

The foregoing are can buoys, painted black, with the word "danger" conspicuous on them, to warn vessels from passing between them and the land.

A black beacon buoy is also laid down in five fathoms water on the end of the rocky ledge extending from Dovnaia Point, dividing the interior of Kazach Bay, from which buoy Kazach Point bears N.N.W., and the N.E. point of the bay N.E.b.E.

In a heavy N.W. or Westerly gale the swell rolling into the Bay of Kazach breaks on this ledge, rendering it dangerous for vessels anchored near it by tailing on the reef.

*Buoys at the Entrance of Kamiesh Bay.*—A chequered red and white buoy lies two and a half cables N.b.W. from the point separating Kazach and Kamiesh Bays, in five fathoms, and

A striped white and black buoy lies also in five fathoms on the shoal, extending from the N.E. point of Kamiesh Bay, which bears from it E.  $\frac{1}{4}$  S. distant one cable and a half.

A white buoy is also laid down in five fathoms, with the N.W. point of the entrance of Kamiesh Bay bearing S.S.W. a cable and a half distant.

The bearings are by compass.

**BLACK SEA. BALAKLAVA ROCK AND ROADSTEAD.**—A black beacon buoy has been placed on the Balaklava Rock.

This danger consists of an isolated rock, about the length and breadth of a small boat, having only 11 feet water over it, but with 7 and 11 fathoms around the pinnacle at a quarter of a cable distant from it, except towards the N.E., where it is connected with the shore by a rocky ledge of  $5\frac{1}{2}$  and 6 fathoms.

The rock bears S.  $23^{\circ}$  W. (magnetic) three cables and three quarters from a conspicuous black cliffy point near the bend of the bay, which point is now distinguished by a vertical streak of white-wash.

No vessel should anchor for an inshore berth with the white streak bearing any thing to the northward of N.E.b.E. This bearing leads two and a quarter cables to the Westward of the rock. And the highest round hill over the West side of the port kept open to the South of the S.W. point of the entrance, (Powell Point,) N.  $40^{\circ}$  W. (or N.W.  $\frac{1}{4}$  N.) also clears the rock to the Southward.

As some vessels now anchor near the rock, for the advantages of the more moderate depth of water that extends for a distance of half a mile off this part of the bay, the following remarks should be observed by them.

As a general rule, on anchoring in the roadstead, no good holding ground is found in any depth under 25 fathoms, in which, and in deeper water of the bay, the bottom is a tenacious mud. But this depth nowhere exceeds 42 fathoms, even in a direct line between Cape Aia and St. George Bay.

On the bank in the vicinity of the Balaklava Rock and in all depths under 15 fathoms, the bottom is either coarse gravel, or foul rocky ground.

The bearings are by compass.

**PORT OF DISCHARGE FOR ALEPPO.**

We published yesterday the copy of a communication made by the Secretary of the Board of Trade to Lloyd's Committee, relative to Lattachia being substituted as a port of discharge of cargoes destined for Aleppo during the unhealthy seasons at Alexandretta. The communication was made at the suggestion of the Consul General in Syria, whose attention had been directed to the subject by the masters of British ships anchored at Beyrout. By substituting Lattachia as a port of discharge in the place of Alexandretta, it is urged that no injury whatever will be inflicted upon trade, inasmuch as the former port, during the summer months, is as convenient and hospitable as the latter, with the additional advantage of being healthy, whilst Alexandretta at this period of the year is afflicted with fever and pestilence. So malignant is the fever now raging there, that more than fifty English seamen have lately been compelled to leave their ships and go to the French hospital, whilst many British ships have abandoned the port without waiting for the settlement of their freight, and some have left behind them goods for England which they could not ship from having their crews disabled by the fever, not being able to find hands on shore, all the natives of the place having fled to the mountains to escape the pestilence.

We consider the suggestion, under these circumstances, of substituting Lattachia for Alexandretta a wise one. In order to facilitate the proposed change we should advise that in the charter parties of all ships, and bills of lading for Aleppo, after naming the port of Alexandretta, the following words should be added—"or the port of Lattachia, if, at the time at which the ship arrives at Alexandretta, fever is prevalent at that port, or the climate of Alexandretta is at the time so unhealthy as to endanger the lives or health of the crew." Such a discretion left to the master would remove all technical difficulties, and give a protection to the crew, to which, when their lives are imperilled, they are fairly entitled.—*Shipping Gazette.*

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**HORSBURGH'S DIRECTORY.**—We understand that a new and much improved edition of this well-known work is on the eve of publication. The recent survey of Comdr. Bate in the China Seas, with numerous extracts from our pages, has contributed in no small degree to maintain its high character in the forthcoming edition.

**NEW AND CORRECTED CHARTS, &C.**

*Published by the Hydrographic Office, Admiralty, and Sold by J. D. Potter, 31, Poultry, and 11, King Street, Tower Hill.*

MEDITERRANEAN, Black Sea, Anapah, Captain Spratt, R.N., C.B., 1855	1 0
WEST INDIES, Cuba, Anchorage on the West Side of Isle Frances, Mr. Sullivan, R.N., 1854	1 0
POLAR SEA, Northumberland Sound, Prince Albert Island, Captain Sir E. Belcher, R.N., C.B., 1853	1 0
GREENLAND, Port of Lively, Captain Sir E. Belcher, R.N., C.B., 1853	1 0

EDWARD DUNSTERVILLE, Master, R.N.

*Hydrographic Office, Admiralty, September 22nd, 1855.*

THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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NOVEMBER, 1855.

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REMARKS ON THE NAVIGATION OF THE OLD BAHAMA CHANNEL.—  
*By Mr. John Parsons, Master-Commanding H.M. Surveying  
Vessel "Scorpion."*

The navigation of the Old Bahama Channel has always been considered the most dangerous in the West Indies, on account of its great and confined length, and the numerous dangers on the banks at either side; consequently, many vessels are annually lost in its vicinity, a result which, if it were properly lighted, would be soon avoided. The deficiency will, however, be soon remedied by the united efforts of the Governments of England and Spain.

The channel is formed by a narrow strip of bank, extending along the Cuba shore from the cays on the south side, and the Great Bahama Bank on the north. The former being full of rocks throughout, the latter equally so in many places; and the channel in the narrowest part being but twelve miles wide, navigators must use their utmost caution in passing through it, until the projected lights shall be established.

It is at present proposed to place a lighthouse on Cay Lobos, at the narrowest part of the channel, and the Spanish Government is erecting one on the Paredon Grande, about thirty-one miles to the west of Cay Lobos. These, when in operation, will be of great value to the navigation; but more are still required for its proper security.

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4 C



This channel is principally used by vessels from Europe trading to the Havana and the Gulf of Mexico, returning by the Florida Stream on their homeward course. It is therefore evident that the remarks and advice herein contained must have reference to this course of navigation from east to west,—small coasting schooners of Cuba being the only description of vessel *returning* eastward through the channel, with the exception of steamers.

By the new route established for our West India mail steamers they have to pass through this channel both ways, always taking the narrow part by daylight, and constantly keeping on board a Spanish pilot. When the lights are established this can be quite as easily passed at night; but sailing vessels, not being able to command a certain speed, will find the case different.

Vessels, having entered by one of the windward channels between Crooked Island and St. Domingo, as the one most convenient, when drawing into what may be considered the entrance of the Old Bahama Channel, will have to pass between Cay St. Domingo, on a prominent point of the Bahama Bank, and Punta Mulas, on the Cuba side, distant from each other thirty-four miles. On either one of these a light ought to be placed—Cay St. Domingo being, if anything, preferable to the other. They must next steer so as to make the *Maternillos* light, (R. one minute,) of 169 feet elevation, standing at the extremity of a sharp point of that name on the Cuba shore. Passing to the north of this at any distance, as convenient, keep it bearing S.S.E.  $\frac{1}{4}$  E., true; then steer N.W.b.N., until you see Lobos; when, edging over a little to the west, pass Cay Lobos to starboard at a mile or two distant, and continue down the channel, taking care to secure your position by cross-bearings of Guincho (Ginger) Cay and the *Paradon Grande* lighthouse as you pass them at sunset, so as to keep a fair course through the channel at night.

It is to be considered that vessels at present should not run through the narrow part of the channel by night; but if making the *Maternillos* light in the evening they will wait for next morning to proceed, keeping their position during the night to the northward of the *Maternillos*, until such time as the lights may be established on Cay Lobos and at the *Paradon Grande*; when, under these circumstances, the transit may be safely effected at any time with a fair wind.

After leaving the vicinity of Guincho Cay at dusk, by the morning the ship will probably be advanced as far as *Anguilla* or *Cay Sal*, and may have been set to either side of the passage by the stream coming from or going into the *Santaren* Channel; and for this reason, and the narrowness of the channel between the *Cay Sal* bank and the Cuban dangers, a light is much required on *Cay Anguilla*.

The Spanish Government is about to erect a light on *Cayo Cruz del Padre*, at the south-west corner of the *Nicholas* Channel. This will be in a good position for the entrance of the channel from the westward after leaving the Havana, but scarcely of any use to the down trade, the dangerous points being *Cay Medano* and *Cay Anguilla*—both too far to be protected by the light in question.

These directions are intended for steamers, and sailing vessels with the usual trade-wind, but in the months of December, January, February, and March, the north coast of Cuba and the Bahamas in general are subject to gales of wind from the north, called "northers" rendering the passage a difficult one and, without lights, very dangerous.

On a gale commencing at north-west, the usual point, it will entirely depend on the position of the vessel and her size as to what course should be pursued. Should she not have entered the narrowest part of the channel, she ought to run back to the Maternillos light and, keeping to the northward of it, wait until the wind hauls to the N.E., which it will soon do; she may then proceed down the channel with a fair wind, and certainly a strong one, as these gales blow themselves out in the N.E. quarter, generally veering to north twenty-four hours after their commencement.

If further advanced, say at Guincho Cay, with a vessel of moderate draught (fourteen feet) there is the choice of taking the Bahama Bank between Guincho and Lobos Cays, and standing on the bank to four and a half fathoms, to anchor and ride out the gale, 'waying when the wind veers sufficiently to make it fair. A vessel can also hold her own on the bank to the north of Guincho Cay without anchoring, as it is quite clear, taking care that she does not fall to leeward so as to get on that cay, and proceeding as before when the wind changes.

These gales are generally strong enough for close-reefed topsails, but the vessel's power must be well considered before it is resolved to enter on the bank.

When a ship is so large that it may be considered dangerous to take the bank, it will be necessary to return to the neighbourhood of Maternillos; or should the wind be so far to the north as N.b.W., a good sailer may still be able to proceed down the channel. A vessel caught in this manner shortly after dark and well in the channel, so that running back may be dangerous, must take care how she stands towards the Cuba shore, as the dangers give no warning, the shoals being only three cables from the land and the sea very rough. The Bahama Bank is to be preferred, having fewer dangers, as also being the weather side in these gales, and in the event of grounding the wind would assist in getting the vessel off again.

The Cuba side in these gales is exceedingly dangerous to approach, being full of shoals. A very heavy sea is running while they last. During our stay here we found it troublesome riding with even a light north wind.

These north gales occur several times in a month and last for four or five days. The signs of their approach are a light trade wind or a calm, with the land unusually clear. The barometer scarcely gives warning of them. They generally rise first in a dark squall about W.N.W.,—when the wind is fairly steady it will be about N.W.,—and then it gradually veers to the N.E., where it will sometimes blow for a week, with squalls and rain. As soon as the wind gets to the

south of east it will be light, then calm, and perhaps recommence with another gale from N.W.

When March is fairly out, these gales are no longer to be apprehended. In April, May, June, and July, the weather is exceedingly tranquil on the coast of Cuba. Land winds then predominate at night, with occasional squalls, accompanied by heavy rains: these are generally of short continuance. In August, September, and October, you will have very fine weather, with, of course, the possibility of a hurricane; but as these visitations are not frequent, the chances are very much in favour of a smooth transit in those months. Should a hurricane occur whilst you are in the passage, there is but one course to pursue—run through it; for as these gales will be coming towards you from the S.E. quarter, and most likely commencing at N.E., you have no remedy but to run for a more open sea as quickly as possible, and if necessary take the Gulf of Mexico, but as these gales rarely enter that sea, you will most likely be relieved of the wind about its entrance.

The sea breezes are light in the months of June, July, and August. During the remainder of the year they are of moderate force, three to five, except when disturbed by the winter gales. Generally speaking, the land wind amalgamates with the trade at night, causing the latter to change its direction about four points.

About four miles to the eastward of the Maternillos lighthouse, is the entrance to Nuevitas, between two low points distant from each other four cables and a half; on the eastern of which are a few huts, the residences of the pilots, and a flag-staff. To enter this place, a vessel should stand in close, avoiding a dry shoal near the west end of the eastern reef, bearing from the flag-staff N.E.b.E. one mile. A pilot will then come off, but if for shelter only a vessel would enter a pilot is unnecessary by keeping mid-channel and anchoring when off the fort on the right bank, at about a mile and a quarter from the entrance.

The town of Nuevitas is about eleven miles within the entrance, and a pilot is positively necessary to go to it, as the channel is very circuitous, with many shoals. It consists of some straggling huts standing on about a square half mile of ground. It is governed by a military officer. The Captain of Marine for the north-east part of the island resides here.

The trade of the place is chiefly with America. There are a few sugar estates in the neighbourhood, worked by steam machinery.

There is a single line railway between Nuevitas and Puerto del Principe, running once a day; the charge is four dollars each way. The engines are American, and the line is conducted by an American company.

Puerto Principe, situated about the centre of the island, is worth visiting. It is one of the most ancient towns in Cuba and of some importance. The colonists were obliged to fix on this site, having been driven from both the north and south coasts by Morgan and his

associates on many occasions. This place is celebrated for the manufacture of Dulces de la Guaba, *Anglicé* Guava Jelly.

There is a small stream emptying itself near Nuevitas, but it is difficult to obtain water here from its shallow entrance.

The fort near the mouth of the harbour is a small circular one with three guns (howitzers). A stockade is attached to the north of it with four guns more.

Maternillos lighthouse will assist in finding this place. The points are very low, like the land adjacent.

From Maternillos to the Boca de Caravela, twenty miles, there is nothing of importance. The land is quite low with a sandy beach the whole way. It is skirted by a strip of bank averaging a mile and a half in width, with a broken reef one-third of a mile from the edge of soundings. Under these reefs good shelter for small vessels of seven to eight feet draught may be found, entering at the western ends.

There are four fishing stations in this line of coast: Cruces, Las Palmas, Punta Piedra, and Ensenada Honda. These are occupied in the turtling season, May and June, by a few fishermen.

The only mark on this shore (La Sabinal) is a high mangrove ten miles to the west of Maternillos lighthouse, and just west of Las Palmas fishing station. This must be what is called in the *Derrotero de las Antillas*, Alto Juan de Dana.

Boca de Caravela has six feet over its bar, and the same amount may be carried to the village of Guanaja, about seven or eight leagues to the S.W., by an intricate channel through the mangroves. A tide of three knots prevails in the entrance.

Next to the westward is the Isla de Guajaba, extending to the Boca de Guajaba, ten miles. On this island are two small hills. The eastern one being a mile in length, in a N.W. and S.E. direction. When first seen from a ship running down the channel, it presents four distinct masses. Ninety feet is its greatest elevation. The other is a small round lump not so high. The first four miles of the sea face of this island is a low mangrove coast, with many small islets; the remainder is a sandy beach.

Boca de Guajaba, leading to the village of Guanaja by a very circuitous route of five leagues, has five feet water in its entrance at low water. Not more than three feet can be carried through it.

The village of Guanaja, where a few fishermen are found, is a miserable collection of huts built in a swamp on the shore of the main island. There is a road to Puerto Principe from it.

On the eastern part of Cayo Romano, there is a long low hill with a few small elevations on it, of which 230 feet is the greatest. There is no other high land in the vicinity, and it cannot be mistaken. There are a couple of fishing stations under the hill near the beach.

Cayo Verde is a small cay about one cable across, and of a circular form. The bushes on it are ten feet in height, so that it can be seen only a few miles. From this cay to the Boca Caravela, there is the same kind of skirting bank, with a broken reef; inside which vessels of seven feet draught will find good shelter—the largest reefs being

preferable to ride under. A vessel of ten feet draught may enter a channel N.b.E. from the Boca de Guajaba, and anchor off it, if preferring to load by boats from that entry.

South-west of Cayo Verde, at half a mile distant, is a secure anchorage, for vessels not drawing more than ten feet, on white sand, secure from the north gales. To pass to this round the north end of the reef off Cayo Verde and to the west of the cay, a vessel may also enter from the south, but the bank is not so clear of shoals.

Cayo Confitas is a low cay, half a mile in length from north to south and a cable across from east to west. A dry reef extends from its south end one mile. Adjacent to its north end is a small channel of two fathoms; then a dry reef, the north point of which is a mile from the island. On its south end is a pile of stones—our observation spot—and near the north end is a remarkable solitary tree, which is the first part rising out of water on approaching it. There is a clear piece of water on its south-west side, deepening off from two to four fathoms, on white sand. This is the only place to anchor with any degree of safety between Nuevitas and the Paredon Grande, with a vessel drawing more than twelve feet. During our survey of this place, we were at anchor here nearly the whole time; from whence our expeditions were made with boats to either side. Nor was it at all a quiet anchorage, for on the wind coming to the south of east a long swell sets round the south end of the reef, causing the ship to roll most inconveniently. There was, however, scarcely any strain on the cables, and on the whole it may be considered safe, except in the hurricane months. A vessel may ride out a norther here without much motion. Anchor with the cay bearing N.E., about a mile distant, or nearer if a small vessel, keeping at least in four feet more water than the vessel draws when the tide is out.

Between the reefs extending from Cayo Confitas and Cayo Verde there is a wide clear channel of five fathoms; through which a vessel should enter, but never from the north, where it is rocky and irregular.

Cayo Cruz is a long flat cay with a sandy beach, and divided in the middle. On its N.E. point, there is a remarkable clump of trees; they are thirty feet high. North of the north end of this cay and, like most of the rest, about a third of a mile from the edge of the bank, are the Tributarios de la Minerva, a dry reef, best avoided by taking care not to come on the bank; the edge of which is plainly visible by the contrast between the dark coloured water with white sand inside.

Cayo Cayman and the other small cays on towards Paredon Grande are all low and surrounded by dry sands inside, and coral rocks without.

On passing these cays, you will observe the Alto de Afi on Cayo Romano, above a hundred feet high.

At the N.W. point of Paredon Grande, a rocky point and the highest part of the island, the Spanish Government is erecting a light-house. The tower is to be 170 feet high, of iron on a stone base; the light to be revolving of one minute interval.

Westward of this cay, distant two miles and a third, is the Paredon del Medio, a rocky islet, twenty-five feet in height.

Between this and Cayo Confitas there is no anchorage for vessels, it being full of shoals throughout not sufficient to afford shelter to any vessel under them. This bank should not be entered without some specific purpose. In the event of a vessel drifting, a small anchor may be let go near the edge to keep position; but if in the winter time, however, starting with the first wind.

There is no good water to be obtained on any of these cays. In some places by digging in the sand it may be found, but generally brackish.

The valuable woods on the coast of Cuba are fast disappearing. Very little mahogany or cedar can be found near the shores; but there is plenty of timber for house and wharf purposes.

The copper mines of Cuba are in the S.E. part of the island, near St. Jago de Cuba.

Beef is plentiful in Cuba: average value one real per pound. Most of the English vegetables grow there in the winter time. Immense quantities of oranges, plaintains, &c., are gathered in the proper seasons.

The climate for about four months in the winter may be considered bearable; average temperature being then about  $75^{\circ}$ . But in the summer months, with rains, calms, and the thermometer often at  $90^{\circ}$ , it is perfectly intolerable and very sickly.

The birds on the coast are flamingoes, cranes, herons, ducks, pigeons, every variety of the plover, and many of the hawk tribe. Quails and partridges are found on the dry grounds, but not numerous. Wild cattle and hogs are found on Cayos Romano and Coco.

Mosquitoes on this coast, in the months of May and June, after rains are so numerous that the light-keeper at Maternillos assures me he has to keep brushing them off the mirrors of the light;—a proof at least that their flight is lofty. We have been troubled with them three miles distant from land. Snakes are not numerous, nor of a poisonous kind.

A look-out is kept at Maternillos lighthouse; from whence signals are made to Nuevitas. During the time the filibustering expeditions were expected on the coast, every one was on the alert.

The colour of the sea in the Old Bahama Channel is not of that bright blue which may be seen in the Atlantic, but is of a dirty indigo colour. I do not think this arises from the want of depth,—having tried, without finding bottom, 1,000 fathoms,—but rather from the muddy water of the Cuba shore mixing with it.

The currents in the Bahama Channel are not strong, seldom exceeding half a mile per hour to the west. This is principally caused by the trade forcing the water through it, finding its escape by joining the Florida Stream. On several occasions, when becalmed in the narrow part of the passage, we found no current.

Between Cayo Cruz and Romano, the water is but one foot in depth at low water, and the bottom is a tenacious white marl like pipe clay.

Within Cayo Romano the bottom is of olive mud, with a covering of weed. The reefs are all of coral formation; the cays are of the same order, corals and shells, and the mud of decomposed mangroves. The isolated hills are of limestone, with shells and corals imbedded. These cays have advanced by joining successively the skirting reefs formed outside, as the lines of the old reefs are distinctly traceable inland. La Sabinal is full of lagoons, running parallel to the shore, and all the cays are more or less flooded. Cuba itself is entirely of a different formation to these cays. There, silicious compounds, clays, and limestone ridges, without fossil shells of the present date, are to be found; but as yet there has been no opportunity of examining the land.

The hills on Cuba to the south of the part surveyed can only be seen when the weather is clear, being forty to fifty miles distant.

The tides set in from the ocean at right angles to the edge, about half a mile per hour. High water full and change, 7h. 30m.; rise and fall, three feet at springs, two at neaps.

Between the cays and the mainland the rise is not more than one foot, and the set is imperceptible except in the passages between the Cays.

#### THE ATLANTIC OCEAN CONSIDERED WITH REFERENCE TO THE WANTS OF THE SEAMAN.

[The following series of papers are a translation of the *Considerations Generales sur l'Ocean Atlantique*, drawn up by Captain de Kerballet, and published in the *Annales Hydrographiques* of 1852. Combining as they do the modern investigations of Lieut. Maury and others with former information concerning Atlantic navigation, they are highly creditable to their author, and stand a monument of his judgement and industry. To repeat them in the *Nautical* may be retracing well-beaten ground, but it must not be forgotten that we have a race of officers training to their profession as well as another already experienced, and to the former of these such information may be more acceptable than the latter. Still, agreeing as we do with the late Hydrographer to the Admiralty, that no directions are so perfect as not to require revision and amendment, to intelligent seamen generally we believe this "View of the Atlantic Ocean" will not be unacceptable.—ED.]

#### *General Winds.*

The bason of the Atlantic Ocean, divided unequally between the West coasts of Europe and Africa and the East coast of America, presents a deep valley which appears bounded on the North and South only by the poles. Fields of ice have arrested the progress of navigators who have endeavoured to explore those regions.

In order to consider the winds common to this ocean, we shall divide it into three regions: the first, that comprised between the parallels of 30° North and South latitudes; the second, between the latitude of 30° South and the South pole; the third between 30° North and the North pole. We shall divide each of these two last-named regions

into two zones: the temperate zone, extending from the parallel of  $30^{\circ}$  to  $60^{\circ}$ , and the frozen zone between the latitude of  $60^{\circ}$  and the poles.

We shall first consider the winds of each of these divisions of the ocean at a distance from the coast; and then, commencing at one extremity, shall describe the winds generally met with near the shore.

*Origin and Causes of the Winds.*—The winds owe their origin to all actions which disturb the equilibrium of the atmosphere. Science has endeavoured to determine the cause of wind and the general laws by which it is governed. Philosophers attribute winds to the heat of the sun, different and variable on the surface of the earth, in conjunction with the diurnal motion of the earth itself.

The differences between the temperature of the polar regions and of those near the equator being very great, they assert that there must, of necessity, be a constant change of air between these regions. Thus the cold and dense air of the polar regions tends to replace the warm and expanded air of the equatorial regions, which latter, rising and forming a higher current, should transfer itself towards the north and south, in order to restore the equilibrium.

If the earth were still, the winds on its surface would generally blow from the north and south, according to the hemisphere in which they are: but the earth, turning from west to east on its axis, with a quickness which increases in proportion as the points approach the equator; the consequence is, that in passing from high latitudes towards that great circle, currents of cold air arrive progressively in those regions where the rotatory motion is more and more considerable. Not being able to participate in this movement, on account of their want of cohesion with the earth, the winds take an opposite or inverted direction from that of the rotation of the globe, namely, from east to west.

Thus, by combining the rotatory motion of the earth, and the different temperatures of the surface, the currents of air, coming from the north and south in each hemisphere, are limited in their direction, and incline towards the N.E. and S.E., producing the winds called the general or trade winds of the torrid zone.

Without entering into the numerous theories which have been adduced on this subject, and the various objections that each different one has incurred, we shall confine ourselves to a statement of the leading facts which have been authenticated regarding the winds of the Atlantic Ocean; the knowledge of which is of such vast importance in general to navigation.

*North and South Polar Winds.*—The two currents of air, blowing from the north and south poles towards the equator, which are mentioned before, are termed polar winds, north and south, according to the hemisphere in which they are felt.

*North and South Tropical Winds.*—On the contrary, those winds are called north and south tropical which, from the equator, are directed towards the poles.

These last appear to be counter-currents to the polar winds.

*First division of the Atlantic or Torrid Zone.*—In the northern hemisphere, the polar winds blow from the N.E., in the southern hemisphere, from the S.E., and they take a more easterly direction in



proportion as they descend towards the equator. Between the tropics, these winds have received the more common name of "*trade-winds*"\* of each hemisphere." They are also called the "general winds of the torrid zone."

These winds render the passage across the Atlantic, from the Old to the New World, quick and easy.

The trade winds appear to be the only primitive winds. Where they are established, the weather is always fine, and the sky generally clear. If they cease for a while, the sky becomes clouded, and, in certain parts, storms with rain are experienced, the more lasting and severe, in proportion as the localities are more or less distant from the equator.

Those regions where the trade winds do not occur are constantly exposed to squally and tempestuous weather; where they cease only from any cause, bad weather is experienced, and it has been remarked that they always return with some violent reaction, or by torrents of rain.

The trade winds to the north and south of the Equator have similar traits, which will be hereafter described.

*Limits of the Trade Winds.*—The polar limits of the trade winds from N.E. and S.E. generally extend on each side of the equator to the parallels of 30° north and south latitude. Nevertheless, this limitation varies greatly in some parts of the ocean; because it is influenced by temperature, and varies about 3° north or south, according as the declination of the sun is north or south.

The equatorial limits of the N.E. and S.E. trade winds are generally variable from the same causes. That of the winds from the N.E. is about the mean parallel of 8° north latitude; that of the S.E. winds, at the parallel of 2° or 3° north latitude.

From a numerous collection of observations, the following table has been formed; which, however, only affords an approximation to these limits:—

Periods of the Year.	Polar Limits of N.E. and S.E. Trade Winds.	Equatorial Limits of N.E. Trade Wind.	Equatorial Limits of S.E. Trade Wind.	Polar Limit of N.E. Trade Winds, according to the Months.	
Winter .	° / 24 45 N. or S.	° / 5 45 N. lat.	° / 2 30 lat. N.	Jan.	° / 23 24 N. lat.
				Feb.	28 39
				Mar.	27 19
				April	28 18
Sprin .	28 0	5 45	1 30	May	28 31
				June	31 25
				July	29 36
Summer .	30 45	11 20	3 15	Aug.	31 11
				Sept.	32 4
				Oct.	25 38
Autumn .	28 20	10 0	3 15	Nov.	27 14
				Dec.	22 15

\* For the limits of these winds, Captain Kerhallet has consulted the chart compiled by Lieutenant Maury; a chart which, as he observes, is of great use in navigation.

In the Atlantic Ocean, the trade wind from the N.E. in the part comprised between Cape Verd and the Coast of Guinea, blows with less force and constancy than the trade wind from the S.E. in the neighbourhood of the equator; owing, doubtless, to the form of the coasts which bound the ocean in this part. Nevertheless, in the neighbourhood of the Antilles, the trade wind generally blows strongly, varying from east to N.E.

It has also been observed, that in the zone, comprised between the equator and the parallels of  $28^{\circ}$  north and south latitude, in proportion as the sun approaches that great circle, the winds blow, in the northern hemisphere almost from N.E., and in the southern hemisphere from S.E.

But if the sun is in the northern hemisphere, and at its greatest distance from the equator, the winds in that hemisphere have a tendency to blow more from the east, and more violent storms are then experienced than at any other time. In the southern hemisphere, the trade wind then blows more from the south.

If, on the contrary, the sun is in the southern hemisphere, the same facts are produced in an inverted manner; thus, in this hemisphere the wind blows more from the east, while in the northern hemisphere it veers towards the north, and in this case they reach their nearest approach to the equator.

And generally in either zone, rain, sudden gusts of wind, and storms must be expected in those places where the sun is vertical.

During winter, the northern trade is sometimes met, before reaching the latitude of Madeira. This fact is, however, only an exception to the general rule above laid down in alluding to the polar limit of this wind.

At other times, the variable winds of the temperate zone extend as far as  $20^{\circ}$  north, without appearing subject to any general law; and this too, in all seasons of the year.

In the southern hemisphere, similar facts present themselves. Thus, during the fine season, the limit of the trade winds from the S.E. is found to be about the parallel of the Cape of Good Hope, while, from June to August, westerly winds are prevalent between that parallel and the tropic of Capricorn.

It has been also remarked, that near the polar limit of the trade winds, calms and light variable winds are often met with, producing rain, and this in a very extended zone, namely, that which separates the tropics from the parallels of  $29^{\circ}$  north and south.

Thus we see that the polar limits of the trade winds are very variable. In the southern hemisphere, this limit is sometimes near the tropic, but more frequently, on the parallel of the Cape of Good Hope.

In this same zone, it has been observed, with regard to the S.E. trade wind, that in latitudes south of  $16^{\circ}$  S., the wind has a greater tendency to blow from the N.E. than from the S.E., so as to blow rather from East to N.E. than from East to S.E. This variation is also pretty frequent. During a year's stay at St. Helena, Halley found that, in that island, the trade winds always blew from S.E., or nearly so:

and that they more frequently veered from S.E. to East than from S.E. to South. During the east wind, the weather was gloomy, and the return of fine weather depended on the wind from the S.E. [Romme.]

Lastly, in terminating these remarks, it may be stated, that in approaching the coast of America, it has been observed that the polar limits, in both zones, of the N.E. and S.E. trade winds, extend more towards the north in the northern hemisphere, and more to the south in the southern hemisphere, than on the coast of Africa [Blunt]; and that too, by three or four degrees.

*Deviations in the Trade Winds.*—It happens sometimes in the region of the trade winds, that we meet winds from opposite directions, interrupting their usual course.\*

These winds are never of long duration, and only arise from accidental causes. D'Apres [Neptune Oriental] has met with N.W. winds between  $24^{\circ}$  and  $22^{\circ}$  S. lat., from the 12th to the 18th of March, 1735. The author has experienced winds from N.N.W. and N.W. in  $18^{\circ}$  N. lat. in crossing from Brest to Martinique, and 300 leagues east of this island. These winds seldom lasted two days, and were but slight.

In the neighbourhood of the islands situated in the zone of the trade wind, this wind is also interrupted. Thus, among the Cape Verd islands, the N.E. trade wind is often lost; and in the zone, comprised between the parallel of  $10^{\circ}$  latitude and the equator, and also from the meridian of Cape Verd to the most westerly meridian of this Archipelago, it is observed that there is, in reality, no settled wind, but only breezes of no extended duration.

In the vicinity of Trinidad, situated near the coast of Brazil, frequent changes have been observed in the trade wind from S.E. to south of these islands, coming more generally from the northward than from the southward, as well as sudden gusts from the west.

In the two last-mentioned cases, the vicinity of the coasts of Africa and America, doubtless, occasions these disturbances.

*Variable Winds of the Torid Zone.*—The south-eastern trade wind is separated on its equatorial border by a zone of calms and changeable winds, varying considerably in extent from north to south, the mean latitude of which is about  $8^{\circ}$  north. In this zone, calms, squalls, rain, and light breezes, blowing from all points of the horizon, are met with and chiefly from S.W. This zone, during summer, reaches more to the north of the equator, and is then found sometimes as far as the parallel of  $14^{\circ}$  and even  $15^{\circ}$  north latitude. [Cook, Wallis, la Perouse, and a great number of other navigators; Vaillant

\* Columbus, who was the first discoverer of the trade wind in 1492, was the first to discover this irregularity; and it is remarkable that it was of service to him in quieting the fears of his crew, who, having observed the constancy of the wind from the eastward, believed that they never would be able to get back to Spain. This irregular wind broke the spell, and much to the satisfaction of Columbus, who was then beginning to feel the inconvenience of that mutinous spirit which, in a later part of the voyage, had nearly cost him his life.—Ed.

lost the N.E. trade in  $0^{\circ} 30'$  N. (voyage of la Bonite.) Dumont d'Urville in  $13^{\circ} 50'$  (voyage of l'Astrolabe.) Dupetit Thouars in  $5^{\circ}$  (voyage of la Venus.) In winter, on the contrary, it does not reach so far; and when the sun enters the tropic of Capricorn, it is not found beyond  $3^{\circ}$  N. lat. It always keeps, however, north of the equator.

The following table, drawn up by Horsburgh, from observations made between 1791 and 1807, contributed by the journals of two hundred and fifty ships, which have crossed the zone of the variable winds of the equator, between  $30^{\circ}$  and  $40^{\circ}$  west longitude. The author is also able to add his testimony to the correctness of the breadth of the region of the variable winds of the torrid zone:—

Month.	Sailing South, the N. E. Trade Wind is lost in north lat. from	Returning N., the N. E. Trade, Wind is found in north lat. from	Mean.	Returning N., the S. E. Trade Wind is lost in latitude from	Sailing South, the S. E. Trade Wind is found in north lat. from	Mean.	Lat. of the Zone of Variable Winds of the Torrid Zone.
Jan. ...	$5^{\circ}$ to $10^{\circ}$	$3^{\circ}$ to $6^{\circ}$	$5^{\circ} 45'$	$0\frac{1}{2}^{\circ}$ to $4^{\circ}$ N.	$2^{\circ}$ to $4^{\circ}$	$2^{\circ} 45'$	$3^{\circ} 0'$
Feb. ...	5 ... 10	3 ... 7	6 0	2 S... 3 "	$0\frac{1}{2}$ ... 1	1 15	4 45
Mar. ...	$2\frac{1}{2}$ ... 8	2 ... 7	5 0	1 S... 2 "	$0\frac{1}{2}$ ... $2\frac{1}{2}$	1 15	3 45
April ...	4 ... 9	4 ... 8	5 45	2 S... $2\frac{1}{2}$ "	0 ... $2\frac{1}{2}$	1 15	4 30
May ...	5 ... 10	$4\frac{1}{2}$ ... 7	6 30	1 ... 4 "	0 ... 4	2 45	3 45
June ...	7 ... 13	7 ... 12	9 0	1 ... 5 "	0 ... 5	3 0	6 0
July ...	$8\frac{1}{2}$ ... 15	11 ... 14	12 0	1 ... 6 "	1 ... 5	3 30	8 30
Aug. ...	11 ... 15	11 ... $14\frac{1}{2}$	13 0	3 ... 5 "	1 ... 3	3 15	9 45
Sept. ...	9 ... 14	11 ... 14	14 45	2 ... 4 "	1 ... 3	3 0	8 45
Oct. ...	$7\frac{1}{2}$ ... 13	$8\frac{1}{2}$ ... 14	10 0	2 ... 5 "	1 ... 5	3 0	7 0
Nov. ...	6 ... 11	7 ... 10	8 0	3 ... 4 "	3 ... 5	3 45	4 15
Dec. ...	5 ... 7	3 ... 6	5 30	1 ... 4 "	1 ... $4\frac{1}{2}$	3 15	2 30

*Favourable time for crossing the Line.*—The table shows the zone of the variable winds to be larger from June to December, and less from December to June; an important condition in making a voyage: because, as a ship must pass from one hemisphere to the other, and cross the equator, thus, passing from the north or south, the most favourable months for crossing the zone of the variables will be those from December to June. According to the time of crossing the line, the passage will be several weeks longer or shorter; as it is more or less interrupted by calms, squalls, or variable winds near the equator. And we must also expect it to be longest from these causes during the months of June, July, August and September.

It may also be seen that, in the northern hemisphere, the N.E. trade wind verges, according to the season, more or less towards the equator; but it rarely passes to the southward of it. On the contrary, the S.E. trade wind reaches it easily, and northward sometimes even as far as  $5^{\circ}$  north latitude, and that in the neighbourhood of the coast of America.

It happens, however, that the N.E. and S.E. trade winds join each other generally somewhere about the meridian of  $28^{\circ}$  or  $33^{\circ}$  west lon-

gitude, where a ship may pass perhaps in a squall from one of these winds to the other without experiencing any calm. Sometimes even in the vicinity of the African coast, and generally from December to February, the N.E. winds nearly join those from S.E. The different directions of the trade winds from N.E. and S.E. occasion great uncertainty about the weather, and the winds within their limits; an uncertainty which increases on approaching the zone of either. Besides this, it has been observed that near the equator the winds change more frequently from east to the south than from east to the north. We find, nevertheless, in the region of the variables of the equator, winds which blow from west to N.W., and from west to south, and generally from July to September. [See Maury's wind charts, published in January 1851, which give the winds of the torrid zone and the limits of the variables in the Atlantic Ocean for every month.]

The preceding considerations are of great importance in the general navigation of the Atlantic Ocean, and more particularly in that of the gulf of Guinea. We shall apply them hereafter when we come to speak of the routes for crossing the Atlantic; for, according to that which may be adopted, the place of crossing the equator becomes important.

The preceding observations on the winds of the first portion of the Atlantic Ocean have been made at a considerable distance from the coast, which have some effect in modifying their direction as well as their force. It is observed that the north and south trade winds sometimes reach as far as the coasts of America, though they are not found regular till about 140 leagues from the African coast, and about 160 leagues from that part of it lying between Cape Palmas and Cape Verd. In this latitude, occasionally between June and September, and even till October, the variables are found even in 28° west longitude, blowing from west to N.W. and S.W., interrupted by calms, accompanied by rain and bad weather. The islands in this region also influence the trade wind in their vicinity, but much less sensibly than the continent. The higher these islands are, the more frequent is rain about them, at least so observation has shown; and it is generally found in the torrid zone, that the wind which is constant at sea, becomes changeable near elevated and extensive coasts.

*Seasons of the Torrid Zone.*—In the Atlantic Ocean, within the torrid zone, the weather is very variable, according to the latitude and time of year; it is observed that the atmosphere is more unsettled during the spring and autumn months, generally at the time of the equinoxes, than during the summer and winter months.

In this zone, and to the northward of the equator, the rainy season begins when it is quite dry to the south of it, and *vice versa*. North of the equator, in the torrid zone, the rainy season lasts from April or May till September or October; the dry season begins in October or November, and lasts till April or May.

In the torrid zone, south of the equator, the weather and seasons are contrary to those of the region north of the equator, and they change nearly in the same months.

As a general rule, it may be assumed that in both hemispheres, the rainy or winter season commences at any place when the sun, moving from the equator, passes the zenith of that place, and the dry season begins when the sun, returning towards the equator, has re-passed the zenith of the same place.

Clearly as this law indicates the seasons, it is nevertheless, subject to many exceptions; thus, the seasons do not begin and finish precisely at the period of these transits, but according to the time at which they take place. There is also always a period of doubtful, uncertain weather, lasting a longer or shorter time, between each season, with variable winds, calms and squalls, some of which have received the name of *tornados* (from the Spanish or Portuguese word, *tornados*).

In several localities these squalls occur at the beginning and end of the rainy season; and limit the season of the great rains.

According to the foregoing law, it may be seen that the duration of the winter season at a place depends greatly on its latitude, and that it should be proportionably lengthened as it is nearer to the equator.

The hottest season within the torrid zone is that of winter, which is also the time of variables and calms. In the fine or dry season, on the contrary, the breezes are fresh and regular; this is generally the period when, near the coasts, land and sea breezes prevail with regularity.

At places within the immediate vicinity of the equator, four seasons have been distinguished, two dry and two rainy; but in reality, that part of the rainy season when rain is less abundant, and when rain squalls are separated by intervals of tolerable weather, has been considered one of the dry seasons.

*Second part of the Atlantic Ocean.*—The second region of the Atlantic, as above said, is that comprised between the parallel of 30° south and the south pole; in which two zones are distinguished, the frigid and temperate. Let us now allude to the first.

*Frigid Zone.*—In the frigid zone, where but few navigators have penetrated, observations are necessarily few, and these relate only to one season, namely, the summer; that being the only time when it can be penetrated to the south. The celebrated Cook, Admiral Dumont D'Urville, and Captain Ross, are the principal navigators which, to our knowledge, have penetrated into this dreary region of the Atlantic; Cook proved that, between 60° and 70° south, the winds are generally moderate; Foster adds that they often blow from the east. Cook has also observed, that in those high latitudes, the currents, though not strong, drift the ice towards the N.E., the north and the N.W. D'Urville, after a stay of forty-nine days in that region, in which he could not penetrate beyond the latitude of 63° 33' south, and was blocked up by the ice in 62° 22' south and 41° west (of Paris), has left us the following observations, which appear in the voyage of the *Astrolabe* of 1837—(*Partie Phisique*, by M. Vicendon Dumolin, Ingenieur Hydrographique):—

Variable winds from the east, between N.N.E., S.S.E. and south for twenty-seven days; westerly winds, varying from N.N.W. to S.S.W. twenty-two days, during the months of January, February, and the

beginning of March. During this time, the sloops *Astrolabe* and *Zelée* experienced a breeze from the north, accompanied by fog and rain; with winds from S.S.W. and S.W. the weather was alternately fine and cloudy; the winds from this quarter were in general moderate, and sometimes fresh.

The winds from N.E. and E.N.E. sometimes brought fine weather, but the sky was more frequently cloudy and foggy; snow fell principally with the winds from E.S.E. to N.N.W. by the N.E.; with the same breezes there was fog. Lastly, the strongest were those from east, from E.S.E. and from S.S.E., which in general blew very fresh.

Captain Ross crossed the parallel of  $60^{\circ}$  south latitude, the 23rd of December 1842. During his stay in the frigid zone, which lasted till the 1st of March, he made the observations on the winds, of which the following is a summary:—

Dec. 1842.—Winds from west changing from N.W. to S.W., six days; winds from north, half a day; winds from south, a day and a half; winds from S.E., one day; winds moderate; those from south blowing very hard. [Sir James Ross' voyage to the Southern Seas, vol. ii. p. 330, et seq.]

Jan. 1843.—Easterly winds changing from N.N.E. to S.E., twelve days; northerly winds, two days; southerly winds, three days and a half; westerly winds varying from N.N.W. to S.S.W., thirteen days and a half. In this month, two days of strong breezes from N.W., the other winds fresh or moderate.

Feb.—Easterly winds changing from N.N.E. to S.S.E., eighteen days and a half; northerly winds, two days; south winds, three days. Westerly winds, veering from N.W. to S.W., four days and a half. One day, a hard gale from the north; one day, a stiff breeze from the east; the rest fresh or moderate.

From the preceding observations, it appears that during summer in the frigid zone of the second region of the Atlantic Ocean, the east and west winds are tolerably equal, but that the east winds rather prevail.

*Temperate Zone.*—In the temperate zone of this same region, westerly winds are predominant, varying from N.W. to S.W.; but the winds in this part of the Atlantic Ocean are changeable and irregular.

The westerly winds above mentioned often extend as far as the tropic of Capricorn, and sometimes even to the latitude of  $20^{\circ}$  south.

It has been remarked, that in a zone comprised between the parallel of  $28^{\circ}$  and  $35^{\circ}$  south latitude, the winds are extremely variable; but those which are most frequently met with are from N.E. to N.W.b.N. and from N.W. to S.W.b.W., principally during June, July and August.\*

The prevailing westerly winds, varying from N.W. to S.W., between the parallels of  $30^{\circ}$  and  $50^{\circ}$  south, appear to be produced by the meeting of the returning currents from west to east, occasioned by the trade winds (and named here tropical winds) with the polar cur-

\* Dampier.

rents proceeding from the poles towards the equator. The winds which result from these two currents of air ought to take almost a mean course, depending on the relative force of the two currents, and consequently, this direction will be very variable, although it is generally from the west.

It has been observed, that between 30° and 50° south latitude, the winds blow periodically from S.W. to N.W. ; thus, they vary from West to N.W. while the sun has south declination, and during the rest of the year, they are in general from West to S.W. attended by bad weather.\* In this zone the Easterly winds are never of long duration. When the winds shift to the south a calm soon takes place ; and it has been observed, that between Cape Horn and the Cape of Good Hope, when the wind continues from the North for several days in succession, it brings dark rainy weather ; if these winds shift to South of West, the weather clears up and becomes fine.†

*Third Region of the Atlantic.*—The third region of the Atlantic is comprised between the parallel of 30° north latitude and the north pole, and is here divided, like the preceding one, into two zones—the frigid and temperate.

*Frozen Zone.*—In the frigid zone, comprised between 60° N. lat. and the pole, contained between Europe and America, and which includes Spitzbergen and Iceland, the winds are variable. The snow-clad lands in this zone, and the ice which prevails there, exercise a most powerful influence on the winds, varying them according to the seasons. The different navigators who have traversed this zone, in what is called the northern frozen ocean, have not observed any law in the winds,‡ principally during summer.§ However, several navigators agree in acknowledging the northerly winds as regular and prevalent.

Every wind in this zone is accompanied by a low temperature and snow, excepting July and August, and a part of June. At this period, with southerly winds, the weather is tolerably fine, although attended by snow and rain. The same winds bring fog during those months.

The coldest winds are those from North and N.E. ; during June and July, winds from S.S.W. are frequently met with, sometimes blowing with much violence.

During the months of April and May, south winds are attended by snow ; in the rest of the year there are thick fogs, and very bad weather.

(To be continued.)

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#### SEVASTOPOL.

The high road from Baktcheserai to Sevastopol is carried entirely along the terrace which separates the chalk from the tertiary ridges of the Steppe. It passes along its whole length over a white clay soil, and in summer is very dry and dusty, except in the valleys of the Katcha and the Belbek. Here the eye is refreshed by the verdure of

\* Nicholson. † D'Apres di Manneville. ‡ Phipps. § Standidge.  
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vineyards and orchards, especially on the banks of the Belbek, where there are several country houses belonging to the superior officers in Sevastopol, and the little Tatar village of Douvankoi offers some charming points of view. From Douvankoi\* the road follows the valley of the Belbek till it crosses the stream near the village of the same name, and then, after skirting for a moment the sea, it turns again inland, and passing close to Fort Constantine, arrives at Sievarna,† the citadel of Sevastopol, on the north of the Great Bay, which must be crossed to enter the town.

From so important a place as Sevastopol it is a great inconvenience to be obliged to cross the water to reach the high road leading to the interior of the Crimea and Petersburg, but the country is so extremely cut up with ravines to the east of the town, towards Inkerman, that no direct communication by this the shortest route has yet been attempted.

Sevastopol has succeeded the ancient Greek colony of Kherson, with this difference, that as the latter was a great commercial mart, so the former is entirely devoted to warlike purposes, and no considerations of a commercial or manufacturing nature ever entered into the mind of those who founded it. It is in consequence entirely military, and contains nothing but men-of-war, arsenals, barracks, and batteries.

When the conquest of the Crimea had been assured to Russia by the treaty of Constantinople, of the 10th of June, 1783, the Russians found nothing around the magnificent bay of Sevastopol except the little village of Aktiar, placed at the extremity of the bay near Inkerman, under the cliffs of white clay that border its steep shores. During all the time of the Tatar possession of the Crimea, this basin, which might have been made an incomparable port, had been neglected. The Tatars called the Great Bay Kadi Liman, and the more inland portion of it, including the careening bay, Avlita.‡

No sooner were the Russians in possession of it, than within a year they had made preparations for turning to account its natural advantages. Already in the spring of 1784 they began to build houses for the invalids of the fleet, placed near a beautiful spring of water at the extremity of the Bay of Artillery. The fleet at that time consisted of fourteen ships of war in the port, one of which had just brought a cargo of colonists.§ They were still uncertain where they should place the town, but even then were inclined to its present position, and the fanciful name of Sevastopol|| was fixed upon, as they could not give it that of Kherson,¶ which had already been misapplied.

\* Douvankoi means the Valley of Prayer (see 'Pallas's Travels').

† This is the name of the fort and suburb on the north side of the bay of Sevastopol. "Sievarna" means northern in Russian.

‡ 'Pallas's Voyage,' ii. 46, in Dubois.

§ Ibid, vol. vi. p. 26.

|| Sevastopol, or Sebastopolis, is composed of two Greek words, "Sebastos" meaning Augustus, and "polis" a city; and it was the name of a Greek city of the Lower Empire on the eastern coast of the Black Sea in Abkhazia.

¶ The ancient Greek city of Kherson was close to Sevastopol, but in the time of the Empress Catharine it was supposed to have stood near the mouth of the Dniepr, and the new city she founded there was therefore called by that name.

The old name of Aktiar had a long struggle with the new name in public use, and I find that in the Russian post map, of so late a date as 1825, Aktiar is engraved, and Sevastopol wholly omitted. Ten years later, in 1794, when Pallas again visited this place, a great plan had been laid down, which has been followed out in all its important details down to the present day. Five batteries, those of Alexander and Constantine, which commanded the entrance to the Great Bay, a third on the northern coast, and two others opposite, on the point between South Bay and Artillery Bay, had been built. The admiralty and its church, the arsenal, the Greek church on the hill, the ports, and the quarantine already existed.

Since that time it has made gigantic progress, as may be seen by the descriptions of the various travellers mentioned in the notes.\* The town is built in the shape of an amphitheatre, on the rise of a large hill, flattened on its summit, between the Artillery Bay, which is the merchant port, on the right of the town to a person looking at it from the sea, and the South Bay, which is the port of war on the left.

Several wide unpaved streets, bordered by good houses, ascend the hill from the water, up a steep incline. They open on a large empty square, separating them from the fortifications, which consist of several batteries placed on the point of the promontory. Here is hoisted the flag of the admiralty, which is the residence of the commandant of Sevastopol.

The quay is a fine construction, paved with stone, and ornamented with pillars of granite, which have been brought there down the Dniepr from the interior of Russia.

The street which runs the nearest to the South Bay is the principal one of the town, and between it and the bay are the Russian church and the admiralty, with its tower for a gateway, and the arsenal. A prolongation of the principal street between the batteries and the Admiralty leads to the great stairs which serve as the landing place to cross the bay, and here is passed on one side a house which has now a mean appearance in Sevastopol, but which is still honoured with the name of Dvoretz, or the Palace, because in 1787 it was the residence prepared for the reception of Catherine II., who lodged here during her stay in the town, which she had just founded. In the highest part of the town the Greek church is seen in a commanding position, in the wall of which is an old Greek bas-relief, of no great value, according to Dubois, although much praised by Clarke.

Farther on, at the height of 240 feet above the level of the sea, is the telegraph, which naturally commands the whole town, and fourteen stations establish a communication in two hours with Nicolaief, the head-quarters of the fleet of the Black Sea.

Since the siege of the town commenced we have destroyed some of these stations, and the telegraph is now carried by a different route

\* Clarke in 1800, ii., page 98; Reully in 1803; Castelnau in 1817; Montandon in 1833.

through the country in the possession of the Russians to Perecop.† A courier with despatches would not take much more than a week to reach Petersburg from Sévastopol in fine weather, as I remember that one arrived at Prince Woronzow's palace of Aloupka, on the southern coast of Crimea, by post, in eight days from Petersburg, and I think the distance from Petersburg to Tiflis has also been accomplished in the same time.

The merchant vessels which come to take in stores at Sevastopol all enter Artillery Bay, along the furthest part of which are ranged the principal shops of the town.

The rocks which border the western side of this bay were blown up and allowed to fall into the sea in 1834, in order to form a platform large enough to receive some important buildings required for the engineers.

On the flanks of the same rock, but looking to the entrance of the Great Bay and the Quarantine Bay, are ranged, one above the other, the formidable bastions of Fort Alexander, intended to cross their fire with those of Fort Constantine opposite, in order to destroy any vessels which should attempt to enter the bay. These two forts are armed with 320 cannon. The passage or entrance of the bay, narrowed by two reefs, is shown at night by two lighthouses near Inkerman, at the end of the Great Bay; and for ships to enter safely, these lights must be kept exactly on the same line, one above the other. Behind Fort Alexander, on the top of the hill to the right on entering, are the barracks of the land-forces; and this is one of the points in which Sevastopol does not shine. They are passed in going to the quarantine, which is at the extremity of the bay of the same name, and are placed on the spot on which stood the principal part of the ancient city of Kherson, to which the 'Tatars still give the name of Tchortchoun.

The library and reading-rooms for the officers of the navy, which I visited with one of the Messrs. Upton, who I think had been the architect of them, were well furnished with valuable works and scientific instruments. These stand, or stood, near the church, in the highest part of the town, and command, from their fine spacious apartments, a splendid view of the grand harbour and the open sea.

While the fleet is armed, it remains in the Great Bay, and when it is laid up it is placed in the South Bay, which is a branch of the Great Bay, about a mile and three quarters long, and 400 yards wide. The Tatars call the South Bay Kartaly Kotche, or the bay of the Vulture, and its direction is from north to south. This interior port is so well defended by the steep hills which close it in, that the water is never more disturbed than in a pond, and it is so deep that the largest vessels can almost lie close to its western shore.

There, in the furthest part of the bay, used to lie the old men-of-war, used as hulks, in which the greater number of the convicts, who

† The wooden telegraph thus carries messages from Sevastopol to Odessa, whence there is the electric telegraph to Petersburg.

worked by thousands in the dockyards were shut up at night.\* The continual passage of these bands of bad characters through the town used to be the great annoyance of the inhabitants of Sevastopol, who, like our own colonists, could not see without dread this great accumulation of criminals among them. Some, of course, occasionally escaped, and immediately recommenced their lawless practices in all parts of the Crimea.

As a ramification of the South Bay, at its entrance there opens to the south-east a little basin, which is a kind of inner port, the total length of which is about half a mile. It is called the Bay of Vessels, because a part of the laid-up vessels used to be placed here, and remained in perfect security in all weathers. When the question was raised about building the docks, no better position could be found than the extremity of this little bay, in which a basin has been formed 400 feet broad, 300 feet long, and 24 feet deep, to receive the vessels which require to be repaired. For this purpose five docks or reservoirs, made independent, one of the other by locks, have been made. The one at the furthest extremity is destined for first rates; the two reservoirs which flank it on the right and left are for second rates; and the two last at the entrance of the basin are for frigates: the three principal locks are 58 feet wide. To feed these basins, they have fetched the water of the Tchornaia Retchka† (Bouiouk Ouzene) from Tchorgouna to the locks, and have conducted it by a canal, overcoming difficulties which would have seemed insurmountable to many governments. Although the Tchorgouna, in a direct line, is only eight miles distance from the entrance of the docks, it has been necessary, in order to avoid obstacles, to make a detour, which has lengthened the canal by four miles, and it is therefore about twelve miles long.

It passes Inkerman, and thence is carried along the Great Bay. The deep ravines and the Careening Bay have here rendered necessary very important works, including two tunnels, one of 800 feet in length, and three aqueducts, embracing between them thirty-eight arches, 1000 feet in length.

The point where the stream has been diverted is 62 feet above the level of the Great Bay. The level of the docks is 30 feet above the bay; and the fall of the canal in the twelve miles is 32 feet, or about one in 2000.

Mr. John Upton, the English engineer, who was employed in the construction of the works, estimated the expenses at about two millions and a half of roubles assignat (100,000*l.*†); and calculated that the work would be completed in five years if 1000 workmen were con-

\* In 1834 there were 1500 working with the chain, without counting the other prisoners.

† "Black rivulet" in English. Large reservoirs were formed at a distance in the mountains to supply the canal, but they gave way. The river was insufficient, and a steam engine was lately erected to pump sea water into the docks.

‡ This is taking the paper rouble at the same value as the franc, but it is really rather more.

stantly employed. But as is always the case, the estimates of the time and expense were much too low, and the works, begun on the 17th June 1832, are not finished now, and the first ship was admitted into them in 1853.

Those who have visited these works will not be astonished at this delay in completing them. Basins of a great size cut in the living rock, and cased with English cement, with gigantic locks, and such a length of aqueducts, tunnels, and other labours, both principal and accessory, are a justification of the engineer, who received the full approbation of the Emperor. The docks had only been completed a short time before the present war began.

To protect the port and basins, there has been erected at Cape Paul (Pavleski Missok) which commands the eastern entrance, a work called Fort Nicholas, which has three ranges of bastions, one above the other, and is mounted with 260 cannons, the fire of which crosses that of the batteries of the admiralty.

This fort, which commands the entrance to the South Bay, had just been completed at the time of my visit. I walked through the casemates with Mr. Upton, the architect, who had witnessed their construction, and who told me that he thought the masonry had been executed in an unworkmanlike manner, and that he did not believe the fort would stand the shock of its own fire. Such is also the opinion of the French engineer, M. Hommaire de Hell, with regard to the casemated batteries at Sevastopol; he says that in the first trial of Fort Constantine the walls cracked. The latter, however, seems to have withstood the attack by our ships in December last very successfully.

On the flanks of the hills which enclose the South Bay, on the eastern side, are the barracks of the sailors, the hospitals of the fleet, and the barracks of the artillery, and there extend also a part of the slobodes, or faubourgs, inhabited by the married sailors, which are composed of uniform lines of cottages built on a given plan.

I was shown over Sevastopol by Colonel Upton\* and his sons, who received me very kindly, and showed me everything I wished to see. They had found things in a very barbarous state when they arrived—had had great difficulty to break in their Russian workmen to European habits of industry and carefulness, and they found that the Russian system, by which, like our own in India, so much writing is required, greatly impeded the prompt execution of work, and justified the observation of the French traveller Jacquemont about the latter country, that a government of stationery is in most things a stationary government.

The absence of common mechanical contrivances was so great among the Russians, that almost up to the period of my visit wheelbarrows were unknown, and the troops and serfs employed in the great public

\* It is but justice to Col. Upton, who is now no more, to observe, notwithstanding the reports lately circulated about certain faults in the early part of his life, that he enjoyed a good reputation among his own countrymen in Russia, and was considered a honest and faithful servant of his employer, while he has left monuments of his talents of which we may be proud.

works used to pick up the earth with their hands and carry it in bags upon their shoulders, so that, particularly in wet weather, vast numbers were always laid up in the hospital with sore backs, and the works progressed very slowly.

The serfs were said to do so little work, that Colonel Upton, as well as all other Englishmen that I have known employed by the Russian government, were of opinion that it would be far more economical to pay free labourers than to feed and keep the serfs for their gratuitous services. The Russian workmen quickly catch an imperfect way of doing what they are told, but like children, want constant watching, and never can be taught the value of accuracy. They execute their tasks because they are ordered to do so, and never reason on the object to which their work is to be applied.

As an instance of this, Colonel Upton said, while he was building the dock-gates at Sevastopol, when the stone-work was prepared for the wood, he found to his astonishment that the parts did not fit, although he was certain that his calculations were right, and the work apparently correctly executed. At length he thought of measuring his gauge, and then he found that his Russian workmen, having done their work wrong, cut his gauge to make it appear right, and never thought that there were other parts of the work which must fit in with theirs, and consequently make their error appear.

Sevastopol has naturally a very fluctuating population, almost entirely composed of sailors, soldiers, employés, and convicts. It was estimated at 15,000 souls in 1834, although Mr. Tegoborski, writing in 1852, declines to make any estimate of it, from the want of any reliable data. The non-official inhabitants are composed of a mixture of Russian tradesmen, Polish Jews, who are barely tolerated by the police, and Germans of the colony of Kronenthal, who are established here as bakers, brewers, and artisans of different kinds.

Sevastopol in 1834, although so strongly fortified on the side of the sea, had not the smallest defence on the land side against a coup-de-main. The town in all its circumference was completely open, and there was not even a gate or the smallest rampart. All the streets debouched on an immense open place in the upper part of the town, or rather one might say into the Steppe itself, whence roads and paths led in every direction to Balaclava, Tchorgouna, and the monastery of St. George. To one standing in the open place, and looking down on the town, there is to the left the newly established reservoir for the fountains of Sevastopol, from springs which have been already mentioned. This reservoir is placed against the wall of the public garden, called the Boulevard, which has been made on the heights which terminate the South Bay. The view from hence down upon the bay, filled with men of war, is very extraordinary, as the ships seem to have arrived there by enchantment, and nobody would conceive that this long lake could have any communication with the sea. Opposite the garden, a little to the right, is the vineyard of Bardac.

At a later period, after the discussions occasioned by the capture of the Vixen in 1837, when war was supposed imminent between Russia

and England, the Cabinet of St. Petersburg grew frightened at the possibility of the English in case of war making a descent upon some point of the Heracleotic Chersonese, and defences were then ordered to be constructed on the land side of Sevastopol.

The ground on the north side of Sevastopol is much higher than on the south side, and consequently the citadel of the place, an octagonal fortress, called the Sievarna, or Northern, Fort, which is erected there, commands the whole town, bay, and docks. It has been greatly strengthened of late years, as the most important position for the defence or attack of the town. For itself it can only be attacked on the land side, as its height above the water would render ineffective the fire of ships, and its precipitous shores both on the side of the Great Bay and the sea would make a landing very difficult for troops. This is the fortress which Sir Howard Douglas calls "the key of Sevastopol," until we secure which [he has wrongly said] we can never hope to take the place.

The fortifications then which render Sevastopol so very strong are the important works on the northern side, for there is no use in taking the town, even if it could be done, as the strongest part of the fortress would yet remain. At the same time, if an army were brought sufficiently large to invest it completely, the place must fall, because the supplies of food, ammunition, and especially of water, would quickly fail. In water the place is very deficient, as there are no springs in the town, and only two sources out of the town by which it is supplied. One of these is the river which supplies the docks, through the tunnel which has been described as reaching from near Inkerman to the town. This tunnel was recently (January 26) stated to be now used, not only as a passage for the water, but as a safe road by which the Russians introduce supplies into the town, and this is highly probable, as there is a foot-path on each side of the conduit. The old town of Kherson, as will be stated afterwards, was taken by the Russians in the tenth century by cutting off the water-pipes which supplied the town, and perhaps this may be the way in which the modern representative of old Kherson will ultimately fall.

We have found to our cost how inexhaustible are the stores of Sevastopol, and yet it is said that a still greater amount is laid up in the chain of fortresses that have been erected during the last twenty years on the German, and particularly on the Prussian, frontier.

As the nations of Europe are fully occupied in their own affairs, and as Russia is peculiarly inaccessible by nature, she never could fear an invasion, and her armaments must therefore be looked upon as threatening her neighbours. Besides, as will afterwards be seen, her army for the internal service of the country is totally distinct from the immense mass of men called the Grand Army, kept hovering for many years past on the frontiers of Germany, in a mobilized state, and ready to pour down its legions upon any point at a moment's notice.

Let us shortly inquire where these great military stores are laid up, and in what establishments they are prepared. Arsenals in Russia are divided into permanent and temporary: the first are at Petersburg, Branski,

Toola, and Kief; and the second at Petersburg, Tyraspol, and, since the Polish war, at Modlin. The arsenals of Petersburg, Toola, and Kief, are vast and elegant edifices, each of which can contain 100,000 small arms, and where carriages and other material for the artillery are made. The others are only dépôts. Up to the commencement of the seventeenth century there were no manufactories of iron or foundries in Russia, and the Government was obliged to buy all arms abroad. A Dutchman, named Andrew Vinius, was the first to establish foundries, which were worked by water-power. The first establishment of this kind was founded in the year 1682, on the little river of Toulitza, at fifteen versts from Toola. Since that time several others have been formed in the governments of Toola, Kalouga, and Moscow.

In 1764, a Hamburger raised the first manufactories of steel at Olonetz. The first hydraulic manufactory for muskets was built in 1648, at Moscow, on the Taouza; in 1653, another was established in the village of Tchentsof, on the Skniga; and in 1700, Nikita Demidof Antonief carried the arts of founding and making fire-arms to the Neva in Siberia.

The principal manufactories of fire-arms are now at Toola, Votka, Sesterbeck, and Zlatoust. The manufactory of Toola,\* founded in 1712, by Peter the Great, has been much increased; and its flourishing period dates from 1817, when an Englishman, John Jones, undertook its management. Some years ago it furnished each year 50,000 muskets, and 25,000 sabres, besides carbines, pistols, bayonets, and pikes. Seven thousand men, and nearly 10,000 women, are employed in it; besides 3,500 peasants, belonging to the establishment. It costs 124,000 roubles a year, or about £20,000; and it consumes yearly 70,000 pounds of Siberian iron, and 10,000 of steel. The manufactory of Votka is situated on the little river Isch, in the district of Sarapoul, in the government of Viatka; and some years ago it employed 3,000 workmen, and produced annually about 14,000 muskets.

The manufactory of Sesterbeck is near Petersburg, and is modelled on that of Toola. It produced some years ago yearly 12,000 muskets, and the same number of sabres. Zlatoust, in Siberia, furnishes most of the sabres for the cavalry and pioneers, to the annual number of about 50,000.

There are five cannon foundries in Russia, at Petersburg, Moscow, Riga, Kief, and Kazan. A Scotchman, Gascoigne, sixty years ago introduced as much improvement in the founding of cannon as Jones in the manufacture of fire-arms. There are two powder manufactories, one at Ochta, near Petersburg, and the other at Tchotersk, near Gloukhov.†

The military stores and provisions for Sevastopol come from the

\* Toola, besides the Government, has many private establishments, and is considered as the Birmingham of Russia.

† For all these details see Tanski, *Tableau du Système Militaire de la Russie*. Paris, 1833, p. 295-7.



interior of Great Russia and Siberia, down the Volga and Don to Rostof, on the Sea of Azof, whence in peace they were shipped, and passed through the straits of Kertch, the whole way by sea to Sevastopol and the other fortresses on the Black Sea. Since the war began, they have come, as usual, down the Don and across the Sea of Azof; but instead of passing through the straits of Kertch they have been landed near Cape Kazantip, on the coast of Crimea, within the Sea of Azof, and thence were carried across Crimea, about 100 miles to Sevastopol, during the whole time of the siege, till the Sea of Azof froze in November last. Cape Kazantip was fortified by the Russians last summer, and wharves erected near it for the landing of the goods, and a regular transport service arranged across the peninsula of Crimea.

This is probably the new road to which allusion has been lately made in *The Times*. The facts I have stated were communicated to me by Mr. Lander, an English merchant at Taganrok, and Mr. Caruthers, late Consul at that place. These gentlemen passed over the strip of land by the side of the Putrid Sea, called the Arabate, to Kertch, in May last, and saw the military stores at Rostof, and the wharves just erected on the Crimean coast, and the fortifications of Kazantip. The late English Consul at Kertch, Mr. Cattley, is now interpreter to Lord Raglan; and he also passed by this route last summer, and therefore neither Lord Raglan nor the Ministry ought to have been ignorant of these facts.

Thus continual supplies were poured into Sevastopol up to last November, the period of the freezing of the Sea of Azof; and since that time the stores for Sevastopol have probably been carried across the ice to some point on the northern shore of the Azof, and thence by land over the Isthmus of Perecop. Had the latter place been occupied, it would have been easy to have taken possession of the Strait of Yenitchi, and to have commanded the tongue of Arabate. Indeed, as I have mentioned in another place, there is deep water (24 feet) along the Arabate, on the side of the Azof, and a few gun-boats in the Sea of Azof would have rendered the Arabate impassable to the Russians. The straits of Kertch were undefended up to May last; and had possession of them been taken by our Government, and a very small force of gun-boats been placed in the Sea of Azof, the supplies might have been stopped, and the Russians in Sevastopol reduced by this measure alone to great difficulties.

Not only the military stores but also the rye-flour, for the troops at Sevastopol, is furnished from Rostof. M. Hagemeister, in the Russian official report on the commerce of the Black Sea, says: "All the rye-flour which annually arrives at Rostof from Voronetz, by the Don, is purchased by the government for the use of the army and navy; and thus the navy at Sevastopol and Nicolaief draw considerable quantities of rye from New Russia." These provisions were lying ready for shipment with the military stores at Rostof in last May, and yet we made not the slightest efforts to intercept these supplies, which have been regularly poured into Sevastopol since that time, and with-

out which the siege could not have been carried on. Merchants in England have informed me that the very lead which has formed the bullets that have killed our brave soldiers has been imported into Russia since the beginning of the siege, in consequence of their being no blockade in the Black Sea and the Azof; and large reinforcements which have been sent from the Caucasus to Sevastopol would also have been cut off.

Such is a short account of Sevastopol, which is alone remarkable for its admirable natural situation, and its immense fortifications towards the sea. Although so much labour has been expended upon it, the place is so vast that the works of man look pigmy. The impression on the beholder is, how much has nature done for this place, compared with which the efforts of man appear as mere specks.

The group of safe and commodious harbours which it presents, stretching out like the fingers of the human hand from the wrist, which may be supposed to represent the entrance to Sevastopol, between Forts Alexander and Constantine, contain so vast an area that all the navies of the world might ride securely in them. They are the only really good harbours in the Black Sea, with the exception of the adjoining ones between them and Balaclava, which, however, are greatly inferior both in size and security to those of Sevastopol.

The latter, since the Russians have possessed them, have been closed against commercial vessels,\* and every effort has for many years been made to accumulate here a vast amount of warlike stores, and to keep up an enormous fleet, although Russia has no mercantile marine to protect, and, as the event has proved, dares not risk a battle with any of the great naval powers.

The object, therefore, of the fleet, to carry an invading force to the shores of the Bosphorus, and, under the guise of religion, to carry out schemes of ambition, has always been obvious, and, indeed, not denied by the friends of Russia.

M. Haxthausen, the able author of an admirable work on Russia, to complete which every facility was given him by the Russian Government, and who, having familiar access to the leading statesmen of Russia, probably echoes the opinions which he has constantly heard put forth at Petersburg, has the following remarkable passage upon the real objects of the fleet and arsenals of Sevastopol: "The object of the fleet," he says, "is to secure the dominion of Russia in the Black Sea, and this is still further assured by the construction at Sevastopol, at the present moment,† of a fortified port of war, which, according to the accounts of competent persons, will not have its equal in the world. When Europe shall have a moment of feebleness, and we may fairly expect this to come to pass after what we have seen to happen in 1848, and when she shall think the time arrived for conquests, then the establishment of Sevastopol will allow this power to

\* For many years all the harbours of the Crimea were shut to commerce on the plea of there being no quarantines.

† He writes in 1852.

take the offensive against Constantinople with equal energy and safety, by making use of the fleet, either to disembark her troops behind the lines of mountains and rivers which perpendicularly on the western shore of the Black Sea cut at a right angle the line of approach on Constantinople, or to strengthen the base of operations of a grand army, by supporting it wherever there are ports along the Euxine. It is impossible that the Turkish fleet, either present or future, could stop this result, for whatever may be done to improve it, its best sailors are always Greeks. Up to the battle of Navarino the case was very different, for till that event some confidence might still be placed by the Porte in the Greek sailors."

Then M. Haxthausen, a Russian in feeling, though a German by birth, gets quite nettled at what he calls the low, feeble policy of England and France, in preventing the extension of Russia. He continues: "Let us remark now, the strange change which has taken place in the affairs of the East. Formerly Christian Europe exhausted herself in efforts to drive back the crescent to the deserts whence it came. The noblest blood of Christendom had been shed before the crescent was allowed to surmount the cross at Jerusalem. But now it is only the Christians who prevent the fall of the crescent, or at least the re-appearance of the cross on the domes of Constantinople. In the same manner as the *social licence* of Switzerland is sheltered, not behind impregnable mountain defiles, but simply behind the rivalry of the great powers, so the anti-Christian empire established on the borders of the Sea of Marmora depends not on the force of the Mussulman, enervated by vices which belong to the country—not on its number, which in Turkey in Europe has always been inferior to that of the Rayahs—not on the fortified rocks of the Hellespont, which the military science of the Christians would soon have overturned, but solely on the fact that the Christians of the West find it convenient to preserve Turkey as a barrier between themselves and the East."

"When, in the time of the Crusades, they were fighting for Jerusalem, the policy of the Byzantine empire led the Greeks to aid the Saracens against the Roman Catholic armies. This was a policy as *mesquine*, as feeble, as *tracassière* as that observed for the last eighty years with regard to the Turks by those Christian nations who are the inheritors of the Byzantine policy in the West, namely, the French and the English. This *mesquine* policy of to-day, are we to consider it as one of the quiverings which announce the imminent dissolution of the Romano-German states, as it formerly preceded that of the last Roman empire?"\*

Thus this honest, patriotic German, who hates Switzerland, as is natural with an admirer of the Czar, is actually provoked with us for preventing Russian extension not only over Turkey, but over a part of his own country, namely, Austria, or the Romano-German states, as he calls that empire, whose fall he thinks imminent. A French-

\* Haxthausen, *Etudes sur la Russie*, vol. iii. p. 477-9.

man, who knew Russia as well as M. Hauxthausen, and whom a long residence in the country had not deprived either of his common sense or his patriotism, writing long before the present crisis, thus judiciously speaks of the Russian aggression, and the true policy of the Western Powers:—

“There are only two independent powers which draw other states into their sphere of action,” says M. Chopin, writing in 1838, “and those are Russia and England. It is plain that of these two rival forces the first has every chance in its favour: numerical preponderance, military organization, unity of will without any possible control in the execution, firm alliances; all these are on the side of the North. Russia finds in the simplicity of her government a great compensation for the vices of her interior administration; a profound secrecy covers her faults; she knows how to act at an opportune time, but she knows likewise how to wait. When Europe has leisure to occupy herself seriously with the present danger, Russia seems only to be pursuing plans of interior improvement, but this repose is but a preparation for other conquests, and thanks to the little agreement that generally reigns between rival Cabinets, some new question of difference continually arises in which the activity of a rival diplomacy is expended, and then Russia marches some steps in advance—but they are giant steps which crush empires, and the effect of which is like an actual seizure. Each of her successes adds to her resources in diminishing to an equal extent the resources of rival powers.

Nevertheless, despite this constant aggressive march, the position of Russia becomes more difficult than formerly, as the end and aim of all her efforts, the possession of the Dardanelles, becomes more clearly defined, and it is a spectacle full of political instruction to watch all the springs she puts in action to bring about the great *dénouement*. Sometimes she covers Turkey with her protection. According to her, it is France and England which meditate the ruin of the Ottoman empire, but thanks to the treaty of Unkiar Skelessi, Turkey, if she remains faithful to the stipulations which Muscovite forethought has imposed upon her, will have nothing to fear from foreign aggression. In the meantime Russia habituates the fatalism of the Turks to the sight of her flag and her uniforms, and the zeal of her alliance even goes so far, that she distributes her decorations among the Ottoman soldiers. There is always the same system of dissolving corruption on one hand, and intimidation on the other.

It is always the history of Poland, of Georgia, of Finland, of the Baltic provinces, of the Crimea, of Moldavia, of Wallachia, of Greece, of Persia,—and Russia, from the midst of all these conquered states, dismembered already, or on the eve of being so, Russia dares to declare to Europe that she has only views of order, and justice, and moderation. Europe does not believe this, but is dependent, egoist, and divided; and she has repeated for years past, in the official discourses of princes, that the general peace is not threatened, while this precious peace is only the result of culpable connivance.

Russia turns to her profit all these elements of feebleness and di-

vision; she skilfully and resolutely pursues her work, and, organised for conquest, she will never stop until her principle of activity, which is the condition of her existence, shall, from want of other objects, react on herself, that is, until Europe and Asia become really Russian (*Russe de fait*). Mons. de Talleyrand, who had deeply studied the resources and spirit of Russian policy in the great phases of the hostility and alliance of that state with Imperial France, reduced the problem of the struggle against Muscovite influence to its simplest expression, when he concluded the treaty of the quadruple alliance, the vital principle of which was the Anglo-French alliance. The peril was then great for Russia, and she hastened, at the first cry of alarm from her diplomatists, to rouse the national susceptibilities of each country, and even to range party against party in the bosom of the two rival states.

Dynastic interests, constitutional opposition, radical and legitimist principles,—she employed all these levers; she exhausted all these combinations of calculations and politics, to arrive at the result she proposed to herself, namely, the separation of France and England. She succeeded, and they avowed that they dared not interfere in European politics from fear of Russia. These two richest and most powerful kingdoms of the globe, whose united population amounts to sixty millions of souls, these two crowns, which can dispose, the one of the military forces which have conquered Europe, and the other of a navy without a rival in the world, accepted an affront, and the responsibility of showing a humility more dangerous than war itself.

In good sooth, can we attribute as a crime to Russia her skill in profiting by the chances offered her by the faults of rival cabinets? With her, is not ambition confounded with the supreme law of her own preservation? Without the empire of the Mediterranean, which renders her mistress of the treasures of Asia and the principal markets of Europe, she must renounce entertaining an army of 800,000 men, and once disarmed, once the prestige of her omnipotence destroyed, her forced alliances will escape her, and in a few years she will have retrograded two centuries. But if Russia obeys a necessity in accomplishing her aggressive march, do not England and France, who possess the means of curbing the Russian power, commit a more palpable crime in knowingly running onwards to their discredit, and ultimately to their ruin?\*"

The spirit of the English people and the intelligence of the French Emperor have brought about that very alliance which the acute and far-seeing French writer wished without expecting, and which it is to be hoped will have the effect of putting a stop to Russian conquests, and rendering useless the enormous aggressive preparations which she has been making for the last twenty years at Sevastopol and other fortresses, in order to increase her own territory at the expense of that of her neighbours.—*Seymour's Russia on the Black Sea.*

\* *Histoire de la Russie*, tom. ii. p. 624, par Mons. Chopin, Paris, 1838. This gentleman was for many years an employé in Russia.

ETHNOGRAPHIC VIEW OF WESTERN AFRICA.—*Northern and Southern Guinea.*

(Concluded from page 534.)

*Inferior tribes scattered among the more important families that have been described.*—In the preceding sketches we have seized upon only the prominent tribes along the western shores of Africa. Interspersed among and around these dominant families, there are a large number of smaller and inferior clans, who, if it were not for the close relationship existing between their dialects and those of the more powerful communities by which they are overshadowed, might be regarded as the Gipsies of Western Africa. Among these may be mentioned the Felupes and Papels in Senegambia; the Bulloms, Bisagos, Deys, and others in Upper Guinea; and the Malimbos, Bakelis, Shebas, and various small tribes about the Kongo, in Southern Guinea. These inferior tribes, wherever found, differ very materially from the more powerful families in physical character, in their social condition, in their intellectual habits, and are really the only inhabitants of the country who combine all the characteristics of the true Negro. At the same time they resemble each other, no matter in what division of the country found, not only in physical appearance, but equally in their moral, intellectual, and social condition. We do not look upon these clans as distinct separate families, much less as being related to each other like the wide spread families of the Gipsies scattered over Europe, but as degenerate branches of the better and more powerful stocks in the immediate vicinity of which they exist. They are generally to be found in the alluvial districts and along the marshy banks of creeks and rivers; but to what cause their marked degeneracy is to be ascribed, we are not prepared to say. The fact itself has been noticed by Prichard and Latham. Mr. Henry R. Schoolcraft, of Washington, who, it is well known, has for a long time been a close observer of Indian character, states that the same thing exists in connection with Indian tribes, both of North and South America.

This circumstance throws some light upon the African population of the United States. The blacks which have been brought to this country have been derived from four sources

1st. Prisoners that have been taken in war, especially in Ashanti, Dahomy, and the more powerful kingdoms of Soudan. As these, however, have always passed through the hands of the maritime tribes, the factors in this traffic, the handsomer women have generally been culled out and kept as their own wives.

2nd. Such individuals in the more powerful communities as have committed great crimes, or were too turbulent to be governed by themselves. The Fulah at Wilmington, North Carolina, was one of this class.

3rd. Such individuals in the larger communities as are feeble or idiotic, of whom their families are willing to be rid. Against such

the charge of witchcraft is generally preferred, and in this way they become the victims of the trade.

4th. These inferior clans which have just been described. They are either kidnapped by the more powerful tribes near them, or they are so debased as to sell themselves, and this has been particularly the case with the slaves exported from the Kongo. This last is the most fruitful source of all. We apprehend that three-fifths of the whole, if not more, have been drawn from these inferior clans, who are, indeed, the only true and fully developed Negroes to be found in the country. These facts account for the great variety of character that was noticed, especially in former years, among the native Africans who were brought to this country; and it accounts in part for the great diversity which is still noticeable in their descendants.

*Comparison between the inhabitants of Northern and Southern Guinea.*—In the preceding sketches we have pointed out all the important physical characteristics of the principal families of both North and South Guinea, and have no occasion to revert to the subject again, except for the purpose of a very few general remarks.

In Northern Guinea there is a nearer approximation to the Negro type; the complexion is blacker and more uniform; the people are more robust and have larger frames, and are a hardier and more laborious race than those of Southern Guinea. On the other hand, the Ethiopian family have smaller frames, are, as a general thing, of lighter complexion, and have much better and more regular features. They have much more pliancy of character, and in the management of trade they display an amount of adroitness and cunning that the other race could never rival.

The dialects of Southern Guinea differ from those of Upper Guinea: 1st. In deriving the plural of nouns from the singular by changes in the initial syllable or by prefixes, whereas those of the other stock, with the exception of the Fanti, make theirs by changes in the final syllable. 2nd. By having a complete classification of their nouns, founded upon the manner in which the plural is derived from the singular, and upon the changes which the adjectives and pronouns undergo in order to accommodate themselves to these classes. The different dialects vary as to the number of the classes of nouns from four to twelve, all of which is entirely unknown to the other family. 3rd. In reversing the order in which two nouns stand when one of them is the genitive case. A Grebo, for example, would say, Dwe-ayu, Dwe, his son, or Dwe's son; while an Mpongwe would say, Onwana-wi-Dwe, the son of Dwe; and also when they use compound words: thus a Grebo would say, Kobo-tonh, literally white man's canoe, for a ship; an Mpongwe, on the other hand, would say, Onwatanga, the canoe of a white man. 4th. In comparing, declining, and inflecting their adjectives, *i. e.*, they are compared, inasmuch as they have all three degrees of comparison;\* they are declined, inasmuch

\* When the Mpongwe Grammar was published in New York, in 1847, it was supposed that the adjectives had no degrees of comparison; subsequently

as they have a regular rule by which the plural is derived from the singular; and they are inflected, inasmuch as they undergo a change in their radical forms to accommodate themselves to the different classes of the nouns, whatever the number may be; all of which is entirely unknown to the Nigritian stock. 5th. In possessing what is called an *indefinite* pronoun; a particle which performs a variety of offices and constitutes a prominent feature in the entire structure of the language, but is entirely unknown to the other great family. 6th. In possessing not only a large number of abstract nouns in common use, but a singular capacity for developing almost any number of new ones, especially verbal nouns. 7th. In the almost interminable inflections of the verb, whilst the very opposite is characteristic of Nigritian. It would be almost impossible to develop more than ten or twelve forms from a single root in Grebo and Mandingo; but as many as three hundred may be deduced from a single Mpongwe root; and yet so systematic withal as to avoid all confusion in the arrangement of its parts. 8th. In the decided preference it gives to the use of passive verbs, whilst the other stock scarcely has a passive at all. A Mpongwe would invariably say of a murdered man, *ajono' nloa*, "he was killed by some one;" whilst a Grebo would as invariably say that *nya la na*, "some one has killed him." For "he is drunk," the Mpongwe says, *abongo' nlalugu*, "he is taken by rum;" the Grebo, *na ni na*, "rum works him." The Mpongwe says, *mi jaga nli njana*, "I am sick with hunger;" the Grebo says, *kanu ni mli*, "hunger works me." This free use of the passive verb, however, is more prominent in the Mpongwe than in some other dialects of the same family. The Bakeli, for example, is more like the Grebo than the Mpongwe in this single particular.

*Judaism in Northern and Southern Guinea.*—We have already mentioned the existence of Jewish practices in Western Africa. Circumcision prevails in both North and South Guinea, but whether it is of Egyptian or Jewish origin, it is impossible to say. Some traces of the Jewish religion are more fully developed in the northern and others in the southern region. The division of tribes into twelve families, as among the Grebos; the division of time into seven days, and the observance of lucky and unlucky days, as among the Fantis and Ashantis; the observance of new moons; the offering of bloody sacrifices, and the sprinkling of blood upon their doorposts and altars; in having a house of refuge to which an offender may fly, and the security of falling upon the altar, and in having a distinct priesthood, are practices that are more fully developed in Northern than in Southern Guinea. On the other hand, we have in Southern Guinea demoniacal possessions, prescribed forms and times for mourning for the dead, rules pertaining to cleanliness, purifications, and various other things of a similar character, more or less clearly developed. In both

it was found that Kwe suffixed to the adjective gave it the force of the comparative degree, and Me that of the superlative. This is probably the case with most of the dialects of the great Southern family of languages.



cases, these things are attended to without any clear idea of their import. If asked what they mean, or why they are observed, the answer generally is that "our fathers did it."

*Religious notions.*—The inhabitants of Western Africa, without exception, so far as is known, have a clear and decided conviction of the existence of one great Supreme Being, the Maker and Governor of all things. They have an equally distinct idea of their own future existence. They have not, however, any suitable conceptions either of the majesty of the one, or the nature or condition of the other. A native African would as soon question his own being as that of his Maker, or his present as his future existence.

Most of the tribes have two or more names for the Deity, indicative of his attributes or the offices he performs as Governor or Creator. Among the aborigines of Cape Palmas, there are indistinct traces of the Scripture account of the creation and the origin of the human race, the deluge, Noah's family, the wonderful feats of Sampson, and of the advent of the Son of God, for whom they have a name. It is very possible, however, that they received these things from the Roman Catholic Missionaries who frequented the coast during the sixteenth and seventeenth centuries; and this is rendered more probable, as they couple with the above traditions some idea of an intermediate or purgatorial state.

The natives of Upper Guinea practise Devil worship, but whether it is the *diabolis* or *demonia* of the Jews it is almost impossible to decide—probably both, though the *diabolos* is the more prominent object of worship here, whilst *demonolatry* is the more marked form of worship in Southern Guinea. Their sacred rocks, trees, caverns, mountains, and groves, which are much more common in the Northern than the Southern section, are the abodes of these spirits. *Fetiches* or charms are equally common to both. They are perhaps more distinctly the object of worship with the Nigritian family, but are more used and more relied upon by the Ethiopian, to secure blessings and avert evils. Over the minds of both, however, they hold a powerful and dominant influence.

In Southern Guinea the people have clearer and more varied religious ideas, than are to be found higher up the coast.

In the first place, there is *Anyambia*, the Supreme Being, which literally means "good spirits," who is regarded as the Creator and the upholder of the universe. To him they ascribe all the works of creation, and whatever else they suppose to be beyond the power of any created agency. They recognize the hand of God in many things which affect their happiness and well-being, but never offer him any kind of formal or heartfelt worship.

Next to *Anyambia* in the government of the world, are two spirits, *Onyambe* and *Ombwiri*; the first of which, as the term implies, is the author of all evil, and the other is the author of good. With the character of *Onyambe* they seem to have but little acquaintance, but seldom fail to manifest symptoms of uneasiness when the name is called in their presence. *Ombwiri* would seem to be a family of spirits,

as the term is used in the plural as well as in the singular number. He seems to exercise a guardian care over the lives and the happiness of men, and he is also regarded as the author of everything that is mysterious and inexplicable.

Next to these are two other classes or families of spirits, called *Abambo* and *Inlaga*, the derivation of which is not known. These are supposed to be partly good and partly bad, and it is with one or the other of these the people are said to be possessed when they submit to the ordinary process of exorcism. The *Abambo* are the spirits of those who have died in the immediate vicinity of any particular place; and *Inlaga* are also the spirits of human beings, but they have come from some other region, and are therefore strangers. The worship and the exorcisms connected with these two classes of spirits, form a conspicuous element in the religious worship of all the families of Southern Guinea.

The worship of ancestors, and the preservation of their bones, which they suppose to possess extraordinary virtues, forms another prominent feature in their religious character, and belongs almost entirely to the southern branch of the African family. They use carved images in connection with this worship, and this is almost the only thing in Western Africa which may be strictly regarded as *idol worship*.

The inhabitants of this part of Africa have also a great deal to do with the inhabitants of the spirit-world. On this subject their imaginations know no bounds. Without logical training, and without any revealed word to mark the bounds of human knowledge, the fancy is allowed to form almost any possible conception, and every conception becomes a reality in their minds. Every dream is construed into a visit from the dead, and the hints and the suggestions which come to them through this medium, are more implicitly followed than any deductions of reason or duty that could be presented. If a man wakes up in the morning with pains in his limbs or muscles, he immediately infers that his spirit has been wandering about in the night, and has received a castigation at the hands of some other spirit.

*Intellectual characteristics of these two branches of the African race.*—It might naturally be expected that there would be as much diversity in the intellectual as in the physical character of these branches of the African race, and this is undoubtedly the case. We can offer, however, only a few general remarks in elucidation of this subject. The glance we have already taken at their respective languages, indicates the general outline of their intellectual character. There can be no better exponent of the mind of any people than the language they speak; and without this it would have been almost impossible to find out anything satisfactory about the character of the African mind.

The natives of Northern Guinea are comparatively bold, energetic, abrupt, unceremonious, and are very effective where nothing more than a mere outlay of muscular power is required. They are kind and tractable when treated with kindness, but obstinate and almost

immovably sullen when wronged or injured. They are sociable and somewhat inquisitive, and when vigorously assailed, are prompt and sharp at repartee. They are not very remarkable, however, either for a good memory or a very lively or fanciful imagination. Their stores of unwritten lore are summed up in a few pointed proverbial sayings, a few general maxims in relation to the duties of life, and a few simple fables and traditionary stories, not embellished, however, by any remarkable touches of the fancy.

The inhabitants of Southern Guinea, on the other hand, are characterized by traits the very opposite of these. Softness, pliancy, and flexibility are not more distinctive features of their language than it is of their moral and mental character. While a Grebo is rough, abrupt, and unceremonious in his bearing, the Pongo is all smoothness and civility. What one aims to effect by dint of energy and physical force, the other means to achieve by cunning and management. In opposing or injuring the one, you awaken his open and avowed resentment; the other, though he feels quite as keenly, either stifles his anger or determines on secret revenge.

But the predominance of the imagination is one of the most striking characteristics of the Ethiopian mind. It exercises so much control over the judgment and the understanding, that it unsettles the moral balance of the man. He almost loses the power of discriminating between the actual occurrences of life and the conceptions of his own fancy, and becomes grossly addicted to falsehood without intending it. The only way by which a stranger can get a correct insight into the true character of this people, is to become acquainted with their language and their fables. They are exceedingly close and reserved in relation to any thing that would throw light on their inner nature. But in their fables, wild animals are invested with all their secret feelings and propensities, and are permitted to act them out, without awakening the apprehension in their own minds that they are only personating themselves.

*Relation of the modern Ethiopian and Nigritian families to the ancient Aboriginal races of Africa.*—On this subject it is well known that we have as yet but the most scanty materials with which to work. We propose therefore only to throw out a few general hints and leave it for others to test their value.

Herodotus includes all the inhabitants of Africa beyond Egypt, in two families, the Libyans and Ethiopians, and this distinction has been adopted by the ancients generally. Both of these terms, however, are used with considerable latitude. Libya was generally applied to the aboriginal races living to the west of Egypt, between the Mediterranean and the Great Desert, among whom were the ancient Numidians, Mauritanians, and other families, the only descendants of whom, it is believed, are the modern Berbers.

Mr. Hodgson thinks he finds mention of several of these Northern families in the book of Genesis. The Libyans he takes to be the *Lchabim* of Genesis, and the modern Sheluks of Western Barbary he

takes to be the *Casluhim* of Genesis also.\* But both Lehabim and Casluhim are the descendants of Mizraim, and this, if correct, would establish a relationship between the Libyans and the Egyptians, which is probably the case. There were two branches of the Libyan family, however, one of whom was known as Phutæi, and the other as Lehabim or Lubim. Gesenius defines *Phut* to mean the Libyans next to Egypt, and Lehabim or Lubim denoted Libya, in a wider sense. Knobel, on the contrary, defines *Phut* to be Libya generally, and Lehabim or Lubim as the Libya next to Egypt, and in support of this opinion he calls to mind the fact that the ancient versions, Vulgate and Septuagint, translate *Phut* by Libyans, and that Josephus renders it Mauritania; and that there was a river *Phut* in western Mauritania. The Fulah tribe, which was mentioned in the foregoing part of this paper, have a tradition that they are the descendants of *Phut*, the third son of Ham; and it is a remarkable fact that they have retained this word in connection with at least three of their principal settlements in Senegambia, namely, Futa-Torro, Futa-Jallon, and Futa-Bondon. This fact possesses some importance. It shows either that the Fulahs are descended from the ancient Mauritians, or that they belong to another stock, (the Nigritian family perhaps,) that may have descended as directly from *Phut* as the Mauritians.

Ancient writers use the term *Ethiopia* in at least four different ways. In its most comprehensive use it was applied to all the dark races of men, irrespective of their places of residence. It was used again by Herodotus and others, with reference to two countries, one of which was in Arabia Felix, and the other in Eastern Africa, the only difference in the inhabitants of which was that one had woolly, and the other straight hair. By others, and at later date, it was applied to ancient Ethiopia, of which Meroe was the capital, which was the rival of Egypt in the arts, sciences, &c. It was applied again to all the inhabitants of Eastern Africa, the various tribes or families of which were mentioned by Agatharchidas under the appellation of *Ichthyophagi*, (fish-eaters,) *Hyllophagi*, (fruit-eaters,) *Elephantophagi*, (elephant-eaters,) *Struthophagi*, (ostrich-eaters,) and other tribes who feed on locusts, most of whom are supposed to have occupied the country of the modern Shangalla. There were also *Trogloditæ*, (cave-dwellers,) and a still more remarkable people mentioned by Herodotus by the name of *Macrobiai*, all of whom were included among the Ethiopians. At a still later period *Ethiopia* was used to designate all the districts or countries in East Africa, in distinction from those of *Nigritia*.

The term *Cush* in the Hebrew Scriptures, Dr. Robinson thinks, applies only to the Ethiopia of Arabia Felix and Ethiopia on the Nile. In the Septuagint it is interchangeably used with *Ethiopia*, which

\* Lehabim is considered by the best authorities to denote the Libyans and Casluhim the Colchians, who are stated by Herodotus (2,104) to have been a colony of the Egyptians.

shows that the ancient Ethiopians were undoubtedly descendants of Ham. It is from this ancient stock that we suppose the modern Ethiopic family of Southern Africa are descended. The parent stock underwent so many intermixtures with Asiatic races, however, especially from Arabia, that it is difficult to say whether their descendants have more of the Shemitic or Hamitic element in their composition.

Dr. Pritchard points out a relationship between the great Kafir family of languages and the Coptic, on the ground that they make their inflections on the initial instead of on the final syllable. This is true of all the dialects of this family so far as we know, but to a certain extent only. The conjugations of the verb, the degrees of comparison, and certain forms of the indefinite pronoun, are made on the final and not on the initial syllable. So that if any dependence is to be placed on this single circumstance, it would seem to indicate that it was a Hamitic language with Shemitic inflections, or *vice versa*.

In relation to the origin of the Nigritian family, we are not aware that there are any historical data on which to build an opinion. It is possible that they may have descended from Phut, according to the tradition of the Fulahs to this effect, and the fact that they have retained this word in connection with at least three of their principal settlements in Senegambia, namely, Futa-Torro, Futa-Jallon, and Futa-Bondon. If it were possible to trace any affinity between their dialects and the Ethiopic family of Southern Africa, it might be supposed that they were a branch of the genuine Ethiopian family without any admixture with Asiatic races, but there is not, so far as we have been able to see, any affinity whatever.—*Princeton Review*.

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SCIENTIFIC DISCOVERIES.—*Meeting of the British Association at Glasgow.*

If any further confirmation of the value of scientific discovery and research to the interests of Navigation and Commerce were needed in elucidation of the remarks we have from time to time made, it is abundantly afforded in the valuable communications and discussions at the recent meeting of the British Association for the advancement of Science, held at Glasgow. The very town in which it met, with its trade and shipping, and the remarkable progress that has been made in all respects since the association last met there, are of themselves a striking confirmation and a speaking commentary of the value of our text. The trade and shipping of the ports of the Clyde have increased within the last few years in an extraordinary degree, and its manufactures of iron, of chemical products, and its progress in steam ship building, are all so many indications of the rapid strides which have been made by the aid of scientific suggestions and mechanical improvements.

In a paper "On the progress, extent, and value of the coal and iron trade of the west of Scotland," read by Dr. Strang, the Chamberlain of Glasgow, it was shown that it has only been since the introduction of the steam-engine—and still more, since the discovery of the economical mode of smelting iron by the

hot-blast—that the vast and closely packed mineral wealth of the district has been at all fully developed and turned to great profit. A quarter of a century ago only 660,000 tons of coals were brought to Glasgow; last year, of 7½ million tons raised in Scotland, 6½ were drawn from pits situated in the four western counties around Glasgow: of these 2½ million tons were consumed in the manufacture of iron, and there were 23,000 persons employed in the collieries. If this great development of the coal trade has been of recent origin, the manufacture of iron in Scotland is still more modern, having obtained its present almost marvellous position during the course of the last few years. In 1830 there were but sixteen blast furnaces in the west of Scotland, and the whole produce scarcely reached 40,000 tons. Last year, out of 118 furnaces for the smelting of iron ore then in full blast in Scotland, producing 796,640 tons of pig iron, 102 were situated in the two western counties of Lanark and Ayr, and the produce of these amounted to 717,600 tons. The manufacture of malleable iron is still more recent, having only commenced about 1840, yet last year, the manufacture reached 122,400 tons. The coal and iron works of the west of Scotland, of which Glasgow is the great central mart, now produce nearly £5,000,000 to those connected with them, and give employment to 34,000 persons, whose labour wages amount to nearly £2,000,000. If we were to pursue the inquiry into the other adventures of that great commercial town, its vast chemical works, its magnificent steam ship yards, its various colleges and marts of commerce, we should find further unmistakable evidence of the close relations of Commerce to Science—and in no city are scientific acquirements more highly appreciated or better understood, from the highest to the lowest classes.

The noble reception given by the citizens of Glasgow to the numerous scientific men assembled from all quarters, comprising American and continental professors of all the applied and abstract arts and sciences; the most eminent mechanists, geographers, geologists, and travellers; the greatest chemists and meteorologists of the day; the marked attention, hearty reception, and peculiar facilities afforded them for diffusing their ideas and promulgating their discoveries, was alike a graceful tribute to science and philosophy, and an index of the earnest seeking after truth and practical information which characterises the Scotch people. As the Roman mother said of her children, so may we observe with respect to our professors and our mechanists—These are our jewels; these are the men to whom England owes her commercial greatness. Every section of the meeting received day by day its crowd of attentive listeners; and by means of the Press, local and metropolitan, the theories and discoveries, the prepared addresses, and the desultory observations and suggestions of these learned men have been widely diffused, and become patent to the world at large.

The first paper of any importance was that by Dr. Scoresby—"Elucidations by Facts and Experiments, of the Magnetism of Iron Ships, and its Changes." The other communications deserving notice in this section were—"On Naval Anemometrical Observations and Altitude Observations at Sea," by Professor P. Smyth; "On New Charts of Wind Movement on the Surface of the Globe, in accordance with the directions of the Board of Trade," by Captain Fitzroy, R.N.; "On the Registration of Wind Force," by Mr. Lowe; "On the Nature and Cause of Waterspouts," by Dr. Taylor; "On certain Erroneous Principles as to Magnetic Phenomena which have of late years been set forth and popularly received on Iron Ships," by Dr. Scoresby; "On the Means proposed by the Liverpool Compass Committee for carrying out Investigations relative to the Laws which govern the deviation of the Compass, by Mr. J. T. Towson; and another paper "On the deviations of the Compasses in Iron Ships," by Mr. Paul Cameron. These were the chief topics of discussion in Section A,

bearing on the interests of navigation, although there were several papers on meteorology and other sciences, collaterally connected, highly interesting. It is desirable that we should also notify the fact that a system of general and simultaneous observations is now being carried out, with which it is intended ultimately to belt the earth and stud the sea—to deduce results, and, from their combination, to connect facts and their relations. Marine registers, containing the reading of the barometer, temperature of the air and water, direction and force of wind, clouds, &c., variations of the weather, and notices concerning oceanic phenomena, cannot be too numerous, and, extending over so wide a field of observation, are eminently valuable—the more so as the sea is far less liable to disturbing influences than the land. To truthful sea registers the meteorologists must look for the basis of many general conclusions at which he hopes to arrive.

In 1835 the Meteorological Society of Mauritius published its transactions, forming a collection of ship logs, &c., in reference to the gales and hurricanes of the Indian Ocean south of the equator. Thus, in the midst of the ocean a station of hydrographic research is established, eminently adapted to the new science of cyclonology. The island being at too great a distance to be influenced by the great continents, is most favourably situated for the observation of meteorological phenomena in their relation to hydrography. The connection of land and sea observations is an important union to effect; without their correlation it is in vain to hope for satisfactory conclusions, as the disturbing influences of both elements are derivable from common sources.

Of the seven sections under which the discussions and reports of the British Association are classified, we find that even the first—which, from its general title, would appear to be the least promising—furnishes ample material, in the various papers named, for thoughtful reflection and careful inquiry into the correctness of the principles advanced. Every investigator has some means of testing principles and contributing data towards such inquiries, and especially in the field of meteorological inquiries on the ocean and in foreign ports. Meteorology, climatology, magnetism, and cyclonology (or the law of storms), are wide fields of observation, open to all, and which promise noble results to those who will note the phenomena which characterise them.—*Journal of Commerce.*

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## NAUTICAL NOTICES.

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### NAVIGATION OF THE MISSISSIPPI.

I would recommend to endeavour to strike soundings on the parallel of Pass L'Outre, about the meridian of Mobile. Keep this parallel and run down (true) west, directly for the Pass already named, as I consider it the best to go in the river by—besides, you have the great advantage of good soundings, and you can carry 17½ feet of water over the bar. This I know from actual experience. There is here, therefore, nearly as much water as in the S.W. Pass. Towards this latter you have not the benefit of good soundings, as it is deep water quite close to the shore, and therefore exceedingly dangerous, as in the night or thick weather you might get ashore in a few minutes, after having 35 fathoms; and if you hove your ship to at a safe distance from the land, you might soon get far out of your reckoning by the currents, and if you should happen to get to the westward of the S.W. Pass, you would find it very diffi-

cult to get back without a fair wind. The Pass L'Outre, then, possesses many advantages, and as many steamers and pilots as the S.W. Pass. At any other than the two already named passes no vessel drawing more than eight feet can enter. Having, then, struck soundings in lat.  $29^{\circ} 14' N.$  in 45 or 50 fathoms soft blue mud, run down (true) west for the Pass, sounding every hour, if at all uncertain of your latitude—which will be frequently the case, on account of haze and exhalation arising from the sea. An inexperienced navigator will be led to suppose, when taking his meridian and time altitudes, that he sees the real horizon, whilst, in fact, it may be a mile or two more distant, and such an hallucination might prove fatal. As soon as you have shoaled your water to 20 fathoms, sound every two miles you run till you come to 15 fathoms, then sound every mile. Go not into less water than 8 or 10 fathoms by day, or 12 or 14 by night, if purposing to keep under way; but I would recommend coming to an anchor in 7 fathoms, about  $1\frac{1}{2}$  miles from the shore—i. e., if you do not see a pilot or a steamer. The latter you will sometimes get, but you need not place the least dependence on the pilots, as they are in general an indolent and careless set of men. It is, therefore, much better to anchor, and fire a few guns, than to be kept in a state of perplexity and suspense, driven about by the currents, which towards the passes run in all directions—as may be conceived by consulting the chart, and seeing their courses. But at a good distance from the shore, say 20 miles and upwards, the general current is easterly, and sometimes so strong as to keep the ship a long way astern of her reckoning when running down for the pass; but the soundings will always indicate your distance from the land. In the parallel of Pass L'Outre, you will find 25 fathoms at 9 or 10 miles from the shore; further north you will find the shoal water to extend much farther from the shore; but in the parallel of South Point Lighthouse you will have 35 fathoms within three miles of the shore, and at that distance on a clear day you could see the land (or rather alluvium, of which this place is composed) which has an altitude of from three to six feet above the surface of the water. About the Belize there is a growth on this mud, which is elevated four to six feet higher. It is, therefore, of the utmost importance to attend carefully to the lead. This is the more necessary as you have soft blue mud soundings, sometimes mixed with sand, in any parallel between  $28^{\circ} 55'$  and  $29^{\circ} 18'$ ; perhaps even also beyond these extremes. Towards the south precinct I have struck soundings in 32 fathoms, the lead being carefully armed, and yet could not bring up the smallest quantity of any quality of bottom. I suspected it to have been a softer mud, and having washed off before coming to the surface. North of Pas L'Outre, the bottom is sand, with very little mud or sand alone. To find out when to anchor convenient to the Pass, I would recommend to run (if in the night or thick weather) first one way, either north or south, till you change your quality of soundings, and then tack and stand back, and come to an anchor half-way between the extremes of mud soundings, or rather, nearer the northern precinct, in seven fathoms, as I am told by the pilots that even an east or S.E. wind raises very little sea. The books of directions both English and American say, to run down in the parallel of the Belize till 18 or 16 fathoms of water, and then you will be sure to see Frank Island Light. But this is positively untrue: I do not believe you could see the light, which is a poor one, further off than in ten fathoms, even in the clearest night. It must always be borne in mind it is situated several miles inland, and I do not think would be visible more than ten or eleven miles from the lighthouse. The books of directions say also that there is a bell rung in foggy weather, when the light cannot be seen four miles off. This is another falsehood, as, upon inquiry, I find they have not even got a bell. It is also directed to run boldly in for the Belize, with your anchors ready to let go, firing guns till you are answered from the shore. This is another gross error. I in-



quired why my guns were not answered, as they said they heard them distinctly, They said such a thing was never done, as they have no gun for the purpose; there is one old useless thing they keep for celebrating the national independence, but for no other purpose. And as for the propriety of running a ship for a channel not half-a-mile wide, amongst mud banks, from sea without having seen the land, let every seaman judge. If once your ship gets on shore here it is difficult and awfully expensive to get off—if ever you do so, as the tow-boat people study, not how best to get your ship off, but how to make the most of your unfortunate case, and you may be long enough ashore before a pilot comes to your assistance. The lights on South Point and S.W. Pass are also very poor, and worse even than that on the Belize. My advice, then, is to be vigilant by being ever on the watch, and to practise the frequent use of the lead. The quality of bottom is of as much service as the depth of water: the lead is, therefore, here your most useful nautical instrument. This was written whilst everything was fresh on my memory: viz., on my arrival.—*Shipping Gazette.*

#### ISLANDS IN THE SEA OF JAPAN.

The following extract of a letter from the Pacific reports two islands not in the Chart:—

The Squadron having on the 25th of April passed within a few miles of two small Islands in the Japan Seas, which are not laid down on the charts, I have the honour to acquaint you with their position according to the observations taken from each ship. I also forward a sketch of them, with remarks by Commander Forsyth, of the *Hornet*, who approached the closest to them.

These islands lie in the track of vessels passing through the Sea of Japan, it is therefore desirable that their existence should be known.

Position of the N.W. Island, according to Master of <i>Sybille</i> . . . . .	Lat.	Long.
Ditto ditto <i>Hornet</i> . . . . .	37° 12' 0" N.	131° 51' 0" E.
Ditto ditto <i>Bittern</i> . . . . .	37 17 9	131 54 23
Ditto ditto <i>Bittern</i> . . . . .	37 16 0	132 0 0
Ditto, by mean of observations. . . . .	37 15 3	131 55 8

At first, I imagined that Dagelet Island had been incorrectly placed on the charts, and that the land we saw would prove to be that island, which is laid down 48 miles to the W.N.W.; but this proved not to be the case. Dagelet, according to La Perouse, being three leagues in circumference, well wooded, and inhabited; while those two islands (which are nearly connected together) are much smaller and uninhabited, and have no timber, being mere rocks rising boldly out of the sea to a considerable height, as described by Commander Forsyth.

I found the position of the N.W. islands as follows:—

Latitude. . . . .	37° 17' 9" N.	Longitude. . . . .	131° 54' 23" E.
Height above the level of the sea . . . . .	410 feet.		

There are two islands running in a N.W. b. W. and S.E. b. E. direction, about a quarter of a mile apart, apparently joined by a reef of rocks, the two about a mile in extent.

I approached them within three miles and observed no dangers,—the water appeared deep close to; they are quite barren, with the exception of a few patches of grass upon the indentations on their sides. Landing, I imagine, would be difficult, except in very calm weather.

**DANGER to the Northward of the Islands Sala y Gomez, Pacific—  
five miles.**

Captain H. Scott, commanding the British barque *Druid*, has reported the following, which does not appear on the Chart:—

June 14th, wind north, with heavy rollers from the S.W.; at noon, made the Rocky Islet of Sala y Gomez, in lat.  $26^{\circ} 28' S.$ , long.  $105^{\circ} 20' W.$ , bearing E.S.E., steering to pass to windward of it; saw breakers in the N.E.; stood on to get better view, and then kept away, and ran round the lee side of the island. Had a good view of them from the masthead, the rollers in regular succession curling over in one spot, of about a cable's length, and forming tremendous breakers. A drizzling rain coming on, I was unable to get their exact bearing from the islet, but approximately they will be about N.N.E. distant about five miles from it. It is probable the sea may only break on the spot in heavy weather, or during the rollers so frequent in this latitude. I consider it a very dangerous patch, as it is often in the track of ships crossing the S.E. trade when it is scant.

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**BITTERN ROCKS, off Cape Gameley, Sea of Japan, awash with the  
surface.**

The following is an account of a very dangerous group of rocks in the Japan Sea, west of Cape Gameley, Nippon Island, reported by Commdr. Vansittart, of H.M.S. *Bittern*:—

From noon on 8th inst., being then in lat.  $40^{\circ} 40' N.$ , long.  $139^{\circ} 10' E.$ , we ran about five miles S.W. b. S., when at 1.50 p.m., two small rocks were observed a-head, and on closing them, a third appeared, a mere speck, which probably covers at high water.

We landed on the largest and sounded off it; it is about 130 or 140 feet long by 25 feet wide, cannot be more than 7 or 8 feet above the sea level at high water, the next less than one third its size; they are grouped together within a couple of cables' length, steep to on the western side, having 15 and 17 fms. at two cables' distance, and no bottom, with 140 fms. at  $1\frac{1}{2}$  miles in this direction; some broken water showed itself near them to the eastward.

The bearing (magnetic) from off the largest rock gave land about Cape Gameley, N.  $58^{\circ} E.$ , a distant high mountain (in the background of Nippon, peering above nearer high land) which we supposed to be Mount Thaki, N.  $79^{\circ} E.$ , Footsima Island, S.  $11^{\circ} E.$ , variation of compass  $3^{\circ} 20' W.$ , placing these rocks in lat.  $40^{\circ} 30' N.$ , long.  $139^{\circ} 15' E.$ ; they are fully 25 miles off shore, and dangerously situated for vessels working southward out of, or northward into, the Straits of Matsmai.

On approaching in the whale boat, we dislodged some 140 or 150 seals and sea lions; these animals literally covering the face of the rocks, and evidently loath to leave them, hovering about quite closely where they did take to the water, the larger ones snarling and barking in a vicious and furious manner, and carrying off musket ball from within 10 yards without any apparent inconvenience.

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**GULNARE ROCK, N.E. of Scalpa, Hebrides, carrying only three feet.**

Vessels running between Glasgow and Portree must be careful of the following dangerous rock in their path, reported by Commander Wood, employed in surveying that dangerous neighbourhood in the Gulnare.

I have discovered a dangerous rock in the neighbourhood of Scalpa Island, the position of which I think it advisable should be made known, as the channel in which it is situated is constantly used by the steamers running between Glasgow and Portree, as also by most of the sailing vessels trading with that port. It seems providential that none of the former have struck on it, as they pass at all times of the day and night, and all times of tide. Several vessels (and amongst them a Revenue cruiser) are said to have struck on it; but of this I heard nothing till after I had found the rock, nor could any one give me an idea of its position.

It lies in the channel between the N.E. side of Scalpa Island and the small rocky islet called Sgeir Deang or Red Rock, from which it bears S. 22° W. (true) one third of a mile. As the channel here is barely three-quarters of a mile broad, it lies right in the way, and is a most dangerous obstruction, as it lies only 2½ feet L. W. spring tides on one of its heads, and but little more than 8 feet on the other, with 9 to 10 fms. all round; it should therefore be carefully avoided, which may be done by keeping the conical hill called Caliach No. 2 (that over Kyle Akin) on with the south end of Linga Island till Sgeir Deang bears E.S.E. mag. when you will be past the rock when coming from the southward; when approaching from the northward, the mark should be brought on when Sgeir Deang bears as above, and kept so till abreast the north end of Linga. The marks for it are as follows:—

1. Caliach No. 2, on with the next highest lump to the right of centre lump on Linga.
2. Mound in centre of Sgeir Deang, on with left high peak of Ben Clachan.
3. Sgeir Tavson Rock or (Cross Rock) on with centre of Raza high Cliffs, or about the breadth of the rock to the right of Duncan Hill. NOTE—this last mark is only available when the water is low, as the Tavson Rock is covered about half flood. It is, consequently, a very dangerous rock, and should have a beacon placed on it.

The present imperfect condition of the Chart of the Hebrides and its limited scale will induce the careful seaman to attend to the above mark for clearing the rock until the new survey is published. At the same time we hope the Commissioners of Northern Lights will follow Commander Wood's suggestion by buoying it.

#### HOWARD ISLAND, *Pacific*, and Positions of *Vostock* and *Rimitera* Islands.

Mr. Edward Howard, the master of the American bark, *Hermione*, of New York, states that he has discovered a coral island, its centre in lat. 20° 6' S., long. 167° 39' W., length about three miles, width about half a mile.

Mr. Howard had good chronometers on board, and he had opportunities of seeing they were correct a few days before he saw the island, and again a few days after.

The following is an extract of a letter from Capt. Houstoun, of H.M.S. *Trincomale*:—

The following are the various positions assigned respectively to Wostock or Vostock Island, and the Island of Rimitera.

In *Hindlay's Directory*, part 2, page 896, Wostock Island, lat. 10° 5' 50" S., long. 153° 23' W. In the same, page 993, Vostock Island, lat. 10° 5' 50" S., long. 152° 23' W. In the same, part 2, Table of Positions, pp. 17, Wostock, lat. 10° 5' 50" S., long. 153° 23' W. *Raper*, 3rd edition, supplied by the Crown, lat. 10° 6' S., long. 152° 23' W.; and chart, lat. 10° 2' S., long. 152° 0' W.

Rimitera, *Findlay's Directory*, page 800, part 2, lat.  $22^{\circ} 40'$  S., long.  $152^{\circ} 20'$  W. Table of Positions, page 13, lat.  $22^{\circ} 40'$  S., long.  $152^{\circ} 59' 49''$  W. *Raper*, lat.  $22^{\circ} 40'$  S., long.  $152^{\circ} 50'$  W. Chart, lat.  $22^{\circ} 40'$  S., long.  $151^{\circ} 59'$  W.

We had no opportunity to determine the true position of Wostock Island, but at 5.30 p.m. yesterday we sighted Rimitera, and have little doubt of the correctness of the chart, that is, it is in lat.  $22^{\circ} 40'$  S., long.  $151^{\circ} 59'$  W.

**SIR JOHN ROSS ON THE AURORA BOREALIS.**—The communication I had the honour of making to the “British Association for the advancement of Science,” at Belfast, on the interesting subject of the Aurora Borealis, being verbal, and therefore not entitled to a notice in the Association’s valuable transactions of that period; but having subsequently repeated the experiments I then verbally mentioned, I can now confidently lay the account of them before the public, trusting that, when taken into consideration, they will be found corroborative of the theory which I published in the year 1819, and which led to a controversy which shall be hereafter mentioned.

It having occurred to me that if my theory was true—namely, “That the phenomena of the Aurora Borealis were occasioned by the action of the sun, when below the pole, on the surrounding masses of coloured ice, by its rays being reflected from the points of incidence to clouds above the pole which were before invisible.” The phenomena might be artificially produced: to accomplish this I placed a powerful lamp, to represent the sun, having a lens, at the focal distance of which I placed a rectified terrestrial globe, on which bruised glass of the various colours we had seen in Baffin’s Bay was placed, to represent the coloured icebergs we had seen in that locality, while the space between Greenland and Spitzbergen was left blank, to represent the sea. To represent the clouds above the pole which were to receive the reflected rays, I applied a hot iron to a sponge, and, by giving the globe its regular diurnal motion, I produced the phenomena vulgarly called “The Merry Dancers,” and every other appearance, exactly as seen in the natural sky, while it disappeared as the globe turned, as being the part representing the sea to the points of incidence.

In corroboration of my theory, I have to remark that, during my last voyage to the Arctic Regions (1850–1,) we never, among the numerous icebergs, saw any that were coloured, but all were a yellowish white; and, during the following winter, the Aurora was exactly the same colour; and when that part of the globe was covered with bruised glass of that colour, the phenomena produced in my experiment was the same, as was also the Aurora Australis, in the Antarctic regions, where no coloured icebergs were ever seen.

The controversy to which I have alluded was between the celebrated Professor Schumacher of Altona, who supported my theory, and the no less distinguished Mons. Arago, who, having opposed it, sent Mons. Gimard Martens and another to Hamerfest on purpose to observe the Aurora and decide the question. I saw them at Stockholm on their return, when they told me their observations tended to confirm my theory; but their report being unfavourable to the expectations of Mons. Arago, it was never published; neither was the correspondence between the two professors, owing to the lamented death of Professor Schumacher.

I regret that it is out of my power to exhibit the experiments I have described, owing to the peculiar manner in which the room must be darkened, even if I had the necessary apparatus with me; but it is an experiment so simple that it can easily be accomplished by any person interested in the beautiful phenomena of the Aurora Borealis.

**DESTRUCTION OF SEBASTOPOL.**—It is not easy to destroy a city, and Titus must have had wonderful engineers if he really razed Jerusalem to the ground. Sebastopol, indeed, is in ruins; it has been shattered in many places to splinters, as it were, by the iron storm which for many long months has been driven by the fierce breath of gunpowder against it. The retreating enemy has not spared it, and the agency of fire and shocks of great explosions have been added by them to the cannonade and bombardment which smote down palaces, churches, storehouses, barracks, and stately buildings as though they were built of cards. But still much of Sebastopol remains, in spite of these terrible visitations, and although there is scarcely one house in the place which is uninjured, or one square yard of ground which does not bear the trace of shot or shell, there is enough left to show that it really was a princely city, and that no pains had been spared to make it a fit mistress of the Euxine. In the course of a year the finest city in the world would look neglected and dirty if no steps were taken to clean it, and to keep the streets trim and orderly. The cessation of commerce would permit the grass to grow in the public ways, and it may readily be imagined that the inhabitants of a besieged city could find but little time to keep the gardens and places of recreation neat and kempt. Grass does indeed grow in the streets of Sebastopol, the gardens are overrun with weeds, and the vineyards at the back of the Redan bear only grape of a very different nature from that for which they once were famous. The walks are full of rank grass, and the borders of the paths are trodden down by the soldiery.

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A letter from Sebastopol of the 2nd inst., states that the English have found in the Karabelnaia 2,222 guns, 890,000 bombs and round shot, engines to the value of £40,000, chain and anchors estimated at £20,000, metals at £12,000, 3000 tons of coal, more than 3,000,000 of rations, and arms and clothing of various kinds.

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**THE DOCKS OF SEBASTOPOL.**—Walking round the edge of Dockyard Creek, we soon came to the dock. We arrived suddenly among the wonders of Sebastopol, and all that we had heard of the glories of the place faded away before the magnificent reality. First of all we inspected a dock where ships of the largest size are hauled up out of the water, or launched again, by means of a cradle, placed on a tram-road. This is the work of the Englishman Upton. Then we came to the intended Government foundry, whose walls were rising to the height of ten feet, over a space of nearly twelve acres; part of this was obtained by cutting away the spur of a mountain. The remainder of the hill was upheld by a freestone wall, every stone beautifully squared and fitted, to the height of 350 feet! We had the advantage here of joining two English engineers, who had been employed for many years in Sebastopol; these became our guides, and gave us a great deal of information. We then went to see the famous docks. These consist of a series of locks, like canal locks, the upper end being twenty feet higher than the entrance lock, which is even with the level of the sea. The upper end has three locks abreast. Then comes a compartment equal in area to three, then again three more, the middle one of which is entered by three other locks from the harbour; making altogether nine chambers as it were, and the large space in the middle. These are all dry, but can be filled with water pumped into them by two steam engines. Each chamber is 270 feet long, 60 feet wide, and contains from 25 to 37 feet of water at pleasure. A large ship can be floated into an upper lock, all the water can then be let off, and the ship left in her cradle as dry as if on shore. The docks with their magnificent masonry casings of gigantic granite blocks, steam engines, and iron gates, with the aqueducts for bringing down water from the Tchernaya,

cost £20,000,000 sterling. In one of the docks a steamer had been burnt; all her machinery was standing complete, but not one bit of wood remained.—*Letter from a Naval Officer.*

**THE BLACK SEA.**—The Isle of Serpents, or Fidonisi, the only island in the Black Sea, is a barren and naked rock, lying about twenty miles off the mouths of the Danube, almost east by west with the Sulina, the principal mouth of the river. There is on this island a lighthouse 200 English feet above the level of the sea. The light is not kept up at present. The delta of the Danube is quite flat, the landing places have little depth of water, and the shores are not seen until, as it were, you touch them. Nature seems to have placed the Isle of Serpents in this spot to claim the mariner's gratitude. It is very desirable that the lighthouse should be illuminated before winter. Tendra, where the cruising ground (off Odessa) usually lies, is a very sandy peninsula, very little elevated, and situated to the south of Otchakoff. It appears to be formed, like all this part of the coast stretching from Cape Kinburn to Perekop, of the alluvial deposits of the Bug and the Dnieper, leaving here and there apertures, which the sea has reserved capriciously for itself. Tendra, in rounding off from the N. to the S. and W., forms a vast and secure bay, the soundings of which, both inside and outside, have been frequently taken by the Allied cruisers. The two squadrons might, in case of need, find safe shelter there. The peninsula is evacuated by the Russians.—*Letter in the Moniteur.*

**NICOLAIEFF.**—Nicolaieff appears at present to be the especial object of the Emperor's paternal affection, and the most gigantic efforts are being made to render it a second Sebastopol, as it is now the principal Naval establishment in the south. Five and twenty years ago it had never been heard of out of Russia, and owes its sudden rise to the genius and energy of Admiral Lazareff. It is situated at the confluence of the Bug and the Ingul, and surrounded by a barren and flat steppe. There is no bridge here across the rivers, and the communication between the two shores is kept up by means of flat-bottomed boats or ferries. The population at present amounts to 38,067 persons, inhabiting 4998 houses. The town contains six Russo-Greek churches, besides a Catholic and a Lutheran one, and two synagogues (one for the Jews and the other for the Karaites). Amongst the more important and striking buildings are the Admiralty and several magnificent barracks of three stories each, capable of accommodating 25,000 men. Within the last few years an immense quantity of guns and ammunition had been accumulated at Nicolaieff, but a great part of them were sent to Sebastopol and are now lost to the Russians. On the banks of the Ingul an esplanade has been planted, which leads to an oasis in the desert called Suhoi Fontan, a picturesque spot, three miles from Nicolaieff, where there is the public garden of Spassk, and a spring of pure water, which is conducted by an aqueduct into the town, and supplies the inhabitants exclusively, as there are no wells, and the water of the river is turbid and unwholesome. The distance of Nicolaieff from Odessa is 121 wersts; from Simpheropol, 340; and from Sebastopol, 401. Immediately on the arrival of the Emperor at Nicolaieff, the principal officer of the engineers at Odessa, Captain Volokoff, was sent for by telegraphic message, and orders were given him for the immediate construction of five large redoubts, capable of mounting 400 pieces of artillery. At the same time the building of five hundred gunboats was commenced in the dock-yards, under the personal inspection of the Grand Duke Admiral Constantine, who has brought with him from Cronstadt a large body of working shipwrights and mechanics. These gunboats are to be each armed with two and four guns of heavy calibre, which have already arrived from the great cannon foundry at Kiew. The guns for the armament of the two new frigates, *Vitjas* and *Tiger*, have also arrived from Kiew.

Nicolaieff, situated in a fine plain on the south side of the Ingul, near its junction with the Bug, is about 100 miles from Perekop, and 107 from Odessa, while Cherson, between Nicolaieff and Perekop, is 40 miles from the former. Nicolaieff was founded in 1791, and has increased in importance since the Admiralty was transferred there from Cherson. In the port and docks there are, besides completed vessels, gunboats, &c., of all sizes, immense stores of canvas, iron, &c., worked up ready for use, as in the case of every ship, an exact model of every part, 1-24th of the full size, is made, with the different parts numbered, with which the ship when finished is compared. Some of the gunboats are furnished with sails and with numerous oars. The timber for the ships comes chiefly by the Dnieper to Cherson, and thence to Nicolaieff. All the vessels constructed here are transported many versts down the river to Glubokoye, where they take in their cannon, tackle, &c., and proceed thence to the Black Sea upon camels, on account of a sandbank near Kinburn. The Admiral-in-Chief of the Black Sea and a number of inferior officers have their permanent residence at Nicolaieff. The Admiral's house, consisting of one story, is in one of the principal streets, upon the high bank of the Ingul, where his flag is displayed, and signals are made. In the angle between the Bug and the Ingul is Spasskii, formerly the residence of Prince Potemkin, and since inhabited by the Admiral of the Black Sea Fleet. Returning towards the town is a fountain of excellent water, which is conveyed to a reservoir in Nicolaieff, and which, from the badness of the water to be obtained from the wells—a fault almost common to Odessa—is invaluable. The fine healthy climate, the pure air, and the cheapness of lodging and all the necessaries of life, except firewood, make Nicolaieff a favourite resort with the Russian nobility. The town contains about 12,000 inhabitants, and there is good pasture land in the neighbourhood. The country between it and Cherson is generally of the nature of a steppe, presenting now and then greater and lesser elevations, tumuli, &c., which are said to be Tartar tombs.

Cherson "lies upon the right bank of the Liman, or embouchure of the Dnieper, which is here six versts (about four miles) broad, when its numerous shoals, as is frequently the case, are covered with water; when the shoals are exposed, the real breadth of the river is not more than one verst. In the passage to Aleshki by the Dnieper, however, as the boats wind through different channels, among numerous banks, the distance is increased to 15 versts." The passage, which can be made in two, takes sometimes four, six and even twelve hours, on account of the badness of the ferry-boats and the unskilfulness of the ferrymen. The town is divided into four quarters—the fortress, the admiralty, the Greek suburb, and the suburb for sailors. The fortress, which is surrounded by fosses and ramparts, comprises the arsenal, a large and fine building, the tribunals, the houses of the military and civil governors, the prison, barracks, &c. In the second quarter of the town, the Admiralty, which serves as a citadel to the fortress, are docks for constructing men-of-war and merchant ships, of less importance now, since the transfer of the building establishment to Nicolaieff.

It is worthy of observation that it is only during the spring flood of the Dnieper that vessels can be transported hence upon camels, and that only when there is a high flood, so that vessels have been kept here for a year or more till the state of the river admitted of their being forwarded to their destination. By the Dnieper all the timber for ship-building arrives at Cherson, both for its own supply and that of Nicolaief and Odessa. Much of the produce of the interior is also brought hither and taken to the last-mentioned town in lighters. Hence, though Cherson is never likely to be a naval or a commercial port, from its situation on the Dneiper it serves as an emporium for the equipment and armament of the Black Sea Fleet, and as a depot for the produce of the neighbouring provinces of the Russian empire.

It has been said that all vessels of war built at Nicolaieff are floated on camels into the Black Sea; but this does not coincide with credible private information that has recently been acquired on the subject, and is given by the late Marshal Marmont in his work on Southern Russia. The French General in 1835 wrote as follows:—"The arsenal of Nicolaieff did not appear to be in keeping with its destination, or with the part which it will some day be called on to play. It seems that there ought to be several covered docks large enough contain several vessels at the same time. The locality presents eight spots which would be fitting and convenient. One thing of great utility has been done. The issue from the port has been deepened, so as to render unnecessary the employment of camels for taking vessels to Sebastopol, in order to have them armed. Vessels of 120 guns can now get out to sea without meeting with any obstacles." The *Warsaw*, 120 gun ship, was launched and sent to Sebastopol soon after the French General quitted Nicolaieff. The Russians take their soundings in *archines*, which are 28 English inches in length. The liman of the Dnieper is very narrow; throughout a length of twelve miles its average breadth does not exceed two miles, and at some spots narrows to a mile and a half. The Allies are in possession of a Russian chart in which all the soundings are given. On the right the route leads to Nicolaieff; on the left the Dnieper washes the capital of the government of Kherson, where a post has on it the celebrated inscription of Catherine, "Way to Constantinople." All this side of the liman is bordered by the road lately made from Nicolaieff to Perekop, and along which, from the great depots of the interior, stores of every kind are conveyed to the Russian army in the Crimea. If the fleets succeed in closing this road they will have already obtained great success.—*U. S. Gazette.*

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SURRENDER OF KINBURN.—1500 Prisoners taken.

*Despatch from Admiral Lyons.*

Admiralty, Oct. 20th, 1855.

The Secretary of the Admiralty announces the receipt of the intelligence contained in the accompanying document:

Off the Mouth of the Dnieper, Oct. 17th.

The three forts in the Kinburn Spit, mounting upwards of 70 guns, and garrisoned by 1300 men, under General Konowitch, have this day capitulated to the Allies.

The day before yesterday a flotilla of gun-vessels forced the entrance into the Dnieper, and the Allied troops landed on the spit, to the southward of the forts, and by their simultaneous operation the retreat of the garrison and the arrival of reinforcements were effectually cut off, so that the forts being bombarded to-day by the mortar-vessels, gun-vessels, and French floating-batteries, and being closely cannonaded by the steam line of battle ships and frigates (having only two feet of water at their keels), were soon obliged to surrender.

The casualties in the fleet were very few, but the enemy had 45 killed and 130 wounded.

A steam squadron, under Rear-Admirals Stewart and Pellion, lie at anchor in the Dnieper, and command the entrance to Nicolaieff and Kherson.

The forts are occupied by the Allied troops.

The prisoners will be sent to Constantinople immediately.



*Lord Clarendon's Despatch.*

Foreign Office, Oct. 20th.

Lord Clarendon has received the following intelligence from her Majesty's Chargé-d'Affaires at Vienna, dated October 19th:—

The Allied fleets bombarded the three forts of Kinburn on the 17th. The garrison of 1570 men, under General Konowitch, capitulated, and are sent prisoners to Constantinople.

Loss of the Allies unimportant. Russian loss 120 men. Forts taken possession of by the Allies. Fleets anchored at the entrance of the Dnieper.

*Prince Gortschakoff's Despatch.*

St. Petersburg, Oct. 18th.

The fortress of Kinburn resisted the Allies by a very heavy fire up to the 17th.

At noon on that day the fire ceased, and at 3 p.m. the enemy (the Allies) entered the place.

Up to the 17th there was nothing new in the Crimea.

Off the Mouth of the Dnieper, Oct. 18th.

This morning, the enemy blew up his fortifications on Oczakoff Point, mounting 23 guns, which were assailable by our mortar-vessels.

## DESPERATE ENCOUNTER WITH CHINESE PIRATES.

The *China Mail*, received overland says:—Last week we mentioned that a lorcha and three junks, under convoy of the *Eaglet*, had been cut off by pirates, who displayed such a formidable battery and determined front that Captain Caldwell was unable to rescue them, and had to apply to Commander Fellowes, of H.M.S. *Rattler*, for assistance. This was readily granted, and the *Rattler*, with Captain Caldwell on board, started for Kulan, near which they sighted the pirates, and followed them as far into the bay as the depth of water would permit. The pirates, conscious of their ability to resist successfully any attempt by the boats of the steamer, fired a few harmless broadsides in defiance, and stood in towards Kulan.

Captain Fellowes thereupon returned to Hong Kong, and invited the co-operation of the U.S. steamer *Powhatan*; when it was determined that the *Rattler*, with three boats and a hundred officers and men of the American steam-frigate, should form the expedition, Captain Caldwell volunteering the use of his steamer to tow the boats up the bay.

The *Rattler*, with the *Eaglet* in tow, and the *Powhatan's* boats astern of her, again left the harbour on Friday, August 3rd, at three o'clock, the First Lieut. (Pegram) of the *Powhatan*, with Lieut. Jones and his Marines, taking passage in the *Rattler*, and the blue jackets in the *Eaglet*.

At five a.m. of the 4th the launches were sent alongside the *Rattler* for the Marines, and then, with the *Powhatan's* cutter, and three boats from the *Rattler*, besides the Captain's gig, made fast astern of the *Eaglet*; which, everything being ready, steamed slowly up the bay. At Kulan only one junk was to be seen, but Captain Caldwell descried a lorcha at anchor at the end of the bay, and steered in that direction. The lorcha got under way, apparently with the intention of escaping, when Captain Fellowes despatched the

*Rattler's* pinnace and *Powhatan's* cutter (the former under command of Lieuts. Wrey and Greer, and Mr. Lomax, Mate—the English Marines having been first transferred to the American launches) to intercept her, and these had unfortunately got beyond recall before the pirate fleet with their prizes, numbering in all some thirty-six sail, were observed at anchor in the narrow and shallow passage from which the lorcha had started.

As the steamer approached, the junks hoisted their sails, but without getting under way, until several congreve rockets, discharged from the *Eagle's* quarter-deck by Mr. Pine, the Gunner, and two Marine Artillerymen from the *Rattler*, and two or three well directed shots from her 32-pounder, fired by Mr. Randall, her chief officer, startled them from their fancied security; for up to that time the pirates had either not observed the boats, or thought they would not have the temerity to attack them.

In this, however, they soon discovered their mistake; for the boats, which at first had made for a narrow neck of land, bore up for and rounded the point, and then from the deck of the steamer was witnessed as bold an attack as was ever made in these waters. The pirate fleet formed a dense mass, the larger and heavier armed junks bringing up the rear, every now and then yawing round and firing their broadsides at the boats, from which, in reply, tiny puffs of smoke arose, as the howitzers in their bows discharged their more deadly contents, the shrapnel bursting over the junks and making frightful havoc among their crews. Lieutenants Pegram and Rolando, with the launches of the *Powhatan*, first, by volleys of musketry, clearing the decks of the two largest, then boarding and driving the pirates overboard at the point of the bayonet. This, however, was not done without a hard struggle, for the miscreants fought with the fury of despair; but they had, of course, no chance against the Marines and blue jackets.

The other boats performed their share of the work with the utmost gallantry, officers and men vying with each other for the post of danger and of honour, so that five or six more junks were soon secured. Mr. James, Boat-swain of the *Rattler*, particularly distinguished himself, having, with five Seamen and a few Marines, in a whale-boat dignified with the title of second cutter, boarded and carried a junk that seemed fully a match for either of the launches. Lieut. Pegram, in the first launch, was hastening to their assistance, but seeing the battle nearly won, would not interfere with their well-earned laurels, and turned his attention elsewhere.

The pirate chief's junk, after being shelled by the first launch, was boarded almost simultaneously by her crew and that of the *Rattler's* gig, and Captain Fellowes was fortunate enough to secure the chief's flag. The chief himself, Lee Afye, a principal leader of the Whampoa "patriots," was shot by an English Marine who had jumped on deck from the *Powhatan's* launch, and four women threw themselves overboard and were drowned. The ammunition on board the pirate fleet may be judged of from the fact that this junk alone is believed to have had nearly one hundred kegs of English gunpowder, besides stinkpots, cartridges, and loose powder.

Up to this time only one serious casualty had happened to the attacking force, a young American Marine named Adamson having been shot with a musquet-ball in the groin; but two other fatal accidents followed in quick succession. The *Rattler's* first cutter, in charge of Paymaster Brownson, ran alongside of a large junk. Several stink-pots thrown at them missed, but at last one, hove from the raised poop of the pirate, by a woman with a child slung to her back, fell into the boat, and being followed by others, the crew were compelled to jump overboard, where two were speared, and a third wounded and drowned. One of these, a marine, who had been wounded by a spear thrust, called to his comrade to save him, and the other being an ex-

cellent swimmer, got hold of him for that purpose. The Chinese then threw a mat over them, and the marine, still holding on by his wounded friend, dived below and came up clear of the mat; but as soon as he was observed, several stink-pots were pitched at him, one of which struck him on the head, and though not much hurt, he was stunned for a second or two, and lost sight of the man he had displayed such a determination to save; the brave fellow's name is William Robinson.

The other fatal accident was the blowing up of a junk, which for a time had offered the most determined resistance to the gig, in which were Captain Fellowes and Assistant-Surgeon Wilson, with five men, but which was ultimately taken possession of by Lieut. Rolando and his launch. Either a train had been laid before the crew left, or some determined scoundrel fired the junk, for she blew up with a tremendous explosion, and both Officers and men were hurled into the water. Three of the men were killed and several others frightfully scorched, one of whom died the same night, while another is not expected to live; but the Officers miraculously escaped, though Lieutenant Rolando was burnt and Capt. Fellowes injured by the falling spars. In this junk was an immense quantity of treasure, said to amount to 200,000 dollars, and the desperation with which her crew fought may be judged of from the fact that even after the Americans gained the deck, they were encountered hand to hand. One man made himself particularly conspicuous, and, notwithstanding several wounds, continued to throw stink-pots; but ultimately he ran below, and is believed to have fired the train which blew up the vessel.

The time occupied in securing the larger junks enabled sixteen smaller ones to get so far ahead as to render pursuit hopeless; while but for the unfortunate absence of the pinnace and cutter, as above-mentioned, the whole would probably have been captured. The men in these boats tugged manfully at the oars, and pulled a distance of fifteen miles in three hours; but, notwithstanding their utmost endeavours, arrived too late to take part in the fight, though they assisted in destroying the captured junks, while the other boats returned with their wounded men to the *Eaglet*. There Dr. Pritchard, with Mr. Pine, Gunner, were prepared to receive them, and everything was done by the three Surgeons that humanity could devise.

Ten junks were destroyed, five of which more than ordinarily deserve notice. They were built of the most substantial materials, evidently for war purposes, as they differed in many respects from the common trading junks. They carried very large guns, 32, 24, and 12-pounders. A 68-pounder was found in one of them; another had no less than 21 guns mounted, the weight of one of which, carrying only an 18-pound shot, was estimated at not less than 50 cwt. Two lorchas and seven junks that had been detained by the pirates were released, two of which, however, had to be burnt, to prevent their falling again into the hands of the piratical junks that escaped, time and an adverse wind and tide not allowing them to be brought away. The Officers employed estimate the number of guns taken at 200 large and small, and the pirates at 1000, 500 of whom were killed.

The service was one of danger, and the loss has been considerable; but the benefit is also great, and thanks are justly due to Comdr. Fellowes for the energetic measures which have lately been the means of checking piracy.

The casualties are as follows:—*Rattler*, 4 killed and 7 wounded; *Powhatan*, 2 killed and 10 wounded, of whom 2 have since died.—*U. S. Gazette*.

## DR. KANE'S ARCTIC EXPEDITION.

The following letter has been received by Mr. G. Peabody from Dr. Kane :

“Godhavn, North Greenland, Sept. 12.

My dear Sir,—I have only time to report to you the safe arrival of our party at Godhavn, whence we have taken passage to England in the Danish brig *Mariane*.

The explorations of our party embraced the entire shores of Smith's Sound, and a new channel expanding from its north eastern curve into an open polar sea. This great watercourse embraced an area of 3,000 square miles, entirely free from ice. It washed a bold and mountainous coast, which has been charted as high as lat. 82° 30'.

Smith's Sound terminates in an extensive bay, which bears your name, and the coast of Greenland after being followed until it faced the north, was found cemented to the continent of America by a stupendous glacier which checked our further progress towards the Atlantic.

Throughout this long extent of new coast, the result of much hard travel and exposure, I have found no traces of the lost party whose search instigated your own connexion with our expedition.

The past two winters exceeded in severity any that have before been recorded. Both scurvy and lock-jaw embarrassed our efficiency, and our dogs, to the number of 57, perished of this latter scourge. A zone of 81 miles of solid ice interposed between us and the nearest water, and to have remained a third winter would have proved fatal.

On the 17th of May, with a carefully matured organization of boats and sledges, I abandoned the brig and commenced our journey over the floes. We supplied ourselves with animal food entirely by our guns, and transported our sick in separate sledges. After a travel of 1800 miles, and an exposure in open air of 84 days, we reached Upernavik in health and safety.

It is right that while announcing our own restoration to the world, I should mention the death of three of our party. These brave men perished in the direct discharge of the duties of search, and are entitled to the grateful recollection of their comrades and commander.

With sincere regard, your friend and servant,

E. K. KANE, Commanding Expedition.

George Peabody, Esq., London.

P.S. I open this letter to announce the arrival of Captain Harlstone and party, who must have passed us in Melville Bay. The officers and crews are all well. I have cancelled my engagement with the *Mariane* (Captain Amondson, to whom I am much indebted for his hospitality), and will proceed to New York with my countrymen.

May I beg you to either call upon or send to Sir Francis Beaufort a copy of this letter, as also to Lady Franklin, and Mr. Barrōw of the Admiralty?

There is no open water above the mouth of Smith's Sound (Pelham point of Capt. Inglefield), so that my escape has been in all respects providential.

I am, dear sir, yours,

E. K. KANE.

Sept. 18, 1855.”

House of Mr. Olnik, Royal Inspector, Godhavn, North Greenland,

P.S. No. 2.—I will report to the Secretary of the Admiralty, as also to the Royal Geographical Society, as soon as I can arrange my papers and charts. All my documents are saved, but my collection of natural history is sacrificed. I left the brig safe in Winter Harbour.

E. K. KANE.”

## STRANDING OF THE SHIP JAMES RUSSELL.

The magistrates, after due consideration, gave the following decision:—

1. That the ship James Russell was stranded near the South Stack, on the coast of Wales, about midnight of the 30th of June last, while under the command of David Muir as Master.

2. That it is proved that about 7 p.m. of said day the weather became foggy, and remained so until after the ship was stranded, but the wind was favourable and an easy breeze.

3. That at noon of said day, Captain Muir obtained an observation, according to which he determined the position of the vessel; and that the subsequent course sailed by him, as shown on the chart, produced to this court, ought, according to his calculation, to have taken the ship, at the time she struck, to about 10 or 11 miles clear of Holyhead.

4. That the only explanation offered to account for the deviation made by the ship from said course is the probability of the compasses having been injuriously affected by the fog which prevailed during the latter part of the day in question, or by a greater indraught of tide into Caernarvon Bay than is indicated in Captain Beechy's Tide Chart, by which Captain Muir was guided; and, on considering the evidence of Captains Coppin and Galloway, on the first point, the justices are disposed to give considerable weight to it.

5. That it has been admitted by the said David Muir that neither the deep-sea nor hand leads were used on the day in question, although he had them on deck ready for use, until after the look-outs reported breakers a-head, and this is attributed by Captain Muir to the confidence which he felt in the observation he had obtained at noon of that day, and the courses which he steered.

6. That it might have been more prudent in Captain Muir, when the fog came on, to have altered the course of the ship more to the northward than he did, and at the same time to have taken soundings, although the evidence as to the propriety of soundings is not conclusive.

7. That Captain Muir paid every attention to the proper management of the vessel, and that there was nothing in his conduct indicating incompetency as a navigator, but, on the contrary, that great assiduity and attention to his duties were displayed.

The Court recommend to masters of vessels in the Mercantile Service that, as an act of proper precaution, they should henceforth heave the lead during the prevalence of hazy or foggy weather, when approaching the coasts, or in Channel.

The circumstances attending this casualty embrace no particulars of more than ordinary interest, but there are two questions raised in reference to the case of some importance. The first is as to the locality wherein an inquiry into the circumstances of a wrecked ship should take place. The advocate of Capt. Muir who commanded the *James Russell*, contends that such inquiry ought to be instituted at or near the place where the ship was stranded, and not at the place where her owner resides. It was urged: that an investigation of this nature could not be efficiently prosecuted without practical evidence to show the nature of the coast on which the stranding took place, and other circumstances of which only local pilots, and others resident upon the spot acquainted with the coast and tides, could give information; that, by entering into the inquiry at Greenock instead of Holyhead, the Captain was deprived of the best of his evidence; and that owing to the investigation not having taken place on the spot, and being deferred for three months, all the crew of the ship had dispersed in the interim, and not a man who was on the watch when the accident occurred could be found.

This argument appears to be reasonable, and the view which it is adduced to

support is undoubtedly in accordance with the intention of the new Merchant Shipping Act. The 432nd section provides that "whenever any ship is lost, abandoned, or materially damaged on or near the coasts of the United Kingdom, it shall be lawful for the inspecting officer of the Coast-guard, or the principal officer of Customs residing at or near the place where such loss, abandonment, damage, or casualty occurred, to make inquiry respecting the same;" and the 433rd section gives such officer power, if from his preliminary inquiry he should think a formal investigation necessary, to apply to "any two justices, or a stipendiary magistrate, to hear the case, and directs him to render all assistance within his power to ascertain the causes which led to the casualty, and the circumstances attending it."

The other point of importance in connection with the wreck was raised by the defence on which Captain Muir principally relied, viz., that the compasses had become so affected by the fog as to mislead the Captain 10 or 12 miles out of the course he was following, according to his chart. Captain Muir says he was not aware that damp and fogs had any influence upon compasses; but Mr. Coppin, the Surveyor of Steam-ships for the Board of Trade at Londonderry, gave it as his opinion that such was the case, and supported his testimony by stating that a similar opinion was entertained by *Sir James South*. This is really a question deserving consideration, and should be looked to. Meanwhile we would advise all who have the conduct of ships during foggy weather to trust more to their lead and less to their compass than many appear to do. "I did not (said the commander of the *James Russell*) take a cast of the deep-sea lead or hand lead from the time I entered the Irish Channel until breakers were reported a-head." No; and the good ship *James Russell* is now a wreck.—*Shipping and Mercantile Gazette*.

The foregoing appears in a recent number of the *Shipping Gazette*, to which we have added the Editor's remarks. As to ourselves, it is a matter of some surprise how a court of investigation could agree that "great assiduity and attention to his duties were displayed" on the part of the Captain (art. 7), when it is admitted (art. 5) "that neither the deep-sea nor hand leads were used on the day" the vessel was lost. The duty of attending to these duties it would thus appear does not belong to the Captain! What a *sapient body* of considerate gentlemen must this court have been comprised of—when they have some doubt of their views on the subject by recommending it to be done, and find out some reason of the compass being perhaps affected by the fog! What a glorious excuse for getting a ship lost.

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#### NEW BOOKS.

REPORT AND CHARTS OF THE CRUIZE OF THE U.S BRIG "DOLPHIN,"  
*Made under Direction of the Navy Department, by Lieut. S. P. Lee,*  
 U. S. N. Washington, 1854.

While some of us have been busy defining the margin which bounds the huge basin of the Atlantic Ocean and the numerous rocks and shoals with which it is occasionally fringed, a little unpretending vessel has been at work, heavily armed with leads and lines and the all important means of determining her "whereabouts," in the no less interesting work of ascertaining here and there the depth of this huge basin, and weeding its surface of those unseemly vigias which have been established on it from time immemorial (we might almost say) by the reports of our clear but far-sighted mariners!—men who

fancy they see plainly, but seldom take the trouble to wet a line in order to test the truth of their fancied discoveries,—men who “believe their own eyes,” without knowing that the invaluable sense of vision is more easily deceived than any other power with which we are gifted. We have before us the result of this interesting investigation; and while we agree with Lieut. Lee when he says “it is matter of surprise that no one of the great maritime nations had not sooner authorized a regular official search to be made for the dangers, rocks, shoals, &c., which have been accumulating upon the charts from the beginning of the last century, delaying vessels, &c.,” at the same time we cannot but recall to mind what this country has been doing abroad for the benefit of navigation, and rejoice to see the important work so gracefully taken up and so ably executed by our transatlantic friends, to sweep away the stones from the road which affords a quick and easy transit between the two countries.

We are so pressed for space that we must preserve for our next the brief synopsis of the instructions under which the cruize of the *Dolphin* has been performed. But we can assure our hydrographic friends that the cruize before us abounds in facts which will be found highly interesting, promising some account of them in our future numbers.

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#### NEW AND CORRECTED CHARTS, &c.

*Published by the Hydrographic Office, Admiralty, and Sold by J. D. Potter, 31, Poultry, and 11, King Street, Tower Hill.*

ENGLAND, Thames River, sheet 2, corrected to 1855 -	-	-	3	0
,, Harwich Harbour, ditto -	-	-	2	6
,, Looe ditto, Capt. G. Williams, R.N., 1848 -	-	-	1	6
SCOTLAND, Anchorages East of Jura, Comdr. E. G. Bedford, R.N., 1853 -	-	-	1	0
IRELAND, Ballysadare Bay, Capt. G. A. Bedford, R.N., 1852 -	-	-	2	0
NORWAY, South Coast, sheets 2 and 3, corrected to 1855 -	each	-	3	0
SEA OF MARMORA, Buiuk Tchekmejh Bay, Captain Spratt, R.N., C.B., 1855 -	-	-	1	0
BLACK SEA, Cape Aia to Alma Bay, Capt. Spratt, R.N., C.B., 1855-	-	-	4	0
WEST INDIES, Ports in San Domingo -	-	-	1	6
NOVA SCOTIA, S.E. Coast, Mary Head to Shut-in Island, Capt. Bayfield, R.N., 1853 -	-	-	4	0
INDIAN OCEAN, Kerguelen Island, Capt. Sir J. C. Ross, R.N., 1840 -	-	-	1	6
EAST INDIES, Ports in the Filipina Islands, 2 sheets -	each	-	1	6
AUSTRALIA, N.E. Part, Index Chart, Mr. F. J. O. Evans, R.N. -	-	-	1	6
Supplement to the Practical Rules for Ascertaining the Deviation of the Compass: Archibald Smith, M.A., 2nd edition, 1855-	-	-	0	6

EDWARD DUNSTERVILLE, Master, R.N.

*Hydrographic Office, Admiralty, October 22nd, 1855.*

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THE  
NAUTICAL MAGAZINE

AND

Naval Chronicle.

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DECEMBER, 1855.

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REMARKS ON SOME HARBOURS OF QUEEN CHARLOTTE ISLANDS,  
NORTH-WEST COAST OF AMERICA,—By Mr. G. H. Inskip, Master  
of H.M. Steam-Sloop "Virago."

On the morning of the 12th of May, 1853, we made the land near Cape St. James, the southern point of the Queen Charlotte group. This cape is formed by several small islets and rocks, and as it is reported that a sunken ledge extends some five miles off it, precaution is necessary in approaching this part of the coast. The weather becoming thick, with drizzling rain,—the wind being from the S.W.,—we made the best of our way along the eastern shore towards an opening marked on our chart as leading into Rose Harbour, which is situated about twelve miles from Cape St. James; from which the land trends away nearly North (by compass) to a well defined headland. After rounding this last, we observed the looked-for opening; then steamed in slowly for it, and at about four miles distant had ninety fathoms,—the water gradually shoaling to twenty fathoms to within a mile of it.

We then sent boats ahead and had soundings, varying irregularly from thirty to seven fathoms, over a series of ridges or bars: the bottom being rock, sand, shell, and mud. In the entrance, which is about three-fourths of a mile in width, we had twenty fathoms. On passing the northern point (which we named Forsyth Point), we found within, and on the same side, an apparently snug bay, lined by a sandy beach.

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Following the boats in, we came to in sixteen fathoms, sand, at one-third of a mile from the beach, and three-fourths of a mile inside Forsyth Point; and which anchorage proved to be very secure and convenient. On the South side were some small well wooded islands, here and there fringed with outlying patches of kelp, which, as in the Strait of Magellan, must always be avoided.

The rain having ceased, we went in the gig to examine the harbour, and at half a mile further up from the ship we came upon a rock lying nearly mid-channel, which contracts the passage on its northern side to half a mile, or less; a patch of kelp and the largest of the islands before mentioned, rendering the other side impassable, excepting for boats. Close to this rock, and on its north side, we had seven fathoms. After pulling one mile further in a westerly direction, the channel branched off both to the southward and northward; the former being some three miles in length and three-fourths of a mile in width, having several small islands (the Shangoi) at its southern or farthest end, and apparently leading out into the Pacific.

The northern arm, which I believe to be Rose Harbour, was explored for about two miles, the breadth being on the average three-fourths of a mile. The western shore rises boldly with deep water close to it; the eastern, although high, having much kelp along it, with shoal water. The harbour then contracted to half a mile, between two low points, forming its head; beyond these is a basin, about two miles in circumference, filled with rocks and small woody islets; the land on its North and West sides being high and mountainous, whilst that on its eastern side is low. We found some huts near a stream of fresh water in the N.W. part of the basin, but saw none of the natives near them. On returning to the ship in the evening, a couple of canoes with a few Indians were alongside. These people appeared in a very miserable condition and offered four or five furs and some fish for sale.

The country around this locality is mountainous and densely wooded; but the timber is smaller and less valuable than that in the magnificent forests of Vancouver Island. The soil is poor, but we could see indications of copper here and there; and from the general nature of the country it is highly probable that other minerals would be found. The sea otter, the fur of which fetches very high prices in the China market, abounds in these islands;—the Indians carrying the produce of their hunting to the Hudson Bay Company's stations at Fort Simpson, or to Fort Rupert in Vancouver Island.

At a subsequent period, whilst on our voyage to the southward, along the West coast of these islands, we made a short stay off the Shangoi Islands, to satisfy ourselves as to whether this channel did or did not communicate with the Pacific, and also to see if the passage would be navigable for ships. I took the gig, and Mr. (now Lieut.) Gordon the cutter, the *Virago* waiting outside for us. Not having been molested by the natives on our former visit, we did not think it necessary to arm the crews. We proceeded towards the land, and just as we had arrived in the channel we had looked through before,

and which leads into Rose Harbour as well as to the place where the ship had anchored, we observed a number of canoes, full of men, coming as if to meet us. On their nearer approach, they made signs for us to pull in for their village, which lays on the eastern side of the largest island, and which at this moment was out of sight of the ship. However, as we were not disposed to accept their invitation, they became very excited and endeavoured to lay hold of the boats, threatening us at the same time by brandishing their muskets over our heads—every one of them being armed.

These indications of a hostile intention induced me to return towards the ship with as little delay as possible, especially as they were receiving strong reinforcements from the village. When they saw the homeward movement, they opened a sharp fire upon us, the musket balls falling around the boats; but as we had a good breeze, and with the help of the oars, were soon able to outstrip them. On our reaching the southern extremity of the island (off which I observed an extensive ledge of rocks), the ship, although further off than I had anticipated, became visible. On seeing her the canoes gave up the chase.

This unexpected adventure sadly interrupted our work, but we were satisfied, notwithstanding, that there is a good channel in from this side as well as from the eastward. We afterwards learned, that had we been bent on pleasure instead of duty, and had visited the village, we should have been either killed or made prisoners and not released under a tolerably high ransom.

From this anchorage, to which we gave the name of Houston Stewart Channel, we proceeded to the northward along the eastern coast through Dixon Channel, passing about one mile outside a ledge of rocks lying a few miles to the N.W., and which is marked on the chart. They are just awash, the sea breaking violently on them and throwing the foam for a considerable distance around. Other rocks appear to encircle these, but under water. The coast is high and broken into innumerable inlets, with many small islands along it. Having a strong S.E. wind, we passed by at a rapid rate. Our course was N.E. and, according to the chart, we were sailing over points of land and cutting off corners every moment, proving that this side of Queen Charlotte Island is very erroneously laid down. By noon we were abreast Cumhewas, which is in lat.  $53^{\circ} 0' N.$  and long.  $131^{\circ} 23' W.$ ; and from a report of it, accompanied by a chart, which I was afterwards shown, it must be a good harbour.

The wind freshening, and the haze being very thick over the land, rendered it anxious work in running along an unknown coast. At 3.30 p.m., the Hudson Bay officer we had on board thought he recognized the entrance to Skidegate, we being at that time from three to four miles off shore—the leadsman having seven fathoms. We now hauled off to nine and ten fathoms, and ran along in this depth parallel to the coast, and also with an extensive spit which reaches across the entrance to the harbour. We stood well over to the northern shore, and as we crossed the mouth of the harbour we opened the

village islands which lie within it, having previously observed a round topped promontory (looking like an island) further in, and which changes its shape to rather a flat top when its end is on with the eastern side of the village islands in line with each other, bearing South. These, which are very conspicuous, being kept in this position will lead a ship in. The least water we had on the bar, which joins the end of the spit to the opposite point on the western side, was five fathoms. The point is called Dead Tree Point, from the number of dead trees which are always lying upon it.

The spit extends from the East side, or point, of the entrance, which is low and woody, in a N.N.W. direction for three or four miles, to within one mile of Dead Tree Point, having from one to two fathoms on it at low water. There is a rock near its extreme just awash at low water, spring tides. This rock is about one mile from Dead Tree Point, but the available passage is not more than half a mile in width, as the spit extends beyond the rock and the shore near Dead Tree Point is not bold.

The best way of going in is, first, to go well to the northward of the entrance, and then run along the West shore, paying strict attention to the soundings. This harbour is very spacious and communicates with the Pacific at Cartwright Sound, near Point Buck. The channel, however, is intricate, and only navigable for canoes a portion of the way through. After crossing the bar, we passed up between the village islands and the main, the channel being a quarter of a mile wide. We followed the coast for nearly two miles beyond the village islands, the harbour here taking a westerly direction, until we arrived abreast of a pleasant-looking bay, in which we anchored. We found it perfectly sheltered, having thirteen fathoms, mud, one-third of a mile from the beach, the surrounding land being moderately high and thickly wooded.

The village of Skidegate is situated in the bay off which are the village islands. There is an anchorage in it, but not so secure as that where we came to. The moment we approached this place the natives ran to their canoes and followed the ship until we brought up. Numbers of them soon flocked on board; but as the H. B. Co's steamer *Beaver* had been here, as well as having occasional visits from American whalers, these people did not manifest any great surprise at seeing so large a ship; they were, however, evidently delighted with the prospect of bartering their furs and masks for old jackets, handkerchiefs, beads, or any other article. They are very sharp at business, and ask an immoderate price in exchange for their goods.

They are a much finer race than the natives of Vancouver Island, and much cleaner in their personal appearance than any people we had yet met in this locality. "Skidegate," the chief of this tribe, was absent at Fort Simpson, but "Captain Bear-skin" and his son (the next in rank) came alongside and showed their certificates, which by some strange custom they call "tea-pots." From their being well known to the H. B. officer, they were immediately permitted to come

on board. They brought with them a small quantity of coal, which they had found some nine or ten miles further up the harbour. It appeared to be of a similar description to that obtained at the H.B.C's mines at Nanaimo, in Vancouver Island. It is inferior to the English coal, which is generally used throughout the Pacific; the latter maintaining a higher price and better sale than that obtained either on this coast or from Chile.

Wood being easily cut and conveniently brought off, the crew were sent on shore to "wood ship," and which saved much expense to the Government. In this work the Indians will gladly assist, if paid with tobacco or other articles for their labour. The H.B.C. have established a tariff for labour, either when men or women are employed. They also fix a regular price on each kind of fur obtained from the natives.

Blankets form the chief riches of these people, a man's fortune being estimated by the number of blankets he possesses, and his position in the tribe is regulated accordingly. When a chief or other person wishes to rise a grade in rank, he makes a display of his wealth, gives a grand feast, and distributes large quantities of grease, with as many blankets to each of the higher chiefs as his means will admit. Strips of blankets are also of value. Muskets are also given away to a select few. The possession of slaves is also a mark of respectability and riches. We found several of these unfortunate creatures in this tribe, the men having their hair cut short to distinguish them from the free men, who wear it long. Amongst the women and girls there appears to be no distinction of this kind. The owners are not held responsible for the manner in which they treat them, and several of the men had lost an eye, knocked out by their masters for some supposed neglect, often for the most trivial faults. The slaves generally perform all the drudgery, especially the cooking, and if from any cause their meat happens to get scorched, the owner or his wife, and frequently their children, will draw out a brand from the fire and severely burn the unhappy slave on the arms or body.

Their ideas of morality are very lax. They often exchange wives, and are otherwise exceedingly careless of what becomes of them. The men are very dexterous at carving on slate, of which there is a large quantity here. They imitate any pattern exceedingly well, and showed us the figures of many of the Russians at Sitka. They carved the busts of several of our officers in bone; the likeness to the face being remarkably well done for the workmanship of savages. We let them look at a cheese-plate and a vegetable dish, and in a short time they brought us these articles in slate, the identical shape of those they saw. They are very fond of carving masks, large enough to wear, and make them of the most hideous description. The ears, eyes, jaws, &c., being rendered moveable by means of strings ingeniously fastened inside; and they are evidently very expert at anything where carpenter's tools can be used.

The women assist in nearly all the work, and make mats, as well as

their own dresses, which are of the European style, but of a primitive description. The blanket, which is an indispensable part of their clothing, is worn over the dress, and fastened at the neck with a large pin. The men also wear blankets, but many of those we visited had also cotton shirts, and some were completely clothed.

On one afternoon a party of natives, consisting of six men (singers,) two of them with tambourines, accompanied by ten girls dressed in their best apparel, and the whole tribe, paid us a visit. Their heads were set off with white feathers, and faces painted in the most "merry andrew" style. They were particularly anxious that we should understand that the songs they sung were of "love," and during the performance the men threw themselves about in all kinds of attitudes: shaking carved rattles, and playing a castanet made from bear's claws; sometimes they would sing their loudest, and at others lowering the voice to the softest tones. The songs had each a chorus, in which all the natives joined, and on our joining also they were quite delighted, and laughed heartily. At a distance these songs had a very wild and not unpleasant effect. After this part of the performance they gave us several dances, and in return our men stepped out in a reel, at which the natives were greatly pleased. Some tobacco was distributed to the singers, and they were sent ashore, highly amused and gratified, so much so, indeed, that they kept up their singing and dancing among themselves until midnight.

They never forgive an injury until ample retribution has been made; and will use the most treacherous and diabolical means of obtaining it; their children or relatives considering it a point of duty to revenge an insult, if the parties to whom it was offered should die before an opportunity for vengeance had been afforded them. The H.B.C.'s officers named several instances of this kind, and we witnessed one at a great feast which took place on the mainland at Port Machevelin, otherwise known as Fort Simpson. These Indians were of the Chimoyal (or Chimayan) race. A petty chief of this tribe, who has the name of "Sweet William," being desirous of raising his position, gave a feast, and invited over a number of Skidegate Indians, of whom Young "Bear Skin" was the chief: whilst they were enjoying themselves with a dance, the wife of another chief suddenly fainted, her husband being a Chimayan, all was instant confusion, and on its becoming known that she had fainted in consequence of one of the Skidegatemens, then present, having many years before murdered a relative of hers, the men of her own family at once seized this Skidegate man, bound him, and took him under a strong escort to one of their houses. This proceeding was loudly declaimed against by the men of the Sweet William party, who considered it a shameful breach of faith; the feast was broken up, and in a few minutes several hundreds of men of both parties had collected, armed with muskets, pistols, and knives. After much noisy argument, the Skidegatemens withdrew, and the feast was recommenced, although their companion was not released. A day or two after this, Sweet William ransomed his friend,

and the Skidegate people departed, swearing that they would have their revenge upon any of the family of the woman they might hereafter meet.

Both sexes wear rings in their noses, but about the Northern districts of Vancouver Island the men do not so generally ornament themselves in this manner as the women. The girls are very proud of this ring, and we found the greatest difficulty in getting any of them to sell us a few. I could only succeed in purchasing one, and that from a woman who had first to obtain permission from her husband. On one occasion I bought one from a girl who came alongside, and I had gone off deck, thinking the bargain quite concluded; in the course of an hour she returned, and implored, in the most piteous manner, that I would return it to her, as the other girls of her tribe ridiculed her appearance without the ring, and she could not endure their jokes.

The females all wear a lip piece, this makes the old women in particular look most hideous. They insert a small lip piece (when children) in the lower lip, usually made of some metal, and not longer than a common-sized pin; this is gradually enlarged, until it becomes the thickness of a pipe stem, the young women wear this sized lip piece. As they grow older, wood or bone is substituted, and made somewhat in the shape of a stud; at last it reaches an immense size. One which I obtained from an old woman, was of an oval shape, made of wood, the upper surface being inlaid with mother-of-pearl. Its dimensions were, length  $3\frac{1}{2}$  inches, breadth  $1\frac{1}{2}$  inches, circumference  $7\frac{1}{2}$  inches, and which of course required the perforation of the lip to be at least as large, to admit the ornament.\*

The village of Skidegate consists of several houses, fronting the beach, many families being in each; but during the period of our visit it was nearly deserted, as we found only three or four men, who were constructing canoes and making nets; some old women and children, and one young female, whose chief occupation was in sewing some white pearl jacket buttons on a blanket, so as to be smartly attired when going off to the ship. We found the place in a filthy condition, from the accumulation of stinking fish. Numbers of native dogs were prowling about, and opposed our walking as much as they were able. Opposite each house we observed the stump of a tree, about 30 feet in height, various kinds of figures being cut on it, besides a large quantity of carved work. These pillars are held in great veneration.

They do not appear to have any place set aside for a burial-ground, but erect a sort of tomb wherever it suits their taste. They usually burn their dead, and put the ashes into a square box, or coffin, carved on the outside. A small detached hut is built, and the coffin placed in it. This custom with regard to the disposal of the dead, differs considerably from that of other neighbouring tribes, who merely place the body in a canoe, and rest it on the higher branches of a tree, or cover it with anything that will prevent the wild animals of the woods from disturbing it.

\* The Botocudo Indians, in Brazil, have a similar custom.—ED.

A space of ground near the village, and cleared of brushwood, was planted with potatoes, which grow here exceedingly well; raspberries were in abundance, and with some other sorts of berries were sold by the natives for a little powder, shot, pearl-buttons, &c.; but biscuit was considered as the best exchange. Wild ducks, halibut of a large size, salmon of excellent flavour, and herrings, were plentiful and cheap; but on a ship arriving amongst these people, it is far better to establish a regular trading price for each article, which will be found to save much trouble and altercation.

Having taken on board as much wood as we required, and induced young Bearskin to come with us as pilot and interpreter, we continued our cruise.

In running along the land between Skidegate and Rose Spit, (the North-Easternmost part of Queen Charlotte Islands,) we gave it a berth of at least six or seven miles, always keeping the leads going, for the whole coast line is low, with dangerous flats running off it. Cape Ball, twenty-five miles from Skidegate Bar, is very conspicuous, having a remarkable white cliff on it, with cliffs below on either side. It cannot be mistaken, for there is no other place like it between Skidegate and Rose Spit. Capt. M'Neil, the H.B.C. officer in charge of Fort Simpson, and who has had much experience on this coast, says, that he found a rock about six miles East of Cape Ball, with only 2 fathoms on it. As we proceeded to the Northward, when Rose Spit bore W.S.W. six miles, a round shaped hill, called Macroom, opens out clear of the land off which the spit runs; it is about 300 or 400 feet high, but shows out so distinctly as to look almost like an island. The channel between the land near Rose Spit and the opposite Islands is about twenty miles wide, with soundings quite across. The weather here is very uncertain; S.E. winds prevail, almost always accompanied by thick rain or mist, which renders the navigation of this coast very unsafe. On one occasion, in particular, we were thankful indeed for the anchorage which these soundings afforded; for having left Skidegate early in the morning, with the wind from the Westward, (in the harbour,) but on getting outside we found it from the South-East, and shortly afterwards everything was obscured by the rain; this continued throughout the day, and if we had not been able to anchor before dark, (which we did in 16 fathoms sand,) we should probably have met with some serious disaster, being by our reckoning on the bank off Rose Spit.

After we had anchored we tried the current and found it setting to the eastward at the rate of two miles an hour. When the next morning's light showed us our true position, the wind having shifted and weather cleared up, we found ourselves on a bank off Brown's Passage, between Stephen and Dundas Islands, on the eastern side the strait, instead of being in the place as above supposed: Point Rose bearing S.W., seventeen miles, just visible from the deck; the entrance to Brown Passage N.E.b.N., seven miles; and Zogar Island N.b.W., fifteen miles. This passage has several rocks and islets in it, and the whole of this part of the coast appears to be rocky, as the

sea broke heavily at some distance from the land; and in this locality the lead should be kept *constantly* going.

The spit off Point Rose extends about five miles in a N..E direction, and is exceedingly dangerous, the H.B.C. having lost some of their vessels on it. Twenty miles S.W.  $\frac{1}{4}$  S. from this point, is Masset, a harbour on the North coast. We visited this place in consequence of the Indians residing there having plundered and burnt an American schooner, the *Susan Sturgess*, whilst trading amongst them. Before going into Masset, we explored another harbour, called by the natives Naden, but which we named Virago Sound, from being the first ship of war that had anchored in it. Here a chief, Edensaw, a very shrewd and intelligent fellow, is building a house for himself, and intends establishing it as his head quarters. He acted as pilot to us, and we found him a very useful man, for he had an excellent idea where a large ship could go, and where she could not; and although an Indian always knows every creek and corner of his own district, yet but few of them have the intelligence to judge where it is unsafe to take a vessel with the least draft of water.

We left Port Machvelin on the morning of the 21st of May, the weather being very fine. We were, however, scarcely out, when the old south-easterly wind sprang up, with its usual accompaniment of thick rain and mist, which quite prevented our seeing an object at any distance from the ship. Towards 4h. p.m. it began to clear up, and we could discern Macroom hill over the low tongue of land that forms Point Rose. Soon after this we got a cast in 52 fathoms, sand; the East point of Virago Sound bearing S.S.W.  $\frac{1}{4}$  W., eight miles and a half. At five miles off it we had the same soundings, and when within two miles, we got 28 fathoms, sand and shells; passed to the eastern point at about one mile distant, the water gradually shoaling from 28 to 7 $\frac{1}{2}$  fathoms, sand, when we anchored, two small wooded islets on the West side bore S. 85° W., one mile; the East point N. 53° E., two miles; and the opening to the inner harbour South, about two miles. This anchorage is sheltered from all winds to the southward of East or West.; and by the accounts of the H.B.C. officers and the Indians, it seldom blows with any force from the northward, and then rarely home to the land.

The next morning, the Commander, Mr. Steuart, H.B.C.S., and myself, started on an exploration of the inner harbour, taking the chief Edensaw with us. The narrowest part of the entrance is about half a mile wide, with a deep water channel, but for the first two miles it is intricate, and should not be attempted until properly sounded. There are several banks lying about a mile outside, formed in all probability by the sand, &c., washed down with the ebb, which runs with considerable strength. The rise and fall of the tide appears to be about 13 feet. One part of the channel, which may be called the Narrows, is nearly a mile in length. The western part of the channel is completely blocked up by rocks, which show towards low water; within these the channel is much clearer, and runs up in a southerly direction for two miles further, and then widens into an extensive



magnificent harbour, several miles in circumference, having, according to Edensaw's report, sufficient water for any ship. Two streams, navigable for boats, empty themselves at the head of the harbour, and several smaller ones exist at other parts of it.

The village is to be built inside a point, on the western side the narrowest part of the entrance. On this site Edensaw is constructing his house. On the opposite point there is a small village, but there were only a few Indians in it, as the greater part were gone to Fort Simpson. We met a party of boys and girls collecting shell-fish; they were delighted on our giving them some biscuit; but the pleasure of their company, with their brilliant eyes and merry laugh, was somewhat marred by the filthy state they were in.

The land immediately surrounding the harbour, and for some miles from the shore, is low and thickly wooded. A patch of ground near the village was cleared, and planted with potatoes, which form a considerable article of food amongst the natives.

In the month of August quantities of halibut and salmon are found in the harbour, and also immense flocks of geese and ducks, give the Indians an opportunity of providing food for the winter.

On quitting Virago Sound, at our second visit to it in July, we steamed along the coast, which is low and wooded. We proceeded towards Masset; when abreast of the entrance, which is formed by a low point with a ledge of rocks half a mile off it, on the western side, and the point of a long spit, (the surf usually breaking the whole length of it,) on the eastern, the passage between having an extensive bar. We came to in  $6\frac{1}{2}$  fathoms, the outer western point bearing W.b.N., one mile. The boats were sent ahead to sound out the channel, the depth of which soon shoaled to 4 fathoms; deepened to 5 and 6 fathoms; and then shoaled again to 3 fathoms, at which time they were abreast of a small village on the western shore, about a mile and a half from what may be termed the inner or proper entrance to the harbour.

The ship was then taken up to an anchorage in 4 fathoms, Edensaw assuring us that we should not have less than 3 fathoms, (it being nearly low water,) and that a little further it would deepen considerably. The boats were sent again, and found his information to be perfectly correct, so we wayed and proceeded slowly, had one cast of 3 fathoms, and almost immediately after got 9 and 11 fathoms. We steered by his direction, keeping towards the East point of what has been called the Inner Entrance, rounded it at about two cables distant, and just inside it we found a pretty bay, containing the principal village, off the centre of which we came to in 10 fathoms. The tide all the while was running out strong. Wind S.E., with wet drizzling weather.

At this anchorage the width of the harbour is about two miles, a large sand bank filling up its western side. We could see for some distance up the harbour in a S.b.E. direction, where, Edensaw says, that many years ago the Boston ships, some with three masts, used to anchor. By his description, and drawings of the place, the harbour

must extend many miles, with plenty of water. And we were informed, that when the Indians wish to go to Skidegate, they pass on to the head of the bay in their canoes, walk across a mountainous neck of land, from several parts of which the heads of both harbours can be seen, the distance between them being inconsiderable.

We found that the principal part of the natives had gone to Sitka; those who remained were in a great fright at our visit. We kept the first Indian who came on board as a prisoner at large, Edensaw having pointed him out as possessing a portion of the gold plundered from the schooner *Susan Sturgess*. We also retained an old man as being a ringleader in that affair; but as they were not safely guarded, they both escaped: the former left his blanket behind. He had the audacity to come alongside again, and accused us of stealing his property; and added, in an amusingly satirical manner, that "white men always professed to be very honest, and that he had found them so until we came!"

All our endeavours to find out the participators in the plunder failed; for they all being more or less mixed up in the business, we could not get at any evidence worth relying on. They tried to implicate Edensaw; it was known that he saved the captain's life, but they held the stolen goods. They brought us the empty money chests, and gave up two boats, which were of no use to them. With the recovery of these things, and a warning to the Indians "not to do the like again," we left this place, and proceeded along the northern coast to the westward.

There is very good anchorage in many places between Masset and Virago Sound, and in which a vessel might remain the night instead of keeping underway. We availed ourselves of this instead of cruising about with a south-easterly wind, and thick weather.

From Virago Sound to North Island, the coast is tolerably bold, excepting in one or two parts, where we saw some rocks; but they did not extend far off, and are above water. The first occasion of our taking this route was on the 23rd of May, when we anchored in a snug cove, called Henslung, situated on the South side of North Island, and which forms the N.W. extremity of Queen Charlotte Islands, the channel between it and the large island being called Parry Channel, after the late Sir E. Parry. We anchored in 3 fathoms, and had but just room to swing clear of the precipitous rocks which form the western side of the cove. At the head is a sandy beach, with a stream of water running down it, the whole country about being thickly wooded, from which we cut some fuel for the furnaces.

On the South side of Parry Channel was Edensaw's village, from which he intends removing to Virago Sound.

On the second occasion of our coming to this place, which happened on the 16th of July, we anchored in a bay to the eastward of Parry Channel, on its South side, in 16 fathoms, about a third of a mile from the land. A line of kelp fringed the shore, which is studded with rocky patches and large stones. The country at the back is covered with trees, and is low, and here and there we saw patches of grass.

Most of the Indians had by this time returned from Fort Simpson. They brought off berries and fish for sale, also a few furs of a very indifferent quality, having disposed of the better sort to the H.B.C. Whilst at this anchorage a fine bear came down to look at the ship. We treated him with a 24-pr. howitzer loaded with case. They struck all around him, on which he wisely scampered off. In about an hour he came back; some of the officers went in canoes to try to shoot him, but the first person who landed was an H.B.C. officer, who, notwithstanding his being a crack rifle shot, was so excited that he missed him; on hearing the whiz of the ball, the bear went away into the woods, and did not pay us another visit. Several hundreds of these animals are killed every year by the Indians, but they continue to be very numerous.

This was by no means a good anchorage, as the flood tide sets into it from Parry Channel, and forms a number of eddies, which kept the ship swinging and turning about, so as to render it impossible to have a clear anchor. We found ourselves dragging, and had to steam away, and let go another anchor. On heaving up the first, it was found to be foul. Our shipmate, Edensaw, was very much annoyed at finding the ship dragging, and said, he was afraid she would be "cock-shuttled," or damaged. He may not have been sincere, but certainly was an excellent pilot, and, when it suits his policy, can be of every use to a stranger.

The tide rushes strongly through Parry Channel, and forms a perfect race. General ledges of rocks run off the southern side for about a mile; but there is a good and clear channel between them and North Island.

We had thick weather, with occasional showers of pelting rain, whilst going through; the wind fresh from the southward. We passed close to the entrance of Henslung, and gave the ledges on the southern side a good berth; steamed well off before hauling to the southward, as a ledge of rocks runs off from the Queen Charlotte shore for nearly three miles in a westerly direction, the sea breaking in with great violence. When well out Point Frederick shows like a low projecting point of an island, about eighteen miles distant. As we proceeded to the southward we shut in Parry Channel, at two or three miles to the southward of which, is an indentation of the coast, which might be taken as its entrance by a vessel coming from the southward. A mistake that would lead to serious consequences, as the whole coast as far as Point Frederick appeared to contain numerous bays, with outlying rocks off each of them.

The Indians, in their sketches of the coast, do not draw any harbours in this part, but merely open bays. We passed Point Frederick (which is on an island) at a mile and a half. Hippa Island now came in sight, distant twenty-six miles. This portion of the coast is more broken than the former, the openings appearing deeper; neither does it seem to have so many rocks lying off it. The Indians show some good harbours along it, particularly towards Hippa, which is high and bold. When passing within a mile and a half of it, we could see

Point Buck, twenty-eight miles distant, and also Cape Henry, eighteen miles further on. Our course to Point Buck was S.E.  $\frac{1}{2}$  E., the coast presenting the same high and broken appearance as the preceding twenty-six miles. All the points along this part much resemble Point Buck, which is low and rugged, jutting out from the high land in the rear. This point is on the South side of the channel that leads through to Skidegate, having one or two high islands near it in Cartwright Sound, which is formed by Point Buck on the South, and Point Hunter on the North. Between Point Buck and Cape Henry lies Englefield Bay, in the southern part of which Kuper Island is situated, having a channel on either side leading into Mitchell Harbour, known also as Gold Harbour. The channel on the South side is named after Mr. Moore, late Master of H.M.S. *Thetis*, who made a complete survey of both it and Gold Harbour whilst here in that ship, which was sent to protect British interests in 1852, during the search for gold. This channel was always used by the vessels which brought up the Americans and other adventurers. It is five miles long in an E.S.E. and W.N.W. direction. The shore on each side being bold of approach, high, and covered with trees to the water's edge. On the North side of the entrance are some small islands, and on the South a few rocks close inshore. As we were coming from the northward we did not enter by Moore Channel, but took the one on the North side of Kuper Island, the entrance being a few miles South of Point Buck, and to which we gave the name of Inskip Channel. It is about eight miles in length, and half a mile in width. Just without it, there are some small islands on either side, but we had no difficulty in discovering the passage in. We had no bottom with 60 fathoms, when in the channel, although at the entrance a cast was got with 35 fathoms.

When at a short distance inside the islands on the port side of the entrance we came abreast a village, the Indians of which were the Kilkiti tribe. Further in, on the same side, and about three miles and a half up, is a deep opening, and when this and Moore Channel meet, are two other openings, with some small islands lying near them. This channel is no doubt equally as safe as the other.

Mitchell, or Gold, Harbour, is about two miles and a half deep, and half a mile wide, surrounded by precipitous and densely wooded hills. At a mile and three quarters up the harbour, is Sansom Island, a small spot, covered with trees, and the ruins of a number of huts. The anchorage is inside this in Thetis Cove, keeping Sansom Island on the port hand, the passage being a cable's width, with deep water. We anchored here in 15 fathoms, and found it perfectly sheltered from every wind.

At half a mile from the mouth of the harbour, on the starboard side going in, is a rock with only three feet at low water, situated about a cable's length from the shore; and on the opposite side, not quite so great a distance from the land; but a little further out is another rock. These are dangerous to vessels working in or out; but if the wind be fair, and a ship is kept mid-channel, there is nothing to fear.

From what I was enabled to learn whilst in this locality, it appears that the harbour first became known in consequence of the Indians discovering some gold near it; for after the mania in California the H.B.C. officers gave a little gold dust to the Indians, and told them to search and see if they could find anything like it in Queen Charlotte Islands. An old woman remembered having seen a large lump of the same kind of mineral when she was quite a girl. She told her husband, and they went to the spot where she had seen it, and where it was found still remaining. On showing it to the H.B.C. officers, it proved to be nearly all pure gold, and weighed 21 ounces. The Indians, in the meanwhile, had been hunting about in all directions, and had succeeded in finding some small quantity of dust in the rocks, composed chiefly of quartz; as well as in the washings of the fresh water streams. This was all taken to the H.B.C. officers, who had come across from Fort Simpson. The news soon spread, and a number of Americans flocked in from San Francisco. The H.B.C. sent their steamer, the *Beaver*; and the Indians collected from all parts of the neighbouring country to the number of 2,000. A quantity of gold was found, but did not repay the expences of searching for it, so that was speedily given up. During the time these adventurers were here, all kinds of disorder and dissipations prevailed. And it was not until the *Thetis* arrived that anything like peace or quietness was restored.

We were not sorry when the time came for leaving this place, there being no inducement to remain. We steamed out through Moore Channel, three miles from the entrance of which is Cape Henry, terminating in a steep slope, having a hummock at the extremity. Twenty miles to the South of this is the harbour of Tasso; its entrance is shoal and narrow, but the harbour itself is extensive, with deep water in many places. There is also anchorage near some small islands on the port hand going in; it has only been visited by some few of H.B.C. vessels. Between Tasso and Cape St. James are other openings, that, according to Indian report, lead into good harbours, the southernmost of which is that leading into Houston Stewart Channel and Rose Harbour already spoken of. This coast is apparently very bold, the hills rising abruptly from the water's edge. We kept at from three to five miles off as we steamed past; the land near Cape St. James having finer trees on it than any other part of the coast line.

The island formed by Houston Stewart Channel, and on which Cape St. James is situate, we named Prevost Island; and as we proceeded to the southward on our return, the highest peak of Prevost Island was the last we saw of the Queen Charlotte Islands.

[The plan of Gold Harbour and Mitchell Harbour, above alluded to, have been published by the Hydrographic Office.—Ed.]

THE LOSS OF THE "JAMES RUSSELL," OFF THE SOUTH STACK, HOLY-HEAD, ON THE 30TH JUNE, 1855.

In days gone by, while we were doing our best to point out the dangers with which the Mariner's path is strewed, in the shape of rocks, shoals, and currents of the ocean, great was our indignation at the discovery that on an average two merchant ships were wrecked every three days of the year; and greater still that some too were intended to be lost before they went to sea!

In proof of the first of these facts, tables of wrecks were preserved in this Journal year after year until the subject was taken in hand by the Government and became one of historical record in an official form. And the pages of this Journal record proceedings of our courts of law in support of the second. Finding the subject in such good hands we left it in pursuit of those insidious dangers of the sea as we were wont to do, taking an occasional glance now and then at our old subject when some glaring calamity presented itself that might have been avoided had due care and ordinary attention to a seaman's duty been observed. In our last number we briefly noticed one of these cases, and so extraordinary was the result of the inquiry by the Government and the decision which followed by the Bench of Magistrates before whom that inquiry took place, that we could hardly believe what we read. And as there appeared to be something more than extraordinary in it we have been at the pains of preserving the whole inquiry.

In our number for February, 1843, containing a list of seventy wrecks we said, "the late gales, *as usual*, have made sad havoc on our shores, scattering wrecks far and near, and spreading mourning and desolation among the unhappy relatives of those who peril their lives in the treacherous merchant ship! It is a melancholy and degrading fact, notwithstanding the vaunted amount of our mercantile fleet, that no severe gale passes over these islands without bringing with it, as a kind of necessary consequence, destruction to a large number of its ships."

We may leave the causes of such destruction for the investigation of others; they might no doubt be found among the list of fifty stated by a correspondent in our volume for 1841, and which list is worth repeating here.

But the disaster to which we now refer was not occasioned by gales, but artfully attributed to two causes which do not appear in the following list, and which, if there were the least degree of probability about them might be added to it. The writer says:—

"The separate as well as combined causes of shipwreck and other losses at sea are more numerous than are generally imagined: the following list, the result of some experience and observation, though set down at random, may perhaps surprise some; but if the consideration of it should at all tend to liberality in the outfit on the one hand, and to

increased alacrity and circumspection on the other, it will have the desired effect.

*Causes of the Loss of Ships at Sea, by Wreck or otherwise.*

1. Short complement of men.
2. Deficiency of materials and stores.
3. Deficiency of water and provisions.
4. Bad materials—anchors, chains, boats, spars, sails, cordage, &c.
5. Bad quality of water and provisions.
6. Teetotalism—coffee instead of rum, &c.
7. Bad condition of the ship—from age, want of repairs, caulking, and looking properly to.
8. Bad construction of the ship—out of trim, &c.
9. Incapacity of Masters and others.
10. Presence of Captains' wives and other women.
11. Insanity.
12. Inability of men or crews from sickness, maims, exhaustion, &c.
13. Drunkenness, revelry, &c.
14. Discipline, too lax or too severe.
15. Mutiny and insubordination.
16. A dead-and-alive set—no devil on board.
17. Discord and dissension—the devil let loose.
18. Deaths, desertions, and discharges.
19. Fire.
20. Collision.
21. Upsetting in a squall, &c.
22. Shifting of cargo, &c.
23. Consternation—the ship on her beam-ends, on fire, water-logged, &c.
24. Shipping of seas, foundering by stress of weather, &c.
25. Springing a leak—by starting a butt-end, &c.
26. Deep lading, crowded stowage on deck, &c.
27. Striking on rocks, grounding on shoals, &c.
28. Driving on a lee shore.
29. Impressment at sea, detention and deviation.
30. Incorrectness of charts, compass, &c.
31. Want of care—bad dead-reckoning.
32. Want of vigilance—bad look-out.
33. No latitude by observation on account of fogs, &c.
34. No flying the blue pigeon: no regard to lights, bells, drums, &c.
35. Capture or destruction by an enemy or pirate.
36. Struck or blown up by lightning.
37. Masts, &c., rolled or pitched away.
38. Driving with a foul anchor, a kink in the cable, &c.
39. Parting a cable.
40. Staving of boats, carrying away of masts, splitting of sails, &c.
41. Sleeping on watch, drowsiness of helmsman, &c.
42. Breaking adrift of floating lights, &c.
43. Mistaking of headlands, lights, &c.
44. Sinking or destroying a ship purposely.
45. Rising of prisoners, convicts, &c.
46. Fool-hardihood—guns run out when blowing hard upon a wind, press of sail with a crank ship, &c.
47. Carrying away topmasts from neglect of breast back stays, after going about.
48. Broaching to when weathering a headland in a gale of wind.

49. Incapacity of persons having charge as pilots.

50. Abandonment of ship without sufficient causes, in case of wreck, officers leaving their juniors in command, with orders to land the treasure, the men, &c.

These perils and faults, often disastrous and sometimes fatal, to which sailing vessels are liable,—to say nothing of steamers,—are not all that might be mentioned. A ship may be lost from circumstances which seem trifling in themselves, and even ridiculous. An East Indiaman was burnt owing to a boy wanting to look into the bung-hole of a puncheon of rum, to see if it was full; another, (as is supposed, for no one has told the tale,) from the habit of smoking between decks; and a third, because a cask was not properly secured. I have known an officer's cabin set on fire, from the socket of a candle-lamp going with a spring instead of a screw; and an instance of a fine new ship of three hundred tons within an ace of being driven on the Brake, with loss of main-mast and mizen-mast, because the carpenter, who had the quarter-watch, when riding at single anchor in the Downs, though he saw a ship driving broadside upon us, was afraid of calling the hands out, for fear of making a *mistake*, and so getting himself laughed at, and though we had an experienced Captain."

But the case to which we have been referring is thus related in the *Shipping Gazette*:

Greenock, Oct. 9th.

On Friday an investigation into the circumstances connected with the stranding of the ship *James Russell*, of this port, David Muir, Commander, about three miles east of the South Stack, on the Welsh coast, on the 30th of June last, while on a voyage from Bombay for Liverpool, took place before the justices of the peace here. It proceeded on a petition presented to the justices, in terms of the Mercantile Marine Act of 1854, by Vashon Baker, R.N., Inspecting-Commander of the Coast Guard in this district, calling for an inquiry into the stranding, for the purpose of reporting the same to the Board of Trade. Capt. Baker conducted the prosecution, assisted by Mr. Maclean, Procurator Fiscal; and Capt. Muir was defended by Mr. William M'Clure.

The following justices occupied the bench, viz.:—Provost Hunter, Thomas Hamlin, Esq., Major Darrock, Robert Jamieson, Esq., and Peter Macnaughten, Esq.

The Procurator Fiscal read the Board of Trade instructions to Capt. Baker on the subject, and afterwards called upon Capt. Muir to produce his certificate.

Mr. M'Clure held that the court had no jurisdiction in the matter. By the 132nd section of the Mercantile Marine Act of 1854 it was provided that the examination should take place at or near the place where the vessel was stranded, and that, in the present case, the prosecution should have been conducted by the Inspecting-Commander of the Coast Guard who lived nearest the South Stack.

The Procurator Fiscal contended that it was evident from the words



of the Act that the Board of Trade had full power to appoint the inquiry to be made at Greenock.

Mr. McClure said that the investigation included such matters as the nature of the coast where the stranding took place, and other circumstances requiring the local information of Pilots and others practically acquainted with them. By entering into it at Greenock instead of at Holyhead, the defender was deprived of the best of that evidence, as he was unable to produce it on the short notice which had been given. Again, three months had elapsed since the stranding took place, and in the interim the crew of the vessel had dispersed, and not a man who was on the watch at the time the accident occurred could be got. This was a great hardship, and he held that it was never contemplated by the Act that the investigation was to be carried on in a place remote from that where the accident had taken place. The ends of justice could only be answered by its being gone into on the spot. He then commented on the clauses of the Act to show that the investigation should have been conducted at Holyhead, and that the Bench had no jurisdiction in the matter.

The Bench, after consulting their assessor, repelled the objection.

Alexander Russel, shipowner, Greenock, said: I am the managing owner of the ship *James Russell*; she is 800 tons. She is about one year old, was built by Messrs. John Scott and Son, and is classed 13 years A1. This was her first voyage; she was bound for Liverpool from Bombay; did not call at Cork. She was stranded in coming up the Irish Channel, in the latter end of June last, near the South Stack, on the coast of Wales. Her keel was knocked out, her bottom much chafed, and she sustained other material damage. Could not state the cost of repairing the damage. Produces log book of ship.—A portion of the log was read to the court, which set forth that at midnight of July 1st, (nautical time,) there was dense foggy weather. At 12.30 breakers were reported by the look-out, and the helm was put hard a-starboard, and the yards braced forward on the port tack. Found the ship graze, and hang on abaft. Tried to drive her off, but without effect, and let go the anchors.

The Procurator Fiscal said he would not put Capt. Muir on oath, but would merely take a declaration from him.

David Muir, shipmaster, declared: I have commanded the *James Russell* since she first went to sea, about twelve months ago. I am thirty years of age, and have been fifteen years at sea. I left Bombay with the ship on the 9th of March, with a general cargo, and bound for Liverpool. The ship was drawing  $19\frac{1}{2}$  feet; she was not overloaded. The cargo consisted chiefly of cotton. Can't say that I found the ship difficult to steer. In ordinary weather, with a good helmsman, she could be kept pretty close to her course. The crew was 30 or 31 in number, including everybody, of whom 14 were able seamen. I considered the ship properly manned. These 14 did not include any of the officers. I had two mates. The second mate had no certificate. I had carpenter, carpenter's mate, sailmaker, and boatswain. These had all been at sea before. There were four apprentices, two ordinary

seamen, and a boy not an apprentice. I made the Irish land on the 27th of June, civil time. Fastnet Rock was the first land I made. I had Hobb's chart of the Irish Channel, dated 1846. The other chart is Laurie's, dated 1848. I made Fastnet about 9h. p.m., but the high land about Mizen Head was seen from aloft during the afternoon. The wind was about S.E. It was foul, and I was beating to windward. The next land I saw was Cork Harbour, at 6h. p.m. on the 29th, distant about five leagues. The wind was variable, and I was still working ship. I got an observation at noon on the 30th. The dead reckoning and it agreed very well. The observation was  $52^{\circ} 14'$ , the dead reckoning  $52^{\circ} 54'$ . From the time I took the bearing of Cork Harbour, at 6h. p.m., till next day at 4h. a.m., I stood E.S.E.  $\frac{1}{2}$  E. and E.  $\frac{1}{2}$  S., and at 4h. a.m. the course was altered to E.b.N., the wind being then more favourable although variable. I steered N.E. and by East, after I thought I had passed Tuskar.—Mr. Hamlin: Then the tide would catch you on the port bow, and sheer you over to the Welsh coast.—Witness: By Capt. Beechey's Tide Chart I thought I was stemming the tide. I considered N.E. and by E. high enough by Capt. Beechey's directions to enable me to do so. I thought the observation I got a very good one, and it corresponded so well with the dead reckoning I felt myself very confident about it. It was about full moon, and the tide was running three knots. When the ship struck I thought I was about ten or twelve miles N.W. of Holyhead. I did not take a cast of the deep-sea lead or hand-lead from the time I entered the Irish Channel until breakers were reported a-head. The chart on which I laid down my course up the Welsh Channel contains the soundings, or some of them. The soundings in the centre of the Channel are greater than those in-shore.—By Capt. Hamlin: I thought I had passed Bardsey Island at a distance of about twenty miles. I went to the top-sail-yard, but, although it was pretty clear, I could see no land.—By Capt. Baker: I could not see over the fog when aloft; but there were holes in the fog, and I think, when these occurred, I could see twenty miles.—By Procurator Fiscal: It was about an hour's ebb when the ship struck. It was the mate's watch at the time, but I was on deck, where I had been the whole night, except when I went below occasionally to consult the chart. I am not able to account for the deviation from my course, unless the fog had affected the compasses. Holyhead Pilots informed me that Capt. Beechey, in his "Sailing Directions," had not given enough of southerly direction to the ebb tide flowing through Caernavon Bay, and that there was a great indraught into that bay.—By Capt. Baker: It did not occur to me to cast the lead on altering the course the last time I hauled up. I had no doubt of my course after not seeing the land when off Bardsey. At the time the vessel struck I supposed I was in a position where, according to the chart, there were 80 fathoms water. All of my crew at present in port are the carpenter, sailmaker, joiner, and two apprentices. The mate left before the ship was got off, because he was sick. He had no medical certificate. I am not aware that there is any portion of my crew here. Some of the helmsmen were indifferent, others were ex-

cedingly good ; in fact, I could not have had better. As far as I can recollect, the men who steered the ship on the night she was stranded were good helmsmen. With a good helmsman the vessel steered as well as any vessel could.

James Black : I am a carpenter in Greenock, and was carpenter of the *James Russell* on her last voyage. The vessel was sufficiently manned, and not too deeply laden. In coming up the Irish Channel she struck near the South Stack. For the twelve hours before she struck the weather was partly clear and partly thick. The master got an observation at noon of the day she struck ; it was quite clear at the time. The ship struck about half-past twelve at night. I saw no lights or land after the observation was taken. It was very thick when the vessel struck, and we could see no further than the end of the jibboom. It was very thick for about three hours previous. It was my watch on deck for that time, but I can't say what rate the ship was sailing at. She was going easy under three topsails, fore and main-topgallant sails, two jibs, and staysail. I was on deck when she struck : I had been called up, as my watch finished at twelve. There were four men on the look-out from eight to twelve, and I was one of them. The captain was on deck the whole time after making land. Cork Harbour entrance was the last land I saw. The wind was favourable for four hours before the ship struck. The ship was not driven ashore by stress of weather. I heard instructions given to hoave the lead before and after the breakers were observed. They were given by the captain about half an hour before the ship struck, but I can't say whether they were complied with, as I was on the look-out in the fore part of the ship. The second mate and one seaman were about it, but I did not see it hove. I saw the captain go aloft before sun-down, and it was then clear enough to see from fifteen to twenty miles. The captain was careful in the performance of his duties in every respect. The light on South Stack was behind the point when the vessel struck. We saw no land until the fog cleared off. I am forty-two years of age, and went to sea first in 1847. It was the mate's watch when the vessel struck, and there is none belonging to that watch here except the carpenter's mate. I saw the master on the foreyard about eleven o'clock at night. The look-out of four was relieved by an equal number at midnight.

William Murray : I was carpenter's mate on board the *James Russell* on her last voyage. I was on deck all day the vessel struck up till 8h. p.m., when I went below. I came on deck again at a quarter past twelve. The weather was general during the whole day, as far as I can recollect. When I came up at twelve all the mate's watch was on the look-out. The deep-sea and hand leads were on the quarter-deck, but I cannot say that they were used during the day, as I was on the main-deck working at the front of the poop. Cork was the last land I saw.

John Turner, sailmaker : The weather was clear from 12h. noon till 7h. p.m., when it became thick, and continued so until the vessel struck. My watch on deck was from eight to twelve. Did not see the

lead hove. Saw the captain aloft at 11 h. p.m. The rest of his evidence corroborated that of the preceding witnesses.

This closed the evidence for the prosecution.

The following witnesses were then called for the defence:—

David Galloway: I am a shipmaster in Greenock, and have been so for 13 or 14 years. I have repeatedly gone into Liverpool from foreign voyages by the South channel. I have been shown the log book of the *James Russell*, and the steering courses marked there, and the chart. I consider Capt. Muir took a safe course for Liverpool, and one that should have taken the ship safe ten or eleven miles clear of Holyhead. The error might have arisen from variation of the compasses. There is an indraught into the Bay of Caernarvon, but I do not consider that sufficient to account for it. I do not know of any recent operations on the Caernarvon Bar which would tend to increase the velocity of the ebb tide. From the courses indicated on the chart, and the rate of sailing, the vessel should have been off Bardsey Point about seven o'clock. The land is very high there. If I had gone aloft at that time, and it was light enough to see from fifteen to twenty miles, and did not discover Bardsey Island, I would consider myself on a safe course. I have never been in the habit of heaving the lead in running up channel with a fair wind. I consider that there would have been more risk in having to throw the lead, and thus getting out of the course, than there would be in following it. In the circumstances I would have run on myself. Compasses are liable to become incorrect by the effects of damp, and during a fog. I assume that the observation taken was correct. I can't account for the difference between the course laid down on the chart, which would have taken her ten miles clear of Holyhead, and that actually sailed, which brought her to the Stack, except by a variation in the compass. I think it may be 170 or 180 miles from Cork Harbour to the South Stack. I have seen compasses frequently alter from a quarter to half a point in twenty-four hours in the channel in foggy weather. I think such a change would, in the distance from Cork to the South Stack, account for the deviation in the present instance. I am not aware of any deep-sea leads which do not require the ship to be hove-to before being thrown. They are not in use in Clyde ships.—By Capt. Baker: would you not consider it safer to heave the ship to with head off the land to heave the lead, than to continue the course?—With the observation and the course laid down, I would consider myself perfectly safe.

William Coppin—I am Surveyor of steam-vessels and engines for the Board of Trade at Londonderry. Been at sea for seventeen years; during which I commanded vessels for thirteen years—six of which I was commander of a steamer between Londonderry and Liverpool. I have been shown the courses marked in the ship's log-book, and the course indicated on the chart; and, supposing the reckoning to be correct, I consider it a safe course to clear Holyhead in going into Liverpool. I have had occasion to make observations on the needle in foggy weather. When commanding the wooden steamer *Robert Napier*, in 1837, I sailed from Liverpool to Londonderry with four com-

passes on board, which were found quite correct, and in the course of the voyage I found that the vessel did not keep her course owing to the compasses not working during snow showers. The vessel was very nearly lost. The compasses became quite correct after the showers were past. I wrote Sir James South on the subject, who said that the compasses were nullified by the quantity of electricity descending with the snow, and that the same thing happened in fogs. Had I been in command, knowing the effects of fog on compasses, I would have kept off the land and been more on my guard. In Captain Muir's circumstances, I would not have have the lead, as I would have considered myself perfectly safe. I have had a good deal of experience, for several years past, in taking off stranded vessels, and have found that most of them went ashore during fogs, and that their stranding was attributable to their effects on the compasses.

John Wield—I reside in Glasgow, and am Agent for the Glasgow Underwriters on the *James Russell*. I went to the ship after she was stranded and remained some time. I have never met a steadier man than Captain Muir. He is skilful and intelligent, and I would place as much confidence in him after what has occurred as ever. I reported my satisfaction with regard to his conduct to the Underwriters. About a fortnight afterwards I had charge of an iron steamer which had gone ashore at the same place in a fog. The Master had seen Bardsey Light and steered a course to clear him of Holyhead.

Mr. M'Clure said that the evidence of Captain Coppin was confirmed by an extract from Arago's *Meteorological Essays*.

Captain David Muir said—The declaration I omitted yesterday is all correct. Captain Beechey's Tidal Chart of 1851 was my guide in navigating the coast. (The chart was given in to the court.) I considered my course correct by it. I have examined it and the Liverpool tide tables particularly since the accident, and I am still convinced that the course was correct. There was rather under an hour of ebb by the tide tables when the ship struck. According to the chart and tables, I thought the vessel was stemming the tide at that time. By my calculation from the chart, there was no tidal influence to take the vessel on the Welsh coast after I passed Tuskar; but, on the contrary, it should have carried me more northerly. According to my course and the tides, I should not have seen Bardsey, and I considered my dead-reckoning confirmed by not seeing it. From the observation I got, I was confident of the course. I should have been off Bardsey at seven o'clock. The fog got more dense after that. Had I been closer to the Welsh coast I would have seen Bardsey from the clearness of the weather. I have no other way of accounting for the position the ship was in when she struck otherwise than by the compasses being deranged in their action by the fog, or there being a greater indraught into Caernarvon Bay than is laid down in Beechey's chart. After the accident, Captain Dunn, the Master of a steamer plying from Dublin to Holyhead, told me that he had often found himself several miles south of the Heads and in Caernarvon Bay when he thought he was to the northward of them; and he could account for

this in no other way than by supposing that the compasses had been affected by fogs, as he had often steered the same course, making the same allowances, during clear weather, without any such deviation occurring. One of the crew of the steamer which towed off the *James Russell* informed me that about four weeks after the latter went on shore they went five miles out of their course, during a fog, while steering for Holyhead. The tide was in about the same state as when the *James Russell* was stranded. I was not aware that fog had any effect upon the compasses. I could not get a sight of the sun after noon to find the longitude by the chronometer. I was quite certain of my latitude by its corresponding so closely with the dead-reckoning. The wind was pretty steady at S.W. or S.S.W., when the fog became dense.

Thomas Callander—I am one of the owners of the ship *James Russell*, and I am acquainted with the stranding of that ship. Captain Muir has been in our employment, as Mate and Master, about six or seven years. My opinion of Captain Muir is not affected in any respect by what has occurred. We have no intention of removing him from his command. I have been twenty-four years a Shipmaster, and my opinion of Captain Muir is, that he is as good a Shipmaster as sails out of Clyde.

This closed the case for the defence.

The Procurator Fiscal stated what he considered was proved in the case, and what the Bench would be warranted in finding. He would not maintain that it had been proved that the safety of the vessel had been endangered by a wilful act committed by Captain Muir; but he considered it was the first duty of the Master of a vessel coming up Channel to take soundings. Now, according to the course steered taken by the *James Russell*, the soundings gradually decreased from fifty to eighteen fathoms abreast of where she struck. The Bench would be justified in finding that the use of the lead would have been a great advantage to Captain Muir, and that, in the exercise of a sound discretion, he should have used it. He did not seek, however, to have him found guilty of negligence.

Mr. M'Clure said there were several of the findings proposed by the prosecution in which he completely acquiesced, but there were others in which he did not think the Bench would be warranted in giving at all. The evidence showed that Captain Muir was not to blame for not heaving the lead. Captains Coppin and Galloway, both skilled men, deposed that they would not have used it in similar circumstances. Whether a different course should be hereafter adopted by Masters of merchant ships was another question. He (Mr. M'Clure) maintained that there was no proof that Captain Muir had committed any default. His high character as a seaman had been spoken of by a gentleman of experience, and other witnesses had stated that his conduct during the voyage was unimpeachable. He acted most carefully; he never left the deck after the land was made, except to consult the chart; he went aloft several times on the look-out; and, in fact, displayed every attention to the navigation of the vessel. There

was nothing in the evidence to show that his conduct was blameable in any shape. Then as to the cause of the accident. Since Captain Beechey's Tidal Chart, that used by Captain Muir, was published, blasting of rocks had been going on at Caernarvon Bar, which had rendered the indraught of the tide much stronger; and this influence, affecting the navigation of ships, was not correctly laid down in the chart. Then Captain Muir had no knowledge of the effect of fogs upon the compass—an effect in which the Bench must believe after the evidence which had been adduced regarding it. Captain Baker, who had been at sea for thirty years, and in all parts of the globe, did not know of it, and it was surely not wonderful that Captain Muir was equally ignorant on the subject. The finding of the Bench should be, that having investigated the subject, it finds that Captain Muir is not to blame, and that the vessel was stranded, either in consequence of Captain Beechey's chart being rendered erroneous from operations on Caernarvon Bar, or from variations on the compasses, caused by fog. He was glad that the question had been brought before a Bench possessing such an amount of practical skill and knowledge of the subject, and he would place the greatest confidence in its judgement. He expressed his obligation to the opposite side for the gentlemanly manner in which the prosecution had been conducted, and concluded by saying that his client was entitled to be absolved.

The Magistrates, after due consideration, gave the following decision:—

1. That the ship *James Russell* was stranded near the South Stack, on the coast of Wales, about midnight of the 30th June last, while under the command of David Muir as Master.

2. That it is proved that about seven p.m. of said day the weather became foggy, and remained so until after the ship was stranded, but the wind was favourable and an easy breeze.

3. That at noon of said day Captain Muir obtained an observation, according to which he determined the position of the vessel; and that the subsequent course sailed by him, as shown on his chart, produced to the court, ought, according to his calculation, to have taken the ship, at the time she struck, to about ten or eleven miles clear of Holyhead.

4. That the only explanation offered to account for the deviation made by the ship from said course is the probability of the compasses having been injuriously affected by the fog which prevailed during the latter part of the day in question, or by a greater indraught of tide into Caernarvon Bay than is indicated in Captain Beechey's Tide Chart, by which Captain Muir was guided; and on considering the evidence of Captains Coppin and Galloway, on the first point, the Justices are disposed to give considerable weight to it.

5. That it has been admitted by the said David Muir that neither the deep-sea nor hand-leads were used on the day in question, although he had them on deck ready for use, until after the look-outs reported breakers ahead, and this is attributed by Captain Muir to the confidence which he felt in the observation he had obtained at noon of that day, and the courses which he steered.

6. That it might have been more prudent in Captain Muir, when the fog came on, to have altered the course of the ship more to the northward than he did, and at the same time to have taken soundings, although the evidence as to the propriety of soundings is not conclusive.

7. That Captain Muir paid every attention to the proper management of the vessel, and that there was nothing in his conduct indicating incompetency as a Navigator, but, on the contrary, that great assiduity and attention to his duties were displayed.

The Court recommend to Masters of vessels in the Mercantile Service that, as an act of proper precaution, they should henceforth heave the lead during the prevalence of hazy or foggy weather when approaching the coasts or in Channel.

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It appears from the foregoing that this vessel was on her way home from Bombay. She made the coast of Ireland, about the Fastnet Rock, on the 29th June, and took a fresh departure from Cork, the entrance bearing *about* N.N.W., five leagues, and steered for Liverpool.

She ran on without seeing any land or having any observation, except for latitude at noon on the 30th, until shortly after midnight of that day; when, the weather being densely foggy, and having been so for six hours, breakers were reported and the vessel was instantly upon the rocks.

As soon as the Master could be spared from attending to the vessel and cargo, an investigation into the case was ordered to take place at Greenock by direction of the Board of Trade, under the 433rd and subsequent sections of the Merchant Shipping Act, with a view of ascertaining whether the serious damage sustained by that vessel was occasioned by any wrongful act or default of the Master. The case was accordingly brought before two Magistrates, and Commander Baker, R.N., was appointed Assessor to the Bench.

It appeared from the evidence, and from the log of the ship, that the vessel ran from a position of fifteen miles off Cork with a loose departure of the entrance bearing *about* N.N.W.; rounded the Tuskar and proceeded up-channel without seeing any land whatever, or having any observation, except for latitude at noon on the day of the wreck; that she got into a thick fog, and without using her lead or taking any other precaution of determining her position, she ran on shore three miles South of the South Stack.

The Master, in his defence, admits that the lead was not used in any part of the passage until the ship was beating upon the rocks; but, as in the case of the unfortunate *Tayleur*, "the line was upon deck" in readiness to be hove. And he cannot account for the vessel being where she was except by the compass being affected by the fog; but was told after he came on shore that the tidal directions for the Irish Sea had not given enough of southerly direction to the ebb tide flowing through Caernarvon Bay.



David Galloway, a Shipmaster who appeared for the defendant, could only account for the ship being out of her reckoning by the compasses having been affected *by the fog* ! He had frequently known the compasses to be affected by the fog !

William Coppin, a Surveyor of steam-vessels, also charged the fatal course steered by the ship to the effect of the fog. He had known both fog and snow showers affect the compasses, and when the showers cleared off the compasses were quite right again !

A further excuse for the stranding of this unfortunate vessel was found by the counsel for the defendant in the blasting of some rocks in the Menai Strait, which had rendered the indraft of Caernarvon Bay much stronger than was laid down in Captain Beechey's tide chart.

Upon the evidence of these learned gentlemen, who must have come hot from the Meeting of the British Association at Glasgow, the Bench pronounced the following judgement :—

1.—That the ship *James Russell* was stranded \* \* on the 30th June.

2.—That the weather was foggy at the time and had been so for several hours before the vessel struck.

3.—That the Captain obtained an observation at noon of the same day which agreed full well with his reckoning, and shaped a course which ought, according to his own judgement, to have carried the vessel ten or eleven miles clear of Holyhead.

4.—That the only explanation offered as to why it did not do so was that the compasses were affected by the fog ; or by a greater indraft into Caernarvon Bay than is indicated by the tide chart ; and that the Bench are disposed to give considerable weight to the first point,—that is, to the effect of the fog upon the compasses.

5.—That Captain Muir used neither the deep sea nor the hand leads on the day in question, although he had them on deck ready to do so.

6.—That it might have been more prudent for the Captain to have sounded when the fog came on, and to have altered his course more to the northward ; although the evidence as to the propriety of sounding is not conclusive.

7.—That the Captain paid every attention to the proper management of his vessel, and displayed great assiduity and attention to his duties.

They then wind up by recommending that all vessels in future, as a proper precaution, should heave the lead during the prevalence of hazy or foggy weather, when approaching the coast !

Now, let us consider for one moment what these facts amount to, and what is the nature of the evidence brought forward by the defence to which the Magistrates are inclined to give considerable weight.

First, as to the facts. Here is a vessel which starts from off Cork with an imperfect determination of her position, in the first place, the entrance of Cork Harbour bearing *about* N.N.W. fifteen miles. She

runs all that day and the next without seeing any land or having any observation except for latitude, and which (if the report is correct) does not come near her reckoning by forty miles. This may, however, be wrong. But at noon she gets into a thick fog off Bardsey, and, without once attempting to sound, she stands on until she strikes upon the rocks off Holyhead.

What other result, let us ask any naval man—except Captain Baker,—might, under such circumstances, have been anticipated? A run from an *uncertain* position off Cork, without seeing any land or having anything to guide her except her compass and log! Is it at all surprising that the vessel was found when she struck to be some miles distant from the place where she expected herself to be? But, instead of attributing the error of the position of the ship to the right and the most natural cause, the Bench give credence—on the assertion of some obscure party—to the absurd idea of the compasses having been affected *by the fog*, and to the alleged indraft into Caernarvon Bay having been increased by the removal of some rocks in the Menai Strait; and after this they declare “that the Captain has paid every attention to the management of his vessel and has displayed great assiduity and attention to his duty!” They cannot, however, bestow this praise upon the Captain for not sounding, without qualifying it by stating that “*it would have been more prudent if he had sounded*” and by recommending “*all Masters in future to use their leads as a proper precaution in hazy or foggy weather!*”

Really the excuse for the acquittal and the recommendation for the future guidance of Masters are worthy of attention. They consider it proper for all Masters to sound “in future,” but in the present most obvious case of the necessity of sounding they not only excuse it, but actually praise the conduct of the Master in the highest degree when he has neglected it!

If the Magistrates alone had delivered this finding, there might have been some excuse from *their* ignorance of nautical affairs; but they were assisted by a naval Commander, who seems to have been as easy as the Magistrates in considering what was the obvious duty of the Master and the common practice of all officers who conduct their ships properly. In the 6th finding it is said “the evidence as to the propriety of sounding is not conclusive.”

One of the witnesses for the defendant stated that there was greater danger in stopping to sound than in running on without sounding. This of course was quite fair for a man pleading excuse for his friend; and so likewise it was quite excusable for the counsel for the defendant to attribute to the removal of the tops of some small rocks near the Britannia Bridge a disturbance of the waters of the whole of the Irish Sea,—two effects about equally likely to result from the alleged causes. The removal of the top of the Cribbrien Rock in the Menai Strait is about as likely to affect the waters of the Irish Channel as there moval of one of the piers of Westminster Bridge to disturb the waters of the German Ocean. And if, as the Shipmaster and the Steam-Surveyor asserted, compasses are to be put out by a mist or a

snow-storm and come right again when they clear off, how would it be possible to navigate at all? What would become of the vessels in the fogs of Newfoundland and the snow storms of the higher latitudes?

The Bench seem to have had a useful adviser in the naval Commander. He seems to have been quite contented on the subject of sounding, and signs a report to the effect that the "evidence as to the propriety of sounding is not conclusive." What was this naval officer appointed for but to advise the Bench upon the propriety of sounding and other naval matters, and to give his judgement upon the nature of the evidence submitted. The Bench, however, and Commander Baker, either afraid of the consequences of praising this *assiduous* Master of the *James Russell* for the neglect of his lead, or ashamed of their verdict, recommend *all Masters* in future to use their leads!

What a reflection is this on the character of British seamen generally! Those of the olden time, one and all, would have exclaimed, "Teach your grandmother, &c." But, unhappily, this recommendation, which is the only redeeming feature of the report of the Bench, was never more needed than in the present day. If we look back to the more important losses of late years we shall see that in almost every case the catastrophe might have been avoided by a due attention to the LEAD!—The *Great Britain* had she cast her lead when the doubtful light was seen, she would have been saved. Had the *Tayleur* done it also she would have been saved. Like the *James Russell*, she had the line on deck; but, alas for the fate of her unfortunate living cargo, it was not once used. A single cast of the lead would have shown the *Victoria*, of Hull, her error, and the fatal mistake been avoided. The *Queen Victoria* might have avoided her disastrous fate upon Howth had she used her lead. The *Bonaventura*, the *Fortune*, of Liverpool, the *James Russell*, and we might add numerous other fine vessels, would all have escaped the fatal dangers, and hundreds of lives been spared, but for the neglect of the use of this most simple instrument; which requires no great skill to use, nor need it occasion any serious delay, and which, *until of late years* was always considered the seaman's right hand guide and safeguard.

But instead of imputing the loss of these vessels to the neglect of the lead, we find the unfortunate compass made the scape-goat for most of the wrecks which occur! In the case of the miserable *Tayleur* the compasses were said to be altered by a sea *striking* the ship. In that of the *James Russell* they are alleged to be drawn aside by the fog! and by the evidence of another of the witnesses snow showers alter the compasses: and the Bench of Greenock with Captain Vashon Baker give great weight to these two last assertions. But what *proof* had they even before them of it? None whatever!

What next may be discovered to disturb these susceptible instruments will perhaps appear at the next trial under the Merchant Shipping Act. One thing, however, is quite clear that if these disturbances multiply it will not even be safe to go to sea; and even now,

who, after reading the above evidence, if they give any credence to it, will not tremble when overtaken by fog or when passing the foggy region of Newfoundland?

We shall close these remarks with expressing our hope that the recommendation of the Greenock Bench, that Masters do in future use their lead in hazy or foggy weather will not be forgotten; and that as the use of the lead by one Bench is publicly pronounced to be a necessary precaution, others will be of the same opinion and visit the neglect of it with the severe punishment it deserves. Until this is done and the Magistrates are provided with *proper naval advisers*, we confess we do not think that this new mode of investigation of wrecks, under the Merchant Shipping Act, is likely to prove more useful than the old one; or more efficacious in bringing [about a better state of discipline in our Mercantile Marine, and in lessening the number of wrecks and frightful loss of life which annually occur on our own coasts and elsewhere from a culpable and fatal neglect.

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LOSS OF THE LOCHMABEN CASTLE ON THE BIRD ROCKS, GULF OF  
ST. LAWRENCE, JUNE 4TH, 1855.

Scarcely had we concluded our remarks on the report of the wreck of the *James Russell*, when another investigation under the Merchant Shipping Act appears of the circumstances attending the loss of the *Lochmaben Castle*, wrecked under conditions almost precisely similar to those of that ship.

This fine vessel, the *Lochmaben Castle*, of 1,350 tons, was quite new. She sailed from Liverpool in May last with 570 passengers, and with a valuable cargo of railway iron, printing type, and other articles, for Quebec. She made Cape Ray, Newfoundland, on the evening of the 3rd June; and, with a very imperfect departure, proceeded up the St. Lawrence. The weather was hazy, and towards morning of the 4th June became densely foggy. The ship, however, stood on, intending to pass at a reasonable distance from the Bird Islands, but, like the *James Russell*, took no precaution whatever to check those errors inseparable from a navigation of this nature, and at half past eight o'clock, without any warning whatever, ran upon the rocks of the Bird Islands and became a total wreck.

Some feeble efforts were made to heave the ship off by means of the kedge anchor, but they were ineffectual. The weather at this time cleared a little, and the perilous situation of the vessel was discovered by some small vessels that were passing. The attention of these vessels, we are told by one of the passengers, might have been attracted earlier had there been a piece of any description of cannon on board; but it will hardly be believed that there was not such a thing in the vessel; that this fine large ship was sent to sea, with a cargo of six hundred living beings, without so much as being provided

with the means of signaling distress or attracting attention in case of accident or necessity!

The first of the vessels refused to afford any assistance (it is much to be regretted that her name does not transpire), but another received the female passengers and children from the wreck and safely landed them upon Bryon Island, one of the Magdalen Group. Happily, the weather was sufficiently moderate for this to be done; but had it been otherwise the surf around these rocks would have been so great that no communication with the wreck could have been effected, and, in all probability, not one human being would have survived to relate the melancholy catastrophe. Indeed, the day after the remaining passengers and crew were in great peril from an increase of wind. But this fortunately subsided on the following day, and two other vessels bore down and rescued the remaining passengers; all of whom embarked in them and were carried to the place where the women were landed. The Master, in his evidence, states that he considered it his duty to attend the passengers to provide for their maintenance, &c.; and the ship was thus abandoned to the Mate and a party of seamen.

After the lapse of several days, one of the vessels that had taken the passengers returned, and the Mate in charge was informed that the Master had given up the ship to the Master of that vessel. The Mate and all the crew then left, and from that time the pillage of the ship and cargo began.

It is not our intention to relate the events that occurred on board the vessel after she struck. We shall leave it to the underwriters to investigate the various charges made against the Master by the passengers, the Collector of Customs, and other authorities upon the islands, for an untimely abandonment of the vessel, for his feeble efforts to get the vessel off, and for his neglect to save the cargo. Suffice it to say, that this splendid vessel, which was insured for £10,500 a few weeks before, and with a set of printing types on board valued at £6,000, was sold by auction for £66! And the master bought the anchor, chains, pumps, and sundry other articles. And that after the ship had laid six weeks on the rocks, she was so staunch that the person who purchased her states, that he was induced to burn her hull to get more readily at the cargo, for had he not done so, it would have been all carried away by wreckers. We may close this part of our remarks by observing, that if all the cargo could be carried away by the wreckers six weeks after the catastrophe, something might surely have been done towards its preservation with due assistance at an earlier period?

As soon as the master and other parties arrive in England, an investigation into the loss of the vessel is ordered by the Board of Trade, under the Merchant Shipping Act; which is held before the stipendiary magistrates of Liverpool, and Capt. Schomberg, R.N., as assessor. The trial lasts several days, and after a minute and painstaking examination of witnesses, too long to be transferred to these pages, the Bench delivered their report to the effect,—“That the *Lochmaben Castle* was most probably lost by the default of the master in omitting

to take soundings. It is therefore highly probable that if he had taken soundings from midnight till 8h. a.m. he would have been made fully aware, from the difference between those in his real and intended course, that his ship was deviating, and further precautions were becoming necessary. At the same time, as it is quite clear that many masters in the Quebec and Liverpool trade omit the precaution of sounding habitually, and even justify the omission as a system, the master cannot be classed with those who from negligence or incapacity contravene the established practice of the trade they engage in." By this absurd qualified verdict the Bench virtually acquit the master of blame, and justify an adherence to a system which they admit to be bad and dangerous, under the ridiculous plea that *the defendant was brought up in it*; which is about as much as to say, that a man brought up among thieves is justified in breaking into a house, because by doing so he does not contravene the established practice of the trade he was brought up in.

Truly we have hopes of amendment in the conduct of our merchant officers from this new mode of inquiry into wrecks under our Merchant Shipping Act. In the case of the *James Russell* the master was acquitted because he could not be supposed to know that the compass was drawn aside by a fog, or that the removal of a stone in the Menai Straits had occasioned a change in the tides of the Irish Sea! And here, in the present investigation, we have the master acquitted of blame in omitting to ascertain his position by sounding, which the Bench states he ought to have done, because he was brought up under a system which every seaman must admit to be dangerous and bad; and which indeed both the Benches of Liverpool and Glasgow acknowledge to be so, and recommend the discontinuance of.

The slovenly manner in which our merchant ships are now being navigated, and the numerous losses consequent upon this, and upon the neglect of those precautions which were always observed and considered necessary in early days, are becoming subjects of very serious consideration. At the time of the passing of the Merchant Shipping Act, these facts materially influenced the House of Commons; and they invested the magistrates with the power of inquiry into wrecks; and the Board of Trade with the power of cancelling the master's certificate, on their report being to the effect that the loss was consequent on his default. Since the passing of this Act, we have had two examples of these enlarged powers, both of which are rich specimens of legislation; and might serve to amuse, if we did not feel that they are calculated to produce considerable mischief, in showing to those who have the conduct of our merchant ships their immunity from the effects of the law in cases even of gross negligence and misconduct, if they can but advance anything, however absurd, in the shape of excuse. Let us hope, for the honour of the Bench and of the cloth to which the assessors who advise the magistrates belong, that they will in future duly weigh the responsibility which rests with them before they give a verdict which must excite the ridicule of every seaman, and, what is

of more consequence, can only encourage negligent masters to persevere in a system which is dangerous and bad.

Owners of ships also should consider the moral responsibility which rests with them, and hesitate to employ a master who has lost a ship from the want of attending to those ordinary rules of precaution at sea which have always been considered by the seaman necessary in cases of doubt, and the omission of which has occasioned the loss of so many lives.

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#### RECORD OF WRECKS.

The following list of vessels wrecked is compiled from the daily reports of the *Shipping and Mercantile Gazette*, which have appeared from the 1st to the 31st of October inclusive:—

- Armata*, barque, Saunders, of Sunderland, was wrecked at Gabarons (C.B.) Sept. 9th.
- Arion*, of Shields, from Shanghai for Sydney, was lost in a typhoon June 4th.
- Ant*, Bulkeley, from Quebec for Falmouth, has been condemned at Metis.
- Æa*, British schooner, from Malaga to Monte Video, sunk in the latitude of Maldonado, Aug. 4th, having been in contact.
- Aberfoyle*, loading at Calcutta, had been on fire and was scuttled.
- Albion*, of and for Hartlepool from Quebec, was abandoned, waterlogged, in lat. 43° N., long. 51° W.
- Abeona*, barque, was passed abandoned on the Grand Bank, Oct. 3rd.
- Anne Catherine*, brig, of Sunderland, for London, sunk near Swansea, Oct. 25th, after striking on the Green Grounds.
- Abigail*, schooner, of Cardigan, from Liverpool for Dunkirk, was wrecked near Anglesea Oct. 27th.
- Barbara*, schooner, Talbot, of Arbroath, from Limplas for Liverpool, sprung a leak at sea and sunk.
- Buchan Maid*, schooner, of Sunderland, from Fraserburgh for Dantzic, was wrecked two miles North of Ronne Harbour Sept. 23rd.
- Breeze*, Chalmers, from Wigton, wrecked at Ayr Oct. 18th.
- British Queen*, collier, from Sydney for Bridgewater, was run down and sunk off Portshead Oct. 11th.
- Brighton*, barque, Peacock, from Melbourne for Newcastle, (N.S.W.) was wrecked near Western Port July 14th.
- Bessie Bent*, Murray, was taken into Ramsgate a derelict Oct. 28th.
- Brenda*, brig, Bell, from Hamburg, was wrecked at Sunderland Oct. 30th.
- Chesapeake*, schooner, Crie, sank near Cape Cod, Sept. 23rd, having been in contact.

- Confucius*, Carr, from Grangemouth for Woolwich, was run down and sunk in the Wold Oct. 11th.
- Countess of Zetland*, from Maceio for Liverpool, has been totally lost near Assa, North of Pernambuco.
- Catherine*, schooner, Selby, was abandoned and sunk Oct. 26th, off Worthing.
- Capital*, M'Arthy, of Hartlepool, from Hamburg, was wrecked near Blythe Oct. 30th.
- Dash*, schooner, from Liverpool for Cork, which was stranded on West Hoyle, has gone to pieces.
- Elizabeth Grimmer*, Robertson, from Jamaica for Liverpool, was wrecked near the Isle of Pines Aug. 18th.
- Enterprise*, Gardner, from Callao for Queenstown, was abandoned July 25th, long. 45°; four of the crew died.
- Elizabeth*, schooner, Weeks, was wrecked in King Island, Archangel Oct. 6th.
- Elizabeth*, schooner, Brewster, of Whitehaven, for Glasgow, has been wrecked on the Island of Innismeane.
- Enchantress*, barque, Hubbard, was wrecked near Rye Oct. 26th; crew, except the first mate, drowned.
- Futtal Wahab*, British schooner, from Bally for Singapore, has been wrecked on a rock near Billiton; nine passengers killed.
- Flora M'Ivor*, barque, was driven on shore and wrecked at Constitution, near Valparaiso, in August.
- Francis Partridge*, Broughton, from Rio Janeiro for Baltimore, was wrecked Oct. 1st, in Chesapeake Bay.
- Free Trader*, sailed from Birkenhead Sept. 8th, 1854, for Aden, was spoken Oct. 14 following in lat. 10° N., long. 23° W., and has not since been heard of.
- Frederick*, Morton, of and for Liverpool from Bombay, was abandoned at sea in a sinking state, Oct. 13th, in lat. 43° N., long. 36° W.
- Faithful*, brigantine, Robinson, of Liverpool, was destroyed by fire at Tampico Sept. 29th.
- Fanny Gann*, schooner, Page, was wrecked Oct. 30th, on Farness Rock.
- Glide*, brig, Ellis, from Glasgow for Halifax, struck on the Minre Ledge (N.S.) about Sept. 1st, and sunk; all hands supposed lost.
- Good Intent*, schooner, Appleton, from Shields for Lowestoft, was wrecked near Branceston Oct. 10th.
- Gipsy*, Brett, of and from St. Andrews (N.B.) from Boston, was wrecked near Frosts Point (N.S.) Sept. 22nd.
- Herald*, from Newburyport for Labrador, was totally lost on the 26th Aug., during a gale in Esquimaux Bay.
- Hope*, sloop, of Aberdovey, for Bristol, foundered off Nelson Point Oct. 11th.
- Hannah*, of and for Cork from Newport, was wrecked at Breaksea Point Oct. 10th.
- Hind*, H.M. gunboat was wrecked near Cromer Oct. 31st.



- Helen*, Hendry, of Irvine, for Killough, with lime, took fire and burnt after being on the rocks on the 18th Oct., near Strangford.
- Hebe*, Burton, of and for Wisbeach from Sunderland, was wrecked on Filey Beach Oct. 30th.
- Indefatigable*, Chilian transport, accidentally blown up at Valparaiso; six lives lost.
- Indus*, from the Coast of Africa for France, was condemned and sold at Bahia Aug. 23rd.
- Isle of Thanet* (s), from Hull for Genoa, foundered off Yarmouth Oct. 25; four men drowned.
- John Bright*, Whiting, of Newport, from London for Memel, was wrecked at Harboer Oct. 3rd.
- James M. Farran*, from Belfast, wrecked near Ayr Oct. 18th.
- Juliana*, from the coast of Arabia, was wrecked at Calicut Aug. 24th.
- John and Elizabeth*, for London, was wrecked near Weybourne, Oct. 10th.
- Joseph Lee* cutter, Archer, has been wrecked in Guichen Bay (Australia).
- Janet*, from Santa Cruz for London, has been totally lost.
- James*, brigantine, from Prince Edward Island for Swansea, was wrecked at Maltier Bay Sept. 5th.
- John Hamilton*, of and for Greenock, from Bombay, was passed abandoned, Aug. 16th, in lat.  $37^{\circ}$  S., long  $23^{\circ}$  E.
- John N. Gossler*, Emmerton, from San Francisco for Hong Kong, foundered in lat.  $45^{\circ}$  N., long.  $148^{\circ}$  E.
- John and Ann*, of South Shields, for Cromarty, was wrecked at Shields Oct. 30th.
- Kaffir*, Cassidy, of Dumfries, from Rio Hache for Liverpool, was wrecked on the west side of Inagua Sept. 6th.
- Kent*, barque, from Callao for England, foundered Sept. 3rd, in lat.  $18^{\circ}$  S., long.  $79^{\circ}$  W.
- Katherine*, Pearson, of Selby, from Guernsey for London, foundered off the Owers Oct. 27th.
- Lady Cornwall*, from the Clyde, was wrecked off Old Harbour (Jamaica) previous to Sept. 11th.
- Leonor*, brig, was driven on shore and wrecked at Constitution, near Valparaiso, in August.
- Lark*, Mabb, was run down and sunk, Oct. 10th, in St. Alban's Race.
- Lady Bannerman*, British schooner, has been captured near Yucatan by boats from the Mosquito shore, and the Captain and crew taken prisoners.
- Lord Raglan*, barque, from Demerara for St. Thomas, was driven off from St. Eustatius in the gale of Aug. 25th and foundered; crew were not on board.
- Malcolm*, barque, Sim, sailed from Antigua Sept. 1st, sprung a leak and foundered next day.
- Myrtle*, sloop, upset and sunk off Antigua Aug. 31st; seven persons drowned.

- Margaret*, Morey, from St. John (Newfoundland) for the North, was wrecked at Green Island Sept. 8th.
- Montego*, barque, from Shediac for Liverpool, has been abandoned at sea.
- Margaret*, Fenwick, from Memel for Whitby, was wrecked off Sandhammar Oct. 14th.
- M' Bride*, brig, was run into and sunk near Chicago Oct. 8th.
- Magnet*, brig, Dodd, of and from Shields, for London, was towed into Yarmouth, Oct. 29th, a derelict.
- Mary and Ann*, Fisher, of Colchester, struck on the east pierhead at Ramsgate and sunk Oct. 26th.
- Miner*, brig, Cockburn, of Newcastle, was wrecked at Scarborough Oct. 30th.
- Marys*, of Whitby, struck on the south pier and sunk at Hartlepool Oct. 30th.
- Marco Polo*, schooner, of Goole, was wrecked at Shields Oct. 30th.
- Neil Dow*, Smith, from Callao for Queenstown, has been wrecked at the Falkland Islands.
- Nautilus*, brig, Grigson, of Ipswich, foundered Oct. 4th, in lat.  $55^{\circ} 35' N.$ , long.  $4^{\circ} 18'.$
- Neptune*, Purcell, from Larne for Dublin, has been wrecked near Drogheda.
- Prince Albert*, Powell, from Calcutta, was wrecked, July 24th, off Canonier Point.
- Phenix* (s), Chilcott, from Sydney for China, was lost in Torres Straits July 17th.
- Princess Royal*, Scott, from Plymouth for Quebec, has been condemned and sold at Port Neuf, after being on shore.
- Platina*, barque, Richards, of and from Fowey, foundered, after being in contact, Sept. 18th, in lat.  $46^{\circ} N.$ , long.  $54^{\circ} W.$
- Patriot*, brigantine, from St. Andrews (N.B.) for Cadiz, was wrecked on north side of Brier Island about Aug. 21st.
- Planet*, from Memel, was wrecked on the Newcome Oct. 31st.
- Relief*, schooner, Brinton, from Boston (U.S.) for Wilmot, was wrecked near Gullifer's Hole Sept. 28th.
- Rose in June*, from Arklow, struck on the western pier, near Kingstown (Dublin), and sunk immediately.
- Sparling*, Hughes, sailed from Pembrey Sept. 21st for Amlwch, and has not since been heard of.
- Sardonyx*, mail-boat, from Antigua, was wrecked at Mountserrat Aug. 25th.
- Sebastopol*, (s), was wrecked near Chicago Sept. 18th; one man drowned.
- Sir John Franklin*, Brodie, of and from Newcastle for Hamburg, was wrecked off Sandy Island Oct. 5th.
- Sylvia*, Rathbone, of Sunderland, from Carthagena for Faro and Newcastle, was wrecked near Carthagena Oct. 1st.
- Susanna*, Scott, of Arbroath, from Porthcawl, was wrecked at Salonica Oct. 3rd.

- Sylph*, Pennock, from Liverpool for Memel, has foundered in the North Sea.
- Syrus*, Hayman, from Hartlepool for Cuxhaven, has been wrecked near Eitzenloch.
- St. Abbs*, from London for Bombay, has been wrecked on Jean Nora Island.
- Tory*, Hamilton, from Cardiff for Maranham, was lost, Aug. 17th, near that port.
- Tuscarora*, brig, from the Lower Lakes, was wrecked at Chicago Sept. 18th.
- Thor*, M'Donald, from Lossiemouth for Leith, was wrecked near the former port Oct. 3rd.
- Tarquina*, brig, Myers, from Melbourne for San Francisco, has been condemned at Honolulu.
- Triumph*, towing steamer, wrecked near Sunderland Oct. 9th.
- Thetis*, Richmond, of Newcastle, from Memel for London was wrecked on the north side of Laessoe Oct. 15th.
- Thomas Clifton*, of and from Preston, for Drogheda, was run down and sunk, Oct. 18th, off Point Lynas.
- Thetis*, brig, Williams, of and for Sunderland, from New Diep, was wrecked near Sunderland Oct. 30th.
- Thomas*, smack, from Bristol, was wrecked near Milford Oct. 25th.
- Velocity*, brig, Darrell, from Norfolk (U.S.) for Barbadoes, has been condemned at Bermuda.
- Vine*, Athinson, of Sunderland, from Hamburg for England, was wrecked on Sand Island Oct. 11th.
- Wm. Cole*, Lean, from Valparaiso for Caldera, has been wrecked in San Antonio Bay.
- Wm. Bateman*, Prussian ship, wrecked at Kirkwall Oct. 9th.
- Wm. Penn*, ship, of New Bedford, from the Chincha Islands, was wrecked off the Hatteras Shoals Sept. 13th; nine seamen took to a raft, and not since heard of.
- Witness*, from Port Cooper for Melbourne, was wrecked, June 29th, in Palliser Bay.
- X Y Z*, of Shields, from Malta for Leghorn, was lost Sept. 17th.
- Yarmouth Packet*, Pennell, of Yarmouth (N.S.), from St. John (N.B.) for Belfast, was abandoned Sept. 17th, in lat. 43°, long. 49°.

The numbers of wrecks reported during the present year are as follows:—

January . . . . .	238	July . . . . .	70
February . . . . .	164	August . . . . .	109
March . . . . .	149	September . . . . .	106
April . . . . .	109	October . . . . .	179
May . . . . .	98		
June . . . . .	83	Total . . . . .	1305

THE ATLANTIC OCEAN CONSIDERED WITH REFERENCE TO THE  
WANTS OF THE SEAMAN.

(Continued from p. 577.)

*Spitzbergen*.—At Spitzbergen it is said that during the first months of the year southerly winds prevail, and during the other months those from the North; but the S.E. and N.E. winds are those which bring most snow.

Annexed are the observations of Captain Parry, during the months of May, June, July, and August, 1827, on the winds of those regions comprised between 70° and 82° 40' N. latitude in his voyage towards the North Pole in the *Hecla*.

North .....	7½ days.	S.S.E. ....	2 days.
N.N.W. ....	5½ "	S.E. ....	12 "
N.W. ....	9 "	E.S.E. ....	½ "
W.N.W. ....	2 "	East .....	17½ "
West .....	13 "	E.N.E. ....	
W.S.W. ....	1 "	N.E. ....	9½ "
S.W. ....	9½ "	N.N.E. ....	11 "
S.S.W. ....	1 "	Calms .....	13½ "
South .....	4 "	Variable.....	4½ "

*Nova Zembla*.—At Nova Zembla, from September to May northerly winds prevail almost without interruption; and from May till August those from West.

*Temperate Zone*.—In the temperate zone, comprised between lat. 30° and 60° N., the prevalent winds are, like those of the corresponding zone of the other hemisphere, from the West, varying from N.W. to S.W. The prevailing West winds are, doubtless, produced by the same causes as those already stated in alluding to the corresponding zone of the southern hemisphere. They are produced by those currents of air, named "tropical winds," blowing from West to East, and the polar currents directed from North to South. Their direction, therefore, depends on the relative intensity of these currents, and might be a middle one.

There is an important fact which shows the prevalence of S.W. winds in the temperate zone of the northern hemisphere, consisting in the difference of time occupied by the passage from the North of Europe to North America and that of the return passage home from North America to Europe. From Liverpool to New York the voyage is at least forty days; while from New York to Liverpool it is only about twenty-three.

The mean direction from whence the prevailing wind of this zone blows, has been determined from numerous observations as follows, by Kamtz:—France S. 88° W.; England S. 66° W.; Germany S. 76° W.; Denmark S. 62° W.; Sweden S. 50° W.; Russia N. 87° W.; North America S. 86° W.: showing that Russia is the only country where the wind has a little North tendency in its source.

In the Atlantic Ocean the direction of the prevailing wind is generally from S. 45° W. to S. 70° W.

When the sun is in the northern hemisphere the prevailing westerly winds are S.W. and W.S.W.; if, on the contrary, the sun is in the southern hemisphere, they are from W.N.W. and N.W. This last period is that of gales and bad weather between North America and Europe.

Having described the winds met with *at sea* in the Atlantic Ocean, it remains for us now, in order to complete our view of the winds of this ocean, to allude to those which are experienced on its coasts. We shall commence with the coast of Africa, offering first some general remarks as to that coast.

*Land and Sea Breezes.*—The land and sea breezes blow on certain parts of it with great regularity, particularly on those of the intertropical continents, and the islands situated in the torrid zone, so much so that they might be reckoned in the periodical winds. In general the sea breeze blows during the day, and the land breeze commencing towards evening lasts part of the night, blowing in the opposite direction; it commonly ceases shortly after sunrise, and rarely lasts beyond nine or ten o'clock in the morning. Philosophers attribute these breezes to the difference of temperature between the sea and the land.

It is observed that in the neighbourhood of the African coast, of Morocco, the sea breeze comes most frequently from N.W.; on the coast of Guinea from South to S.W., and on that of Loango and Congo from S.W. to West.

These breezes generally blow alternately with those from the land. They are generally found as stated near the coast, but they sometimes prevail far from it, gradually losing their force, until they are opposed and overcome by the general winds.

The parts where these changes occur, are almost always subject to storms, accompanied by rain or calm.

The following general view is given by philosophers of the alternate land and sea breezes. In the morning, the temperature of the land and sea being nearly alike, the air is at rest; but when the sun rises above the horizon and the earth begins to be more heated than the water, the sea breeze begins to be felt; gentle at first, but gradually gaining force, till it attains its height with the greatest heat of the day; it then diminishes gradually with the decrease of temperature till night; when an interval of calm takes place. Again, during the night, when the land is colder than the sea, the land breeze rises, and attains its greatest strength at the time of the highest temperature of the night. It continues until day, still diminishing, and sometimes even until eight or nine o'clock in the morning, according to the latitudes. A knowledge of these phenomena is highly useful, and is particularly advantageous in local navigation, when it may be turned to good account in shortening passages.

*Solar Breezes.*—There are yet, on some parts of the western coast of Africa, certain winds, which may be called solar, their changes ap-

pearing to be regulated by the influence of the sun. We find them principally in the North, on the coast of Senegambia; and also in that extending from Cape Lopez to Cape Negro, to the South of the equator.

In the first, these winds vary from N.E. to N.W.; in the second, from S.E. and South to S.W., and even to W.S.W. The course of these winds, which blow strong on the coast of Senegambia, principally from November to April; and on the other from October till March, and even April, is as follows:—The breeze at sea lasts through the day, strengthening in the afternoon, then weakening towards the evening; during the night, it changes, and blows more along the land.

In navigating these two coasts, a ship should regulate her sailing so as to be near the land when the night breeze springs up, and out at sea when that of the day begins. These winds, the variations of which occasion the alternate land and sea breezes, do not, however, blow directly off the shore. They are sometimes very strong, though at a short distance from the coast; and in order to profit by them it is necessary to make short boards of twelve, fifteen, or thirty miles at furthest from it.

*The Harmattan.*—The harmattan is a wind peculiar to the western coast of Africa; it blows from the East, changing to E.N.E. on the North coast, from the parallel of Madeira to that of the River Gabon,

It is sometimes very strong on the coast of Senegal and Senegambia, but often light on the coast of Guinea. It is a cold dry wind, generally lasting for a series of three, six, or nine days, principally between the end of November and February or March. It reaches, however, but a short distance from the coast, sometimes commencing at sun-rise and ending in the afternoon. This wind is often accompanied by fog, and sometimes loaded with a fine reddish dust, so thickly, that nothing can be distinguished, particularly near the coast, at any trifling distance.

At Senegal this is an extraordinarily dry wind, and produces the most singular effects. It is said to be generally healthy, though certainly very disagreeable and inconvenient. The greatest advantage derived from it nevertheless, is the production of gum. It suddenly arrests the circulation of sap in trees that is flowing rapidly at the season when the winter rains are just ended, and causes it to exude from the wood, thus forming gum, constituting the principal commercial greatness of Senegal.

*Tornadoes.*—Tornadoes again are squalls of short duration, but are very frequent on the West coast of Northern Africa. In the South they are seldom felt, and are always slight. The name is derived from the sudden changing or veering of the wind while they last. Their approach is made known long beforehand by clouds of a dull yellow colour, which by night are very black. They originate to the North and N.E., and generally move against the prevailing wind. Tornadoes are generally distinguished by electric phenomena, and they gradually overcome the prevailing wind.

Every precaution becomes necessary to meet a tornado. Dark heavy clouds gradually spread on the horizon, and lifting slowly, leaving an extensive arch clear and distinct, furrowed every now and then by thunder; the clearer the arch is defined the more violent will be the approaching storm.

A few moments of calm then ensue, and the N.E. wind is suddenly felt coming violently and rapidly with the storm, which breaks forth in all its fury, when the arch attains the height of thirty or forty degrees above the horizon.

From N.E. the wind veers rapidly to East or S.E., blowing with the same force; the storm afterwards ceases, with rain, and when the wind slackens in force it veers to the South, and when it becomes still less to S.W. A calm frequently succeeds a tornado; and it is found that when the wind precedes the rain, the storm is more violent.

Vessels to meet these passing squalls, which never last more than an hour or an hour and a half, should shorten all sail, and furl, if possible. We never know what the extent of these violent commotions of the atmosphere may be, which sometimes have the force of hurricanes of short duration, when the wind changes so suddenly that a sail might be split, in which case it would be inevitably blown away.

The S.W. winds which are found on the West coast of Africa, are often disturbed at certain periods, (especially in the winter,) for we find in the Mediterranean, and on the coast of Portugal, intense polar currents, which, increasing the rapidity of the trade wind from North, forces it abruptly towards the equator. The meeting of these winds and those from S.W. prevailing at this period, contributes, perhaps, to produce tornados. They are very frequent in the northern hemisphere, and also very violent. South of the equator, on the contrary, as already observed, these disturbances of the atmosphere are rarely felt.

On the coast of Gaboon, and in the Gulf of Biafra, tornados blowing from N.W. to West and S.W. sometimes though very rarely occur. In the northern hemisphere they principally take place at the commencement of the winter season, and consequently the time of their appearance varies according to the locality. Thus they are found at Cape Palmas a month earlier than at Sierra Leone; they are found at Goree and St. Louis, to the northward, a month and a half after they have prevailed at Sierra Leone. In several localities they take place exactly at the end of the winter season, principally from the archipelago of the Bissagos to Cape Palmas and the coast of Guinea. In the Gulf of Guinea they blow chiefly in the months of March, April, and May, and they again occur in some localities during November and December.

South of the equator the tornados blow chiefly from S.E., and take place from March to June, and from September to October. They diminish in force in proportion as they are found to the South; and in the latitude of the Kongo, it is not unusual for storms, without much wind, to form in the East, and passing South, to terminate in the

S.W. They are much like the storms which are encountered in the northern hemisphere. These are somewhat similar to tornados in the changes of the wind, but not in force.

On the coast of Angola and Benguela, towards the evenings of November and December, storms of this description are found, but very rarely accompanied by much wind. On the contrary, the clouds heap together, and the wind falls gradually to a calm. These clouds generally become scattered at ten or eleven o'clock at night, and at the same time a feeble land breeze rises, which generally lasts during the remainder of it.

*Cape of Good Hope.*—About two hundred leagues West of the Cape of Good Hope, the S.E. winds are felt from October to March, and even April. In the same latitude, from May to August, at a hundred leagues to the West of the Cape, winds changing mostly from N.W. to S.W., are found bringing a high sea, with dirty weather. The same winds extend two hundred leagues to the East of the Cape of Good Hope, and the weather becomes worse as it is approached, during this season, from East to West.

The winds from N.W. bring fog, rain, and haze. The weather is fine and cold when it blows from S.W. During April and May these winds are equally found to the East and West of the Cape, but only as sudden gusts. These gusts are preceded by black clouds gathering in the West. The wind then begins blowing violently from W.N.W. to West, and then changes rapidly to S.W.; they then pass to the South, afterwards moderate, and soon after a calm ensues.

*Doubling the Cape of Good Hope in coming Eastward.*—When the season is advanced, D'Apres de Manneville advises a ship that would round the Cape from the East, not to go further than forty miles from land, and not nearer than eighteen miles, in order to preserve a latitude where the winds are less violent and the sea not so high as to the southward.

These storms are very frequent during the winter. They are accompanied by so much rain, that sometimes too successive fine days can scarcely be found. According to several mariners, this bad weather is felt as far East as Madagascar.

On the parallel of  $36^{\circ}$  N. latitude, at 200 or 250 leagues from the Cape of Good Hope, to the East and West of this Cape, the N.W. winds, which are so violent near it, become moderate, and frequently vary to S.S.W. Generally between the parallels of  $33^{\circ}$  and  $36^{\circ}$  S. latitude, the West winds appear to prevail.

*Doubling the Cape coming Westward.*—Consequently, when doubling the Cape from the West, it will be best to keep well off the land on the parallel of lat.  $35^{\circ}$  or  $36^{\circ}$  S., and to enter the Indian Ocean nearly on that of  $36^{\circ}$ . In adopting this course, a vessel would also profit by the cross current of the Atlantic Ocean setting eastward.

*Winds at the Cape of Good Hope.*—At the Cape of Good Hope, and in Table Bay, the months of September, October, and November



form the spring; those of December, January, and February the summer; March, April, and May are the autumn; and June, July, and August the winter months.

The following table, constructed from observations made in the course of many years at Cape Town, shows the prevalent winds during the year and in each month.

Months.	Winds.	Remarks.
January	S.E.	Dry, hot, occasional rain, with wind from N.W.
February	S.E.	Temperature variable, heavy rain occasionally with N.W. winds.
March	S.E.	Heavy gusts from N.W.; thunder; light rain and mist.
April	S.E. & N.W.	Heavy gusts; temperature variable and mist.
May	N.W.	Fine at the beginning of the month; thunder and tempestuous at the end.
June	N.W.	Heavy gusts sometimes from S.E. or N.E.; rain, thunder, and stormy.
July	N. & N.N.W.	Frequent gusts of wind; cold, mist, snow, rain, hail.
August	N.W.	Ditto.
September	S.E.	Weather changeable and mild.
October	N.W.	Heavy rain; thunder and lightning.
November	N.W. & S.E.	Hot dry weather; moderate breezes.
December	S.E.	When the wind blows from N.W. the breezes are light,—the weather hot and dry.

During winter, ships cannot anchor in Table Bay; and to refit at this season they anchor in False Bay. The approach of winter in the neighbourhood of the Cape of Good Hope is indicated by the prevailing S.E. winds being interrupted occasionally, and also blowing with less force.

*Trade Winds of the West Coast of Africa between the Cape of Good Hope and Cape Palmas.*—If a line be drawn from the Cape of Good Hope to Cape Palmas, it will nearly be the limit of separation between the S.E. trade winds and those prevailing winds, varying from S.S.E. to S.S.W. and S.W., which blow during the whole year in that part of the ocean between the above line and the West coast of Africa. The distance from the coast at which these winds are felt is variable, as the limit itself is, and they are found much stronger on approaching the Cape. It has also been remarked that on this part of the African coast the wind frequently takes a direction making an angle of about two points with the line of the coast.

At eighty or a hundred leagues from the North coast of Guinea, and on the line of demarcation above-mentioned, the trade wind is generally found; which at this distance begins also to incline towards

the coast, and in proportion as this distance is lessened draws to South and S.S.W. and even to S.W. On this limit of the trade wind calms, storms, and variable winds are generally found.

*Coast of the Hottentots.*—During nearly the whole year on the Hottentot coast, and that of Cunbasia, strong breezes from South are felt, changing from S.S.E. to S.S.W., sometimes coming in heavy gusts of wind. In proportion as the coast is left, these breezes diminish in strength, veering to South and S.S.E. in order to join with the S.E. trade.

*Coast of Benguela and Angola.*—On the coast of Benguela and Angola the weather is generally fine all the year, except during the months of March and April.

In November, December, January, and February, S.S.W. winds blow fresh; also S.W. and W.S.W., and now and then those from W.N.W.; so that at this period navigation is easy on this coast. In November and December there is sometimes a little fine rain, especially in the mornings, with the wind from S.E., or at least South. Directly it draws to S.W. the weather clears off and the sky suddenly lightens up. Sometimes, again, there are appearances of storm and lightning, particularly in the evenings; but, as already noticed, these storms have but little wind, and this frequently falls away until it gradually becomes calm. These appearances seldom, as we have already stated, last longer than ten or eleven o'clock at night; and then a gentle land breeze rises, which continues generally during the remainder of it. March and April are the two worst months of the year, on account of their stormy character. However, as soon as the wind veers to S.W. the sky clears and the weather becomes fine. The land breeze then comes on, blowing in gusts from S.E., and sometimes from N.E.; but these gusts are quite unlike the tornados found to the North of the equator.

From the month of May to that of October, in the period named the "fine season," the sky is often overcast, especially in the morning, and it is then seldom that the sea breeze comes with strength; while, on the contrary, it is rare that it fails when the sky becomes clear, and it is still fresher when it clears quickly. In May and June the calms diminish. The sea breeze begins late, and the land wind is fresh till after sunrise. In July, August, September, and October the S.W. winds are fresh and well established. They are felt near the coast at ten or eleven o'clock in the morning; they fall towards sunset and rarely last later than seven or eight o'clock in the evening. During October they sometimes last till midnight, and are then followed by the land breeze till eight or nine o'clock in the morning. In the interval between these breezes there is sometimes a calm.

*Coast of Congo.*—On the coast of Congo the breezes are generally moderate and blow, from September to March, between South and West. From March to October the prevailing winds are from S.S.E., and they sometimes blow strong from between East and North. Strong sea breezes are sometimes found between North and West,

generally from April to August. During this season there are very heavy rains. In the fine season, from September to March, the land and sea breezes succeed each other regularly. But they are not so regular during the rainy season, which lasts only three months—from November till February.

*Rio Congo.*—In the River Congo, the seasons and winds are nearly the same as on the coast to the South of this river;—observing that the further South, the later are the seasons. Thus, in the River Congo the rainy season is from October to January.

*Coast of Loango.*—On the coast of Loango, from September to March, the prevailing winds are from South to West. In December and January violent breezes are met from West and S.W. From March to October the wind is generally from S.S.E., changing to South and S.S.W.

The alternate land and sea breezes are very regular on this coast, except during the rainy season—from September to December. Tornados take place in March, April, May, and often in September and October; sometimes also in January and February. These tornados, generally less violent than those North of the equator, are, however, sufficiently severe to oblige ships to reduce all sail.

*Cape Lopez.*—Off Cape Lopez, from June to October, the winds blow principally from the South. They are in general moderate, as well as the winds from S.S.W. which prevail during the other months.

At the end of November storms with heavy rains are met. The tornados are most severe in March and April. They also occur in November, December, and January; as well as storms, which differ from tornados only by the wind being less violent.

*Gulf of Biafra.*—On the eastern shore of the Gulf of Biafra, two seasons only are generally found; that of tornados and bad weather lasting from March till the middle of September. July and August are comparatively the dry months, in which the S.S.W., breezes are fresh; they veer to the S.S.E. sometimes and blow fresh, commencing North of the equator as far as lat.  $2^{\circ}$  or  $3^{\circ}$ . The rainy season begins in September and lasts till March. This is the time of calms and light breezes from South to W.S.W.

The islands of the Gulf of Biafra—Princes Island, Saint Thomas, and Anno Bone—have the same winds as the coast off which they are. The alternate land and sea breezes are more regular and fresh near them and cease about the time of the rainy season. They never reach far from the coast either of the continent or the islands.

*North Coast of Biafra, Coast of Benin and St. Paul to Cape Palmas.*—On the North coast of the Gulf of Biafra and Benin, and on the shore of the Gulf of Guinea, the trade wind comes from S.W. to West, and prevails, with more or less regularity, according to the season, during the whole year. These winds are always moderate. The harmattan, on this coast, blows in November, December, and January. It is from East, but never strong.

From October to February, the period called the "fine season," al-

ternate land and sea breezes are found near the coast. The former never extend further than four leagues off shore and are always weak. The tornados on this coast occur from March to May. In April and May, in the Gulf of Benin and Biafra, one may be looked for every forty-eight hours, and frequently two in one day, and extremely violent. On the Ivory and Gold coasts they last till June. The period of heavy rains in the Gulf of Benin and Biafra is from August to September; but on the Ivory and Gold coasts it is from May to June.

The fogs, (commonly known as the "smokes,") which are very thick on this part of the coast of Africa, take place in July, August, and September on the Ivory and Gold coasts, also from December to February. In the Gulfs of Benin and Biafra, they are particularly found from October to February. These fogs generally commence at three o'clock in the morning, and clear away towards ten or eleven a.m.

*Island of Fernando Po.*—In the island of Fernando Po the climate is the same as that of the Gulf of Biafra adjacent to it. The harmattan blows there from December to February,—the most healthy season of the year.

On the coasts above-mentioned and at Fernando Po in the rainy season, the alternate land and sea breezes either fail or blow irregularly.

At the island of St. Helena, S.E. winds blow during nearly the whole year. They are only interrupted for a few days during this interval by light westerly winds, principally in June, July, and November; in which last month there are generally six days of westerly wind.

*Ascension Island.*—At the island of Ascension the winds are the same as at St. Helena, continuing moderate during the whole year.

*Cape Palmas and the Coast of Liberia.*—In the latitude of Cape Palmas, and to the South of this cape, the trade wind comes from W.S.W. To the North of the cape, it blows from S.W. and S.S.W., and during the fine season (from December to March) it varies from W.S.W. to W.N.W. The rainy season here lasts from May to October. The same winds prevail on the coast of Liberia.

The great rains fall principally in July and August. In April and May there are violent tornados, but they cease during the heavy rains and recommence in October and November. During the fine season the alternate land and sea breezes are very regular; the former are found twelve miles from the coast. The land breeze varies from N.N.W. to N.N.E.; it lasts from noon to midnight. The sea breeze varies from W.S.W. to W.N.W., changing very gradually, and at the middle of the season it veers to the North. It changes to the South at the end and beginning of the season, and shifts, according to circumstances, eastward or westward. There is often an interval of calm between the land and sea breezes. The harmattan blows in December, but only occasionally and then with no strength. It is neither cold nor disagreeable, as on the coast to the North of Cape St. Anne.

It has been observed that on the coast of Liberia, during the rainy season, the weather is not so bad on shore as it is thirty or forty miles out at sea. Thus, in this season, at that distance, calms, rains, and baffling winds are found: even storms and tornados indeed; in both of which the wind is mostly from East, but without violence.

*Coast of Sierra Leone.*—On the coast of Sierra Leone, during the fine season—from November to April, the prevailing winds are from N.N.W. to N.W. In the winter season, from S.W., changing to W.S.W. and W.N.W., blowing sometimes strong from West. The harmattan is sometimes severe in November and December; then, during the following months, it becomes moderate. It is not permanent, and blows only at intervals, varying between E.S.E. and N.E.

Tornados occur in May. During the great rains from June to September, they partly cease, and return in September, October, and November.

In the winter season the sea breeze is generally light, changing from S.W. to W.S.W. and interrupted by winds from the N.W.

During the fine season, from the Isles de Los to Cape St. Anne, alternate land and sea breezes prevail, the range of variation of these winds is comprised between W.S.W. and E.N.E., *passing by the North*. The sea breeze lasts from ten or eleven o'clock in the morning till midnight. The change in the land and sea breezes takes place round by the North, after an interval of calm or only a successive change of wind from W.N.W. and N.W. to North and N.E.

In taking a general view of this coast, the prevailing winds are found to be from the westward; from W.N.W. during the fine season; and from W.S.W. and S.W. during the rainy season, or from May to November.

The following table has been compiled from numerous observations at Sierra Leone during the year.

Months	Winds.	Remarks.
January	N.W.	Sea breeze in the afternoon; harmattan in the morning.
February	N.W.	Storms with rain.
March	N.W.	Tornados.
April	N.W. to S.W.	Ditto.
May	S.E. to S.W.	No tornados; partial storms.
June	S.E. to S.W.	Rain with S.E. winds; intense heat.
July	S.E. & S.W.	Ditto.
August	S.E. & S.W.	Ditto
September	E. to S.W.	Tornados.
October	W.N.W. & S.W.	Cloudy; oppressive heat.
November	N.E. & W.N.W.	Ditto.
December	N.E. & N.W.	Ditto; thunder and lightning towards evening.

During the year 1834, there were, at least, in January, thirty-one fine days; February, twenty-eight; March, thirty, and one day cloudy or misty; in April, twenty-six fine days and four misty; May, fourteen fine days, twelve rainy, five foggy; in June, fourteen fine days, thirteen rainy, three misty; July, five fine days, twenty-three rainy, three fog; August, two fine days, twenty-nine rain; September, ten fine, twenty rainy; October, twenty fine, six rain, five mist; November, twenty-one fine, five rain, four mist; December, twenty-three fine, four rain, four mist.

*Coast and Archipelago of Bissagos.*—On the coast and Archipelago of Bissagos, the West winds, changing from W.N.W. to S.W., prevail during nine months of the year. They blow in the winter season (from May to October) without interruption from W.N.W. to S.W.b.W., and sometimes with violence during July and August. Tornados take place principally in June, and also in September and October.

The harmattan blows (and sometimes with great force) in November, December, January, and the beginning of February. In the fine season, along the coast and in the archipelago, alternate land and sea breezes are found. Those from the land blow from N.E. to E.N.E. and E.S.E. till eight or nine in the morning, then till eleven or twelve o'clock there is calm, which is succeeded by the sea breeze, rising from W.N.W. or W.S.W. It lasts till past sunset, to give place to the land breeze, which rises towards midnight.

*Coast of Senegambia.*—On the coast of Senegambia, during the fine season (from September or October until May) the prevailing winds are from N.E., changing to N.W. by the North. The solar breezes are settled and regular on this coast; they are mostly moderate, though occasionally strong.

The harmattan blows with violence in November, December, and January; it becomes moderate in February and March. It continues sometimes for six or nine successive days, and at other times blows only during the morning.

In the winter season violent tornados occur in May and June.

The great rains commence in July and last during August; and at the end of this month there is sometimes a return of tornados. The prevailing winds during this season are from S.W., light, and interrupted by calms; they sometimes blow strong from West. On this coast, while the fine season lasts, land and sea breezes blow alternately; the solar breezes are more regular, varying from N.N.E. to North in the morning, and from North to N.N.W. and N.W. in the evening. During the night the wind is light from East and E.N.E.

*Isles of Cape Verd.*—Among the Cape Verd Islands from November to May, the trade wind blows from N.E. or North to N.N.W. In the three first months of the year it is generally more from the North than on the coast of Senegal. In June it is from East, and weaker. The rains begin about the end of this month. From July to October there are tornados and rain. During the rainy season, from June to October, South winds are found, changing to S.E. and S.W. with

storms, sometimes with fog, and frequently blowing with violence. After the 15th of August it is not prudent to remain in the bays of these islands, which are exposed to S.W. and S.E. winds.

*Coast of Senegal.*—On the coast of Senegal, and between Cape Blanco and Cape Verd, the winds from East to N.E. prevail from October to May, including eight months of the year. The winter season lasts from June till October, in which season tornados, and light winds from S.W. to W.S.W. are found.

At some distance from the coast, in the fine season, North winds are often found blowing towards the shore, while, at the same time, further out at sea, the wind is from N.E.

This coast is equally subject to the solar breezes, varying from N.E. to N.N.W. The breezes from N.N.W. prevail in the afternoon, those more easterly in the night and towards morning.

*Canary Isles.*—In the archipelago of the Canaries, situated near the limit of the N.E. trade winds, the winds blow from N.N.W. to N.N.E. by the North, during nearly the whole year, and particularly from April to October. From this last month also till February their direction is nearly the same. These winds are however intercepted by violent winds from S.E. to S.W., which last sometimes seven or eight consecutive days in December to January, accompanied by much rain.

The Roadsteads of the Canaries are dangerous during these winds, and they ought not to be visited at such periods. In the Grand Canary, the bay of Palmas is the only one which may be frequented without danger in December and January, because a ship can get under sail there with any wind.

*Madeira.*—At Madeira the N.E. trade wind becomes settled about the middle of April, and continues so till the end of September. In October the periodical rains may be expected, which commonly last for fifteen days. They frequently begin with a strong S.E. wind, which changes to S.W., and continue to veer round to N.W., when the weather clears up. The roadstead of Funchal is very dangerous with these winds.

In November and December fine weather is found there, with the N.E. wind, which is yet irregular. January and February are the two months in which strong S.W. and South winds occur; but it often happens that N.E. winds continue during these months. In March the prevalent winds are generally from N.W., and sometimes with great strength. During this month a great deal of snow falls on the mountains of Madeira.

In April the weather is often bad until the middle of the month, and it sometimes blows very hard; but it is mostly fine in the beginning of this month. In May, June, and July, the nights are clear and the days cloudy. Regular land and sea breezes then prevail.

During August and part of September the harmattan, called by the inhabitants *vent d'este*, sets in; it blows sometimes from the East, during six or nine days following, as it does on the coast of Morocco situated opposite Madeira.

There is not a gale of wind in this island from the middle of April

until the end of September; but they may be expected in November and December, commencing either to the eastward or westward of South, gradually changing to West, and terminating at N.W.

*Coast of Morocco.*—On the coast of Morocco the prevailing winds during the fine season are fresh from N.E. to N.W. by the North. In winter S.W. and S.S.W. winds prevail, veering sometimes to W.S.W. and blowing hard. The wind shifts from S.E. to S.W. and W.S.W. rapidly in the winter, bringing bad weather; but when it becomes W.N.W. and N.W. the weather clears up.

*Coast of Portugal.*—On the coast of Portugal, and in general from Cape Finisterre to Cape St. Vincent, during ten months of the year northerly winds are found, varying from N.E. to N.N.W. They blow fresh with fine weather, especially during summer. If there should be a gale during winter, it comes most frequently from South to S.W., sometimes from W.S.W., and blows very hard.

From Cape St. Vincent to the Canary Isles, the prevailing winds are from N.E. to N.W.

*Bay of Biscay.*—In the Bay of Biscay the wind is most variable; but it has been observed, that in the winter months it varies from S.W. to N.W. by the West, the last being the most frequent. From May to September, sometimes also in December and January, winds from E.N.E., East, and E.S.E. are found. During the two last-mentioned months, these winds are fresh and lasting; those from N.E. freshening up with rain, and if there is a gale of wind it will come from East or S.E., and may be expected to be severe.

On the coasts of Britany S.W. winds prevail; weak in summer, but violent in winter, and changing from West to N.W., from whence heavy storms and gales of wind may be expected.

At the entrance of the Channel, and on the West coast of France, the prevailing winds are generally from S.W., varying to West, W.N.W. and N.W. They last very long, blowing for seven or eight months, and freshen into violent gales, especially in winter. The wind from W.S.W. and S.W. is generally accompanied by rain or fog, while from N.W. it is stormy, but attended frequently with a clear sky. Should the N.W. wind be moderate, it is generally attended with fine weather, interrupted, however, in winter, by storms of considerable violence, attended with hail and thunder. On the West coast of France these are commonly called "sea storms."

These winds may be relied on more than any others. They sometimes originate in northern America, and traverse the whole Atlantic Ocean.

In summer S.W. winds prevail, alternately moderate and fresh with foul weather. However, in this season, the sky is generally clear with a S.W. wind.

I have remarked when crossing the Atlantic in this season, that if the wind is S.W. and the weather fine, if it veers to N.W. it generally strengthens, but the weather will still continue fine.

*Gusts of Wind from S.W. to N.W. in the Bay of Biscay.*—In the English Channel or Bay of Biscay, when the wind comes in



gusts from S.W., whether in summer or winter, if it be attended by rain, increasing in quantity, and the squalls become heavier and more frequent from this part, with a slight tendency to vary, a change of wind may be expected. Generally the change is from S.W. to West, rapidly, and sometimes to N.W. in a squall, and blowing harder than before. This state of affairs may become of serious consequence to ships working to windward and on the port tack, and even to those running free or with the wind abaft, if unprepared and sail be not reduced in time.

Sometimes the change from S.W. to N.W. is preceded by a short calm, which must never be trusted. It has also been observed in the Bay of Biscay that when a breeze springs up from a point opposite to the sun, it does not last, and indicates merely a slight derangement of the atmosphere.

*Winds from North and South.*—Winds from North and South are not very frequent; they prevail now and then, but not to a great extent nor for a long interval, although they sometimes freshen up into strong breezes, and even gales. Those from South will draw to S.E. or S.W.; and those from North will become N.E. or N.W.

*Entrance of the Channel.*—At the entrance of the Channel, although the wind is very changeable, it is found that westerly winds are most prevalent in September, October, and November; and easterly winds in December, January, and February.

*British Isles.*—On the shores of the British Isles, the prevailing winds are nearly the same as those in the Bay of Biscay. It is, however, observed that in Scotland North winds are very frequent, and that East winds blow principally from March to June. In England and Ireland South and S.W. winds prevail; and it is observed that on the coast of Cornwall, westerly winds blow during nearly nine months of the year.

*Coast of Holland.*—On the coast of Holland westerly winds prevail, attended by rain and fog. Winds from S.E., South, and N.W. seldom blow, but from S.W. they do frequently; and easterly winds, which occur in every month of the year, are found principally in the four winter months, producing dry, cold weather.

*Coast of Norway.*—On the western coast of Norway, the prevailing winds are from S.W. to South, frequently attended by rain.

(To be continued.)

#### CAPTURE OF KINBURN.

Admiralty, November 1st.

Despatches, of which the following are copies, have been received from Rear Admiral Sir Edmund Lyons, Bart., G.C.B., Commander-in-Chief of Her Majesty's ships and vessels in the Mediterranean and Black Sea:—

*Royal Albert*, off Kinburn, Oct. 18.

Sir,—My letter of the 6th inst., will have informed the Lords Commissioners of the Admiralty that an Allied Naval and Military expedition was to leave the anchorage off Sebastopol on the following day, for the purpose of taking and occupying the three Russian forts on Kinburn Spit, at the entrance of Dnieper Bay; and the telegraphic message, which I forwarded to Varna last night, will soon communicate to their lordships the success which has attended this enterprise.

It is now my duty to give a more detailed account of the proceedings of the expedition.

I have, therefore, the honour to state that we arrived at a rendezvous off Odesa on the 8th inst., but owing to strong south-west winds, which would have prevented the troops from landing, it was not until the morning of the 14th inst. that the expedition was enabled to reach the anchorage off Kinburn.

During the night the English steam gun vessels *Fancy*, *Boxer*, *Cracker*, and *Clinker*, and four French gun vessels, forced the entrance into Dnieper Bay, under a heavy but ineffectual fire from the Spit Fort, and on the following morning the British troops, under the orders of Brigadier General Hon. A. A. Spencer, together with the French troops, under the command of General Bazaine, were landed about three miles to the southward of the principal fort, and thus, by these nearly simultaneous operations, the retreat of the garrisons and the arrival of reinforcements were effectually cut off.

In the evening the English and French mortar vessels tried their ranges against the main fort with excellent effect.

The wind having again veered round to the southward, with a great deal of swell, nothing could be done on the 16th; but in the forenoon of the 17th a fine northerly breeze, with smooth water, enabled the French floating batteries, mortar vessels, and gun boats, and the *Odin* and the mortar vessels, and gun boats named in the margin, to take up positions off Fort Kinburn; and their fire was so effective, that before noon the buildings in the interior of the fort were in flames, and the eastern face had suffered very considerably.

At noon, the *Royal Albert*, *Algiers*, *Agamemnon*, and *Princess Royal*, accompanied by Admiral Bruat's four ships of the line, approached Fort Kinburn in a line abreast, which the shape of the coast rendered necessary, and the precision with which they took up their positions in the closest order, with jib-booms run in, and only two feet of water under their keels was really admirable. At the same moment the squadrons under the orders of Rear Admirals Sir Houston Stewart and Pellion pushed through the passage between Otchakoff and the spit of Kinburn, and took the forts in reverse, whilst the *St. Jean d'Acre*, *Curacoa*, *Tribune*, and *Sphinx*, undertook the centre battery, and the *Hannibal*, *Dauntless*, and *Terrible* that on the point of the spit.

The enemy soon ceased to reply to our overwhelming fire, and, though he made no sign of surrender, Admiral Bruat and I felt that a garrison which had bravely defended itself against so superior a force deserved every consideration, and we therefore made the signal to cease firing, hoisted a flag of truce, and sent on shore a summons, which was accepted by the Governor, Major General Kokonovitch, and the garrisons, consisting of 1,400 men, marched out with the honours of war, laid down their arms on the glacis, and, having surrendered themselves as prisoners of war, they will be embarked in her Majesty's ship *Vulcan* to-morrow.

The casualties in the Allied Fleets are very few, amounting in her Majesty's ships to only two wounded. The loss of the enemy in killed and wounded, is, I fear, very severe.

In the three forts, which have suffered considerably by our fire, we found eighty-one guns and mortars mounted, and an ample supply of ammunition.

This morning the enemy has blown up the forts on Otchakoff Point, which

mounted twenty-two guns, and we learnt from a Polish deserter, who escaped in a boat from them during the night, that the Commandant apprehended an attack from our mortar vessels, which would not only have destroyed the fort, but also the neighbouring dwellings.

I have abstained from entering into the particulars of the proceedings of the squadron under the orders of Rear Admiral Sir H. Stewart, as he has so ably described them in the letter which I have the honour to enclose, from which their lordships will perceive that I have received from him on this occasion, as, indeed, I have on all others since I have had the good fortune to have him as second in command, that valuable assistance which might be expected from an officer of his distinguished and acknowledged merits; and I beg leave to add my testimony to his in praise of all the officers, and especially Lieut. Marryat and Mr. Brooker, whom he recommends to their lordships' favourable consideration.

To particularise the merit of the officers under my command, where all have behaved admirably, would be a difficult task indeed; but I beg leave to mention that the same officers of the Navy and the Royal Marine Artillery, who were in the mortar vessels at the fall of Sebastopol, are in them now, and that on this occasion, as before, they have been under the direction of Capt. Wilcox, of the *Odin*, and Capt. Digby, of the Royal Marine Artillery. Nor can I refrain from stating what I believe to be the feeling of the whole Fleet, that on this expedition, as on that to Kertch, the talents and indefatigable exertions of that very valuable officer, Capt. Spratt, of the *Spitfire*, and of those under his command, entitle them to our warmest thanks, and deserve to be particularly mentioned.

I need hardly say that my distinguished colleague, Admiral Bruat, and I have seen with infinite satisfaction our respective squadrons acting together as one Fleet.

I am, &c.,

EDMUND LYONS,

Rear-Admiral and Commander-in-Chief.

The Secretary of the Admiralty.

*Valorous*, in Dnieper Bay, Oct. 18th.

Sir,—I have the honour to inform you that, in pursuance of your orders, I hoisted my flag in her Majesty's steam frigate *Valorous*, on the afternoon of the 14th inst., immediately after the arrival of the Allied Fleets off Kinburn Spit, and proceeded, under the able guidance of Capt. Spratt, of the *Spitfire*, to take up positions at the entrance of Dnieper Bay, where, with the following division of steam vessels placed under my orders: mortar vessels—*Raven*, *Magnet*, *Camel*, *Hardy*, *Flamer*, *Firm*: gun vessels—*Lynx*, *Arrow*, *Viper*, *Snake*, *Wrangler*, *Beagle*, *Valorous*, *Gladiator*, *Fancy*, *Cracker*, *Grinder*, *Boxer*, *Clinker*. and in company with those under the orders of my colleague, Rear Admiral Odet Pellion, we remained in readiness to force an entrance into the Dnieper for the purpose directed by you of preventing, as far as possible, any reinforcements being thrown into the forts on Kinburn Spit, as well as to cut off the retreat of the garrison, should either be attempted.

At 9 p.m. I instructed Lieut. Joseph H. Marryat, of the *Cracker*, to take on board Mr. Edward W. Brooker, additional master of the *Spitfire*, and endeavour with him to determine the course of the intricate channel through which we were to pass, and to lay down buoys along the south side of it; the French having undertaken to perform the same service on the north side. I likewise directed Mr. Thomas Potter, master of the *Furious* (lent to do duty in the *Valorous*), to proceed with two boats of the *Tribune*, and, protected by the *Cracker*, to search for the spit on the north bank, and on his return endeavour to place a

buoy on the edge of the shoal off Kinburn Spit, that the entrance of the channel might be assured.

As soon as the preconcerted signal was given, indicating that this operation was effected, I despatched the *Fancy*, *Boxer*, and *Clinker*, into Dnieper Bay, with orders to anchor in such position as would best protect the right flank of our troops, upon the disembarkation taking place, and to make that their chief care, as long as there was any possibility of the enemy threatening them. During the night Rear Admiral Odet Pellion also sent in the French gun boats for the same purpose.

At daylight on the following morning I had the satisfaction of observing all the gun boats, French and English, anchored safely to the north-east of Kinburn Fort, and without any of them having sustained damage, although the enemy had fired both shot and shell and musketry at them during their passage in. Thus the chief part of the object you had most anxiously in view was accomplished. While still in considerable doubt as to the extent to which the channel for the larger ships was buoyed, at 10 a.m., Lieut. Marryat and Mr. Brooker came to inform me that the work entrusted to them had been completed, and that the latter officer was ready to pilot the ships in. The zealous desire evinced by these officers to furnish me personally with their report on the difficult navigation of the Dnieper deserves my warmest thanks, and the gallant manner in which Lieut. Marryat brought the *Cracker* out for that purpose, under a heavy fire from the whole of the forts and batteries, elicited the admiration of all who witnessed the proceeding.

We were now fully prepared to advance, and, in obedience to your directions, awaited the signal for general attack.

The whole of the proceedings of yesterday must be already fully known to you; but it is right that I should state briefly the share taken in them by the Division you did me the honour to place under my orders, which consisted of the ships and vessels as already stated, reinforced by those named below.

It being necessary to advance in single lines, it was arranged that the ships should do so in the following order:—

*Valorous*—Capt. C. H. M. Buckle, C.B., bearing my flag. *Furious*—Capt. William Loring, C.B. *Asmodée* (French), bearing the flag of Rear Admiral Odet Pellion. *Cacique* (French). *Sidon*—Capt. George Goldsmith. *Leopard*—Capt. George Gifford, C.B. *Sané* (French). *Gladiator*—Capt. C. F. Hillyar. *Firebrand*—Capt. E. A. Ingelfield. *Stromboli*—Commander Cowper Coles. *Spiteful*—Commander F. A. Shortt.

At noon, the signal being made from your flag ship to weigh, we proceeded through the channel, each ship engaging the Spit batteries and Kinburn Fort as they came within range.

To Lieut. Marryat, of the *Cracker*, is due the merit of preceding and piloting us through, which he did with great judgment.

Had the enemy continued his defence of the Spit batteries, the *Sidon*, *Leopard*, *Sané*, and *Gladiator*, were directed in that case, to remain in front of them, until their fire was completely silenced; but as they were subdued by the accurate and well sustained fire which was poured upon them by the ships which you had placed to the westward of the Spit, and by those of our own squadron on passing to the eastward, this became unnecessary; the whole Division, therefore, continued its course through the channel, and anchored well inside Fort Nicolaieff and Otchakoff Point. During this time the four gun boats, *Fancy*, *Grinder*, *Boxer*, and *Clinker*, did good service, by placing themselves in such position as to throw a flanking fire on the middle Battery and Kinburn Fort at the time our Division passed within short range.

Immediately on anchoring, I transferred my flag to the *Cracker*, and, followed by the other gun boats, proceeded close off the east front of Kinburn Fort, to

be ready to act as circumstances required, should the enemy's fire, which at that moment had entirely ceased, be renewed; however, the necessity for further action did not arise. As the service entrusted to me was carried out under your own observation, I feel it to be unnecessary to do more than to record my grateful sense of the very satisfactory manner in which the whole of the ships under my orders took up their appointed stations, and of the manner in which all employed performed their duty.

I think myself fortunate in having for my temporary flag-ship so efficient and well ordered a man-of-war as the *Valorous*, and I feel much indebted to Capt. Buckle and his zealous First Lieut. Joseph Edye, for their unremitting attention and assistance.

I am delighted to add, that in concerting with our gallant Allies, the arrangements necessary for carrying into effect the present successful operations, I have received the cordial support and concurrence of my excellent colleague, Rear Admiral Odet Pellion.

The anxiety which you yourself ever feel to do full justice to merit and exertion must be my excuse for presuming to request your most favourable notice of Lieut. Marryat and Mr. Brooker. They have had anxious, difficult, and dangerous work to perform, and they have each of them executed it admirably.

I have, &c.,

HOUSTON STEWART, Rear Admiral.

Rear Admiral Sir E. Lyons, Bart., &c., G.C.B.

## NAUTICAL NOTICES.

### KOREA.—*Sailing Directions for Port Hamilton, by Mr. J. Richards Commanding H. M. S. Saracen.*

On leaving Hong Kong for Port Hamilton in May, Mr. Richards says, I intended passing outside Formosa, but light easterly winds and northerly currents prevented our getting off shore except at a great sacrifice. I therefore went with the stream through the Formosa Channel, and carried a favourable current of from six to twenty-five miles daily.

We had light winds with frequent calms as far as the Pescadores, but, nevertheless, made very fair progress by taking advantage of the shifts; and after clearing Formosa, a steady southerly wind, with very fine weather, followed us to within 200 miles of Quelpart, when it shifted to the S.W. and West, bringing rain and fog. We succeeded in finding bottom with our deep sea lead, and taking a line of soundings all the way up to Quelpart, [which have been added to the chart.—ED.]

The islands forming Port Hamilton, may be readily distinguished from the numerous clumps of islets and rocks in the neighbourhood, by their superior magnitude as well as their peculiar position.

There are no islands near the Port Hamilton group to the westward, nor nearer than nine or ten miles to the northward, but to the eastward a chain of small islands and rocks form a continuous line for the distance of fifteen miles. The easternmost I have named the Castle Group, from whence the islets and rocks appear to take a north-easterly course towards the coast of Korea, the high land of which is well in sight in clear weather.

The Castles are a group of islets four or five in number, each about two cables in diameter, and about 200 or 300 feet high. The south easternmost one bears E.  $\frac{1}{2}$  N. fourteen and a third miles from the south extreme of the Port Hamilton group. (Aberdeen Island).

N.N.W. two miles from the Castles are the Pinnacles, a group of about the same size and height, but as their name implies, of a different form, the largest of them has a conical peak.

Midway between the Pinnacles and the entrance to Port Hamilton is an island, about half a mile in diameter, having a remarkable cone in the centre of it about 400 feet in height; and between this island and the port are the small high group called the Musquitoes, which are very steep too and safe of approach, and from appearances, I should think that most of these islets and rocks are of the same character in this respect.

The Port Hamilton group, so far as our examination went, is perfectly safe of approach on all sides, but is best approached from the south-east. On entering the port, the only danger that does not show is a rock at the entrance two cables from the outer end of Observatory Island, with seven feet on it, named by me Saracen Rock. It is a small Pinnacle, very steep to on the outside, but may be easily avoided by opening the Gap Tree, a little to the northward of Observatory Island, before bringing Triangle Peak in line with Sentry Nose, bearing S.S.W.

When working in, it should not be forgotten that the north shore nearly up to Shoal Point is as steep as a wall, and that the Observatory Island shore is perfectly safe, although rather shelving. The three fathom line from Shoal Point extends more than half way across towards the west point of Observatory Island, and two fathoms will be found to extend for nearly one-third of this distance.

Inside of Shoal Point is another stoney point, which, when brought in line with Shoal Point N.N.E., clears the western side of the shoal. Vessels may anchor any where within the port; the holding ground is so good as to render it very difficult to trip the anchor after a few days.

Within Observatory Island a vessel may be safely hove down for repair. Wood is scarce—fresh water plentiful and easily embarked. Fish may be caught with the seine.

Although the natives were very friendly, we could not obtain fresh stock of any description; and although we roamed all over the island as we pleased, the inhabitants would not allow us to enter houses.

Observatory Point is in lat.  $34^{\circ} 1' 23''$  N., long.  $127^{\circ} 15' E.$  Var.  $2^{\circ} 51' W.$  High water full and change 8 h. 30 m., rise eleven feet, but very irregular, the sea standing at a higher level by two or three feet with southerly winds than from the opposite quarter.

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NAVIGATION OF THE HOOGLY.—*The Pilot Establishment. Approach to Calcutta by the Matlah Creek.*

Newcastle-on-Tyne, October 24th, 1855.

Sir,—I am induced to send you the annexed account of the loss of the ship *Atma*, of this port, in Calcutta river, from having read in your August number some valuable remarks on the navigation of that river, and also from having noticed lately that the *Shipping Gazette* has expressed doubts of the *efficient state of the pilotage establishment on the Hooghly*, on account of the many losses that have recently occurred, of the justice of which allegations I don't

pretend to give an opinion; but I do think that considering the enormous value of both vessels and cargoes that are constantly at risk on that river, that the *efficiency of its pilotage establishment ought to be determined beyond a doubt.*

By inserting this in an early number of your valuable periodical, (to which I have been a subscriber nearly from the first) you will, I think, call attention to the subject, and thereby answer the object I have in view.

Yours, &c.,

NAUTICUS.

To the Editor of the *Nautical Magazine*.

Calcutta, August 22nd, 1855.

The ship *Alma*, of Newcastle, under the command of Capt. Gladson, and bound from Mauritius and Ennore, with a cargo of salt, to Calcutta, was totally lost at Hooghly Bight, about fifty miles from Calcutta, on Friday, the 17th instant, about noon, as the following extracts from the commander's letters to his owners will describe:

At 10 a.m., on the 17th, wayed from Diamond Harbour, and proceeded up the river with a moderate breeze at S.W., all sail set. At about noon the ship touched the ground at Hooghly Bight, and in an instant went over with the port rail and main deck in the water; in a few seconds after she went over with the royal masts under water, the three topmasts then gave way close to the caps. The ship then lay with the lower mast-heads just above water, also the starboard rail for a few minutes. The tide then flowed entirely over the hull and lower mast-heads before all the crew could be got off the wreck, many of them holding on by loose floating spars, &c. Had it not been for two steamers that saw our calamity and came to our assistance, a great many lives would have been lost; as it is, three lives were lost, viz., a custom's officer, his servant, and a seaman. It was a sorrowful sight to see such a noble ship and valuable property go to destruction in an instant. There is nothing whatever saved, the crew as well as myself have lost all. I stopped at Hooghly Point until low water, and then went off in a boat to the wreck to try to save something from the cabin; the ship was nearly buried in the sand, the mainmast-head was all that was above water. I went again at low water on the 19th, the hull was then all under the sand, and nothing above water, only a few loose spars floating that were hanging to the wreck.

WILLIAM GLADSON.

The *Alma* was a new vessel, only ten months old, 720 tons register, and had a master pilot on board at the time of her loss.

Newcastle, November 7th, 1855.

Sir,—Following up the remarks I made in my communication last month relative to the loss of the ship *Alma*, I now send you an extract from the Calcutta correspondent's letter to the *Times*, which, from its importance as bearing directly on the subject of the dangerous state of the Hooghly, I hope you will consider worthy of insertion in your next or an early number. The subject is now being seriously entertained by owners having vessels in the Calcutta trade, and they consider that it ought to be taken up by the East India Directors.

I am, &c.,

NAUTICUS.

In 1853, from May until April, 1854, 123 vessels grounded in the Hooghly, seven of which were seriously damaged, and four totally lost.

From May, 1854, until April, 1855, 113 vessels grounded in the Hooghly, eleven of which were seriously damaged, and three totally lost.—*Times*, Nov. 5

Calcutta, September 22nd, 1855.

I enclose a list, official, of the accidents which have occurred upon the Hooghly. Dock proprietors in this country reap enormous profits, and the annual loss to the trade of the port, exclusive of total wrecks, is at least £100,000 a year. Yet on the East of the Hooghly there is a tidal creek called the Muttah, which extends within twenty-five miles of Calcutta, and which has seventy feet water within two feet of the bank. The surveyors say ships of any burthen may ascend it in safety. A railway of twenty-five miles would make this a second outlet for the commerce of Calcutta, yet we cannot get it made. The merchants want it—the government wants it—the public wants it, but inertia overpowers them all. If Lloyd's, who are materially interested in the question, would put a little pressure on the Court of Directors, or the railway company, they would perform a great service to the trade of Bengal. All the facts, [the report on the Hooghly, with the evidence, and the surveys of the Muttah, can be obtained at the India House.—*Times*, Nov. 5th.

#### KANGAROO ISLAND.—*Australia.*

We have been obligingly favored, says the *Adelaide Observer*, by Capt. Freeling, R. E., with some interesting memoranda on Kangaroo Island, made during the Surveyor General's recent official visit to the island, and his examination of the coast, with reference to the intended erection of a lighthouse on Cape Borda.

Cape Borda, situate on the N.W. extremity of Kangaroo Island, is the first land within the limits of the colony of South Australia that is generally made by ships arriving from the westward. A vote of council has been taken for the erection of a lighthouse at this point, the cliff on the summit of which the light will be placed being about 250 feet above the sea, the light will be visible about twenty-five miles, and between a S.W. b. S., and an E.N.E. bearing from the Cape.

The northern coast of the island presents to view generally a bold coast intersected with deep ravines, the whole covered with dense scrub.

Three miles east from Cape Borda is a small beach (Flagstaff Beach) covered with sand in the month of February, on which a landing can be effected in fine weather. Ten miles further eastward the River De Mole runs into the sea, carrying sufficient water to float a vessel of probably twenty five tons, half a mile inland. At this distance the river enters a rocky gorge, and after a southerly course of two miles divides into two branches, the eastermost of which is met with five miles inland, running a strong fresh water stream towards the sea, with a bed averaging twenty feet in width; the land through which the river flows is, however, of a sandy nature, and the trees on its banks do not attain any great size.

About twenty-two miles east of Cape Borda a safe anchorage for small vessels is found at Snug Cove; a watercourse dry in summer runs down to the Cove, in the bed of which, by sinking a few feet, good fresh water is to be obtained in abundance; there is some difficulty, however, in reaching the general level of the island from this Cove, as the hills by which it is enclosed are very steep, and the country inland for two or three miles quite impracticable. Grass-trees and honey-suckle abound between the Cove and the River De Mole.

Western River, about ten miles from Snug Cove, next demands attention. Good gum timber, very straight and of considerable length and girth, is to be found on its banks for three or four miles inland. Two vessels had been par-



tially built at this place, and if completed would have been floated down the river, the entrance to which, though obstructed in the summer by a dry sand bank, yet is about five feet deep in winter time. Fresh water is found in a small branch of the river one mile from the coast. The land here is tolerably good and capable of cultivation with success.

From Western River to Kingscote the island presents nothing very peculiar to remark on. At Freestone, near Point Marsden, some good land has been brought under cultivation.

On the Three-well or Cygnet River, close to the site of the place formerly known as the South Australian Company's farm, Mr. Goodiar has erected a steam saw-mill, and employs a great number of workmen in the expectation of supplying the Adelaide market with good timber of colonial growth.

Further eastward, at Freshwater (or Hog) Bay, under Kangaroo Head, is a small settlement of islanders, who cultivate some 200 acres of fertile land. These people are comfortably housed, and have surrounded themselves with most of the necessaries and some of the luxuries of civilised life. It was at this place that the French surveying ship *Le Geographe* obtained water in the year 1808. The visit is recorded by a rude inscription, still very legible, on a rock close to the watering place, and where at the present time fresh water still appears on the surface.

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#### THE M'DONALD ISLANDS.

The following interesting communication has been addressed by Capt. Cameron, of the *Anne*, to the *Commercial Gazette*, of Mauritius:—

Port Louis, 26th May, 1856.

Sir,—Permit me through the columns of your paper to transmit a little information which may be useful to those shipmasters who may adopt the Great Circle Sailing principle, on their route to India or the Australian colonies, and oblige your obedient servant,

JOHN G. CAMERON Master, *Anne*.

When at Desolation, from 28th April to 4th May last, I was informed by Capt. Rogers, Church, and Brown, that a large island or continent had been discovered, bearing S.E., from Kerguelan, about 300 miles; upon minute inquiry found this was true. Capt. Rogers having received some intimation from a Capt. Heard, the Master of an American vessel called the *Oriental*, of Boston, proceeded as soon as the season would permit in the ship *Corinthian*, to the neighbourhood and found land, but whether a continent or island, he could not tell; however, he returned to Kerguelan and procured four tenders, viz. — *Atlas*, *Mechanic*, *Exile*, and *Franklin*, and again started for this new land. Arrived there with the *Corinthian*, *Atlas*, and *Mechanic*, in March, 1856, sending Capt. Brown, of the *Atlas*, on shore to look for a harbour. Capt. R. at the same time sailed under easy canvass along the land, making his observations upon the coast. Finally they discovered a small creek in lat. according to Capt. Rogers (a good observer) 53° 00' S, long. 72° 31' E. Capt. Church, of the *Alert*, says it is in long. according to his chronometer, 78° 00', and his chronometer is right, as I tried it. Rogers and two boats, crews procured in one day from four to five hundred barrels of sea elephant oil; and said on looking from a small promontory, he saw at once elephants and sea leopards enough to fill 100,000 barrels with oil.

The *Corinthian* being the first vessel that anchored there, I think it ought to be called Corinthian Island, or land. On being asked by Capt. Rogers

what he should call it, I suggested the above, as disliking the mention of Rogers Land. Capt. Rogers sailed along the N.E. side of this island or continent, about thirty miles, and discovered one small harbour, where he anchored the *Atlas* and *Corinthian*; but it seems to be an unsafe harbour. He laid ten days, he says, in great danger with a S.E. gale blowing. I have seen many islands about this land, the principle of which I give below, viz. :—

Macdonald I. le, lat.  $53^{\circ} 00' S.$ , long.  $72^{\circ} 35' E.$

Young Island, lat.  $53^{\circ} 4' S.$ , long.  $73^{\circ} 31' E.$

A reef of rocks West by North, true bearings forty to forty-two miles from the N.E. end of the land.

The mainland itself seems to be covered with ice and perpetual snow, and can only become a whaling station, as there is not a blade of grass to be seen during the height of summer.

From the vast amount of shipping engaged in the East India, China, and more especially the Australian trade, and according to the route by the Great Circle Sailing, Wind, and Current Charts, this land lies in the fair way; and not a day should be delayed after the summer season sets in to have this land properly surveyed.

As I have sufficient notes in my possession, I may again allude to this land, and will at all times be happy to give any information about it to those who may wish to visit the neighbourhood.

Your obedient servant,

JOHN G. CAMERON,

Master of the *Arne*, of Cape Town.

P.S.—During my haste I forgot to say that I observed in a paper, the name of which I forgot or never looked at, that a Capt. M'Donald, if I do not mistake, of the *Samarang*, discovered land on the 3rd January, 1854, about the same lat. and long. Be that as it may, land is there, and it should be the duty of hydrographers to have its position accurately laid down on our charts.

J. G. C.

[J.G. C. will find these islands laid down on the Admiralty charts from the report of Capt. M'Donald, and some discussion concerning them in our March number, p. 219.—Ed.]

#### DANGERS IN THE EASTERN SEAS.

The Commission for the improvement of Indian Sea Charts, hereby notify to all interested, that the Lieut. Commanding H. M. brig *Haas*, has lately discovered the following dangers on the West Coast of Sumatra:—

Batavia, 13th June, 1855.

1st.—Between Oedjong Poo and Poelo Limpan, a little distant from Diah in  $5^{\circ} N.$  lat., about three eighths of a mile distant from the shore, we find a great number of reefs, 5,  $3\frac{1}{2}$  and 3 fathoms deep. It requires a long time to work along the coast clear of them, and they appear in this latitude to extend to three quarters of a mile from the shore.

2nd.—Kwalla Batoe bearing southwards, outside of the reef laid down in Endicott's Charts, the lead after indicating 25 fathoms of mud bottom, unexpectedly shoaled to 6 and 5 fathoms hard bottom, with the bearings as follows: Kwalla Batoe N.  $8^{\circ} E.$ , Cape Felix N.  $74^{\circ} W.$ , and Oedjong Seranga, near Soesol N.  $40^{\circ} E.$ , and the position of the reef is about in  $8^{\circ} 41' N.$  lat.

3rd.—A little to the South of the coral reef S.S.W. of Poelo Baberahan, (S. E. of Sinkel) all of a sudden from 16 fathoms the lead showed only 6 fathoms

hard bottom, and one could see the stones below the ship, with the bearings Poelo Baberahan N. 17° E., and the coral reef parallel with Poelo Kadang N. 18° W.

The Vice-Admiral, President of the Commission for the improvement of Indian Sea Charts.

J. T. D. BOURICIUS.

The Commission, also report that Capt. B. G. Palmer, of the American ship *Celestial*, reported that on the 21st of May last he observed reefs, shoals below the water, by observation in 1° 16' South lat., and 106° 50' long. from Greenwich.

The lead showed 3 fathoms, but on the shoals close by there appeared to be less water. Immediately after the lead showed again 17 fathoms.

J. T. D. BOURICIUS.

Batavia, 30th May, 1855.

#### BITTERN ISLAND AND ROCK.—*Coast of China.*

The following important information from Commdr. E. W. Vansittart, of H.M.S. *Bittern*, concerning an island, (supposed hitherto to be a headland) having good anchorage inside of it, and also a rock in Amoy Harbour, which have been added to the Chart:—

On 30th June, 1854, whilst working out of Sam-Sha Basin in lat. 26° 28' N., long. 119° 57' E., observed a rock about one mile north of Rag Islands; it must cover at high water, and does not appear marked in charts. The following day (still creeping about in search of piratical craft, which had lately destroyed an Englishman's vessel in the Leacon Channel) found a passage behind, what the chart marks as a head-land, between Stone and Goodridge Points, in lat. 26 42 N., long. 120° 9' E. The island thus found is from three to four miles in circumference, having a passage of three quarters of a mile wide to the mainland, and about a mile long, in which we found 3½ fathoms and upwards at low water, affording a good anchorage in either monsoon for small vessels. On its N.W. side, in a sandy cove, fresh water will be found. I named the Island and Rock "*Bittern*." We anchored in 4½ fathoms with Goodridge Point, N. 85° E. Extremes of Island, S. 20° E. to S. 32° W.

#### AMOY HARBOUR.—*Bittern Rock, nearly avoash.*

It is difficult to explain well known simple marks for leading direct into Amoy Harbour clear of the Coker Rock. A stranger without a pilot would do well to anchor under a long battery just outside the harbour, off Cornwallis Stone, bringing Nantai Pagoda to bear about S.b.W.; he might safely take the western channel, in which he should keep well over towards Watson Island and Monkey Isle, or Hansen, and should not steer to the eastward for the harbour, until near the latter Island, and well north of the Spit. (See Collinson's Chart). His chart does not mark on the western side of this Spit, (which runs north from Koolungsoo,) and just within the 5 fathoms line, a rock, with but eighteen inches over it at low water spring tides, awkwardly placed for a small vessel tempted to stand on working in or out. Mr. Turner, the master, makes the following bearings from the rock. North extreme of Watson Island, N. 65° W. Nantai Pagoda South, S.W. extreme point in the channel, S. 65° W. Three rocks on the harbour side of Koolungsoo open of each other equidistant, built one in the middle.

## DIRECTIONS FOR TRAVEMUNDE HARBOUR.—BAL TIC.

The principal light of the Travemunde Lighthouse is elevated 100 feet above the level of the sea, and in clear weather can be seen from the deck of a ship at the distance of about sixteen nautic miles. A lesser light, placed vertically under the main light, is elevated sixty-four feet above the sea level, and can be seen at the distance of six nautic miles. Both lights are displayed from sunset to sunrise, but in winter are discontinued, when, for a long time, no open water can be seen from the lighthouse.

The landmark in Travemunde was to be removed on the 1st of last November, after which the signals usually made from it will be made from the lighthouse itself.

The bar has been deepened to seventeen feet. About two cables' length without the bar, in twenty-one feet water, a *white* seamark is placed, surmounted by a *white* conical basket. It may be seen at a considerable distance, and may be passed on either side. The fair way over the bar to the harbour is indicated by two *red* buoys on the North side, and by three *black* buoys on the South side. In winter these buoys will be removed and replaced by red and black seamarks.

For the surer indication of the *mid-line* of the fair way over the bar there is a *white* landmark on the point of the South mole of the harbour, and farther inland a *red* landmark. When seen in one line they lead in the mid-channel of the fair way, S.W.b.W., over the bar to the North mole, from whence, by veering a little to the West, the harbour is reached.

A vessel on hoisting her national pilot flag, will obtain a pilot in the roads where all vessels will have to wait for pilots, no vessel being allowed to enter the harbour without one.

In case of necessity however, when a ship would obviously be in danger by waiting for a pilot, the master, with the assent of his ship's council is permitted to enter the harbour without one. In such cases, and also when the pilot is prevented by bad weather from boarding a vessel to enter the harbour, the following directions must be observed:—

S.W.b.S. two and a half nautic miles from Travemunde Harbour, and one and a quarter nautic miles from the western shore, there is a *red* buoy with a *red* flag in twenty and a half feet water, to indicate the outer extreme of a reef of rocks stretching from the shore. At a cable's length without the buoy is a *red* seamark, carrying at the end of its beam a *red* basket, shaped as a broom, standing upright.

Within the buoy towards the shore the water shoals rapidly to seventeen feet, twelve feet, and less. The depth of water on the bar will be indicated from the lighthouse by the following signals:—

The depth of thirteen and a quarter feet and under without signal.

Upwards of thirteen and a quarter feet. Each blue pendant indicates 0.9 foot; each blue flag indicates 1.8 feet,—more than thirteen and a quarter feet.

For ships forced to enter the harbour without a pilot, the course of the fair way will be moreover indicated by means of a red and white ball on the small landmark on the North bulwark in such a manner, that when the ball remains in a vertical position, the ship must follow her direct course; and when the ball is in an inclined position, must change her course to the side on which the ball inclines.

The master of a vessel wishing to enter the harbour by night, must give timely notice to the pilots by hoisting a good light, visible in all directions.

As a responding signal, a *red* light will be shown from the *white* landmark on the point of the south mole.

As soon as this light is visible, the ship, keeping the Travemunde Lighthouse W.S.W., may approach the harbour without danger to a depth of water  $4\frac{1}{2}$  fathoms, and then wait for a pilot.

If the red light is not shown, it will signify that the entrance of the vessel into the harbour is not practicable, in which case the vessel may anchor in  $4\frac{1}{2}$  or  $5\frac{1}{2}$  fathoms, or remain under sail till daybreak.

The foregoing measures are English, and the bearings by compass.

### PARTICULARS OF LIGHTS RECENTLY ESTABLISHED.

(Continued from p. 558.)

Name.	Position.	F. or R.	Ht. in Feet	Dist. seen in Mls.	Remarks on the Lights.
31. Flat Island, Mauritius.	Highest Part	R.	365	25	Est. 1st Dec., '55. $19^{\circ} 53' 4''$ S., $57^{\circ} 41' 2''$ E. Revolves in one minute; 30 sec. of light and 40 of darkness.
Mauritius Is.	N.W. Point	F.	38	10	Est. 1st Dec., '55. $90^{\circ} 0' 6''$ S., $57^{\circ} 35' 4''$ E. Bears S.W. nine miles nearly from light on Flat Island.
Port Louis Harbour.	Cooper Isld.				Intended Green light.
Ditto	Entrance of Grand Riv.				Intended Red light.
32. Falkland Is.	C. Pembroke	F.	53	12	Est. 1st Dec., '55. Screened to westward to keep vessels off the island.
33. Cp. La Plata, Spain N. Ost	West of Passages	F.	486	14	Est. 1st Oct., '55. In $49^{\circ} 30' 3''$ N., $1^{\circ} 56' 6''$ W.
34. Griefswald Is.	N.E. end of Island	R.	154	17	Est. 1st Oct., '55. In $54^{\circ} 14' 7''$ N., $13^{\circ} 55' 4''$ W. Alternately a red and natural light, of equal intervals.
35. Staverno	S. end of Island	F.		8	Est. 1st Oct. '55. In $59^{\circ} 0' N.$ , $10^{\circ} 4' E.$ Seen from N. to N.N.W. clears all.
36. Alicante	Mole Head	F.	96	2	Est. 1st Nov. '55. Red light in lieu of former light.
37. Mauritius	Breakwater				Harbour lights may not be lighted so soon.
38. Portland					A red light in lieu of former at eastern end on 1st November.
39. Shoal off Oland.					See annexed.
40. Pemasamboe	off Olinda				A white buoy 2 miles E.N.E. of Point Olinda.
41. Osternors Hb. Norway	Stangholm	F.	34	10	Est. 27th Oct. '55. On E. point of island. Red light visible from N. $\frac{1}{2}$ E. round E. to S. $\frac{1}{2}$ W. In $58^{\circ} 42' 7''$ N., $9^{\circ} 16''$ E.
42. Shershel, Algiers.	Jetty Head				Est. 15th Oct. '55. Harbour light.
43. Bristol Ferry	Rhode Island		23		Position altered to 18 yards N. $\frac{1}{2}$ W. from former.
43. Londoner Rk	Cape Ann				See annexed.
44. Petit Manan, Maine.		Ff.	125	17	Est. ——— After 1st Jan., '56, the light will be varied by flashes.
44. Baker Island, Maine.		Ff.	105	15	Est. ——— After 1st Jan., '56, the light will be varied by flashes.
44. Franklin Isld. Maine.		Ff.	54	12	Est. ——— After 1st Jan., '56, the light will be varied by flashes.
45. American Bell Boats					See annexed.
46. Needham Pt., Barbadoes.	Carlisle Bay	F.		10	Est. 6th Oct. '55. Seen bearing S of E. & W will be red; seen bearing N. of E. & W. will be of natural colour.
47. Venice, two	Malasocco	F.	45	12	Est. 1st Nov., '55. Harbour lights. See annexed.
48. Norway.					Notice of lights to appear.

F. Fixed. Ff. Fixed and Flashing. R. Revolving. I. Intermittent. Est. Established.

No. 39.—**SHOAL OFF THE NORTH END OF OLAND.**—The Swedish government has given notice that a rocky Shoal, having only 15 feet water over it, has been discovered in the Baltic, lying N.N.E.  $\frac{1}{4}$  E., distant seven and one-third miles from the north end of the Island of Oland.

The Shoal consists of stone in level strata with abrupt edges; the shallowest portion, about seventy yards long, forms its northern edge, from which it extends to the S.S.E. for about four cables' length, having 3, 4, and 5 fathoms depth, after which the depth gradually increases; but on the North, N.E., N.W. and S.W. sides the water deepens abruptly, and the lead gives no warning.

From the Shoal, Oland North Lighthouse bears S.S.W.  $\frac{1}{4}$  W. (S  $26\frac{1}{2}^{\circ}$  W.), Jungfrun Is<sup>l</sup> and western point S. W.  $\frac{3}{4}$  W., (S.  $53^{\circ}$  W.), Hunö Böte, W.N.W.  $\frac{1}{4}$  N. (N.  $62^{\circ}$  W.) Magnetic bearings.

No. 43.—**THE BEACON LIGHT OF BRISTOL FERRY, RHODE ISLAND,** was to be lighted on the 4th of October last. It stands eighteen yards N.  $\frac{1}{4}$  W. from its former place.

**THE BEACON** recently erected on **LONDONER ROCK**, off Thatcher Island, Cape Ann, Massachusetts, stands with dry salvages N.  $\frac{3}{4}$  E. Northern Lighthouse, Thatcher Island, N.W.  $\frac{1}{4}$  W.; Eastern Point Lighthouse S.W. b.W.  $\frac{1}{4}$  W.

A **BELL BOAT** was moored near **HARDING'S LEDGE**, Boston Bay, Massachusetts, on the 8th of September last, in  $7\frac{1}{2}$  fathoms water, with the following compass bearings; Boston Lighthouse N.W.; Barn on Strawberry Hill W.S.W.; Minot's Ledge Light-vessel S.E.  $\frac{1}{4}$  E.

No. 45.—**AN IRON BELL BOAT** has been moored off **FENWICK SHOAL**, West of Cape Henlopen, Delaware, in 10 fathoms water, Fenwick Island, bearing W.  $\frac{1}{4}$  S., distant six and a half miles. It is close to the outer edge of the shoal, which is steep to and extends N.E. and S.W.

A **FOG BELL**, (striking six times in a minute) at **FORT CARROLL**, Soller Point Flats, near Baltimore, has been placed near the Light at Fort Carroll, Soller Point Flats, Patapsco River, near Baltimore, Maryland. Elevated on a framework about 30 feet above the level of the river.

A **FOG BELL** (striking seven times in a minute) at the Mouth of Cape Fear River, North Carolina, has been placed on Oak Island, west side of the mouth of the river, very near the Oak Island beacons. The approximate position of these beacons is lat.  $39^{\circ} 53' 4''$  N., long.  $78^{\circ} 1' 5''$  West of Greenwich.

No. 47.—**LIGHTS AT MALAMOCCO, VENICE.**—The eastern or outer Light is placed upon the round head of the inner Mole of the Rocchetta, on the north side of the channel, at a mile and a third within the entrance. The western Light stands in the Lagoon on the southern side of the entrance of the Spigaon Canal, at a distance of 1880 yards from the outer Light.

The Lights, in one bearing N.W. b. W. (Mag.) nearly, lead in a mid-course between the two Moles now in course of construction. The northern Mole or Breakwater is already above water, the southern Mole is only partly visible. The width of entrance between the Moles is about 510 yards.

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 NEW BOOKS.
 

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THE LAST OF THE ARCTIC VOYAGES, *being a Narrative of the Expedition in H.M.S. Assistance, under the Command of Capt. Sir Edward Belcher, C.B., in Search of Sir John Franklin, during the Years 1852-3-4.*—In 2 vols.—Lovell Reeve, 5, Henrietta Street, Covent Garden.

These two volumes, beautifully brought out, have just issued from the press, but we have only had time to take a cursory glance at their contents, and must reserve our comments for the next number of the *Nautical*. Sir Edward Belcher is well known as an author, and the accounts of his voyages in the *Sulphur* and *Samarang*, have ranked him amongst the first of our Naval writers, as well as surveyors. As far as we have been able to dip into the present volumes, they appear to contain a vast amount of observation agreeably communicated to the world—which is the peculiar forte of Sir Edward Belcher, and renders his works exceedingly attractive to all classes of readers, being so entirely free from pedantry. His observations on Dr. Rae's discoveries relating to the last Expedition, are worthy of deep consideration.

Sir Edward views this question with great power of mind and calm judgment, carrying much conviction with his argument. We hope to give this part in *extenso* in our next number, as well as to give a few extracts from his work.

The coloured lithographs are beautifully executed; and in the second volume are some exquisite illustrations on tinted paper, of Ice Crystals, more beautiful in form than anything seen in a kaleidoscope, which is the nearest approach to them. A good chart accompanies the work, and a survey of the Port of Lively, on the West Coast of Greenland—an important addition to the Baffin Bay and Davis Straits' Navigation.

The Cenotaph in Beechey Island, on which is a tablet in memory of Lieut. Bellot, forms the ornament on the cover of the book.

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JOURNAL OF LIEUT. BELLOT.—*From Notes taken on his First Voyage into the Arctic Seas, in the Prince Albert, Captain Kennedy, whilst employed in the Search for Sir John Franklin.*—2 vols., 8vo. Hurst and Blackett.

These agreeable volumes, which are, in fact, a translation from Lieut. Bellot's original Journal published in Paris, have lately issued from the press, and form a valuable addition to Arctic literature. The simplicity of his style, the truthfulness of his observation, and the noble and christianlike sentiments which pervade his writings, will ever render these volumes a standard work. There is also a touching interest about them, as this brave young officer perished in the Polar Seas, whilst attached to H. M. S. V. *Phoenix*, and employed in carrying despatches from Beechey Island to Sir Edward Belcher, up the Wellington Channel. He was the mainstay of a large family; and in one of his notes on the voyage, he says that he "will write books for a marriage portion for his sisters." These volumes are now published for their benefit, and we feel sure that many a kindred spirit in our own service will gladly purchase these pleasant and instructive volumes, to aid in the support of the family of as good and gallant an officer as ever adorned the service of any nation, and who nobly sacrificed his life in the service of England, in a cause of humanity. Honour to the brave.

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MEMOIRS OF THE LIFE, WRITINGS, AND DISCOVERIES OF SIR ISAAC NEWTON—  
By Sir David Brewster, K.H., A.M., D.C.L., F.R.S., &c.—Edinburgh, Constable & Co.—Hamilton, London.

It appears to have been accidentally reserved for Sir David Brewster to give to the world an account of the Life of England's greatest philosopher, Sir Isaac Newton. It is well that it was so. The humblest truths of science can be best appreciated by the man of science, who can trace the progressive steps by which a great fact is attained. Speaking of Lord Rosse's reflecting telescope, Sir David says :

"We have enjoyed the great privilege of seeing and using this noble instrument, one of the most wonderful combinations of art and science which the world has yet seen. We have, in the morning, walked again and again, and ever with new delight, along its mystic tube, and, at midnight, with its distinguished architect, pondered over the marvellous sights which it discloses—the satellites, and belts, and rings of Saturn,—the old and new ring, which is advancing with its crest of waters to the body of the planet—the rocks, and mountains and valleys, and extinct volcanoes of the moon, the crescent of Venus, with its mountainous outline,—the systems of double and triple stars,—the nebulae and starry clusters of every variety of shape, and those spiral nebular formations which baffle human comprehension, and constitute the greatest achievement in modern discovery.

Such is a brief description of the gigantic telescope completed by the Earl of Rosse. In order to form a correct idea of its effective magnitude, we must compare it with other instruments, as in the following table, in which the specula are supposed to be square instead of round :—

Names of Makers.	Diameter of Speculum.	Area of Surface.
Newton	1 inch	1 square inch
—	2·37 "	5·6 "
Halley	4·5 "	20 "
—	5 "	25 "
Hawksbee	9 "	81 "
Ramage	21 "	441 "
Lassels	2 feet	576 "
Lord Rosse	2 "	576 "
—	3 "	1296 "
Herschel	4 "	2304 "
Lord Rosse	6 "	5184 "

"In looking back on what the telescope has accomplished since the time of Newton, and in reflecting on the vast depths of ether which have been sounded; on the number of planetary bodies which have been added to our system, and on the extensive fields of sidereal space which have been explored, can we hesitate to believe it to be the Divine plan that man shall yet discover the whole scheme of the visible universe, and that it is his individual duty, as well as his high prerogative, to expound its mysteries and to develop its laws.

"Over the invisible world he has received no commission to reign, and into its secrets he has no authority to pry. It is over the material and visible that he has to sway the intellectual sceptre,—it is among the structures of organic and inorganic being that his functions of combination and analysis are to be chiefly exercised. However great have been the achievements of the past, and however magnificent the instruments to which we owe them, the limits of telescopic vision have not been reached, and space has yet marvellous secrets to surrender: A ten feet reflector will be due to science before the close of the



century, and a disc of flint glass\* twenty-nine inches in diameter, awaits the command of some liberal government, or some munificent individual, to be converted into an achromatic telescope of extraordinary power.

In cherishing these sanguine expectations, we have not forgotten that the state of our northern atmosphere must set some limit to the magnifying power of our telescopes. In a variable climate, indeed, the vapours and local changes of temperature, and consequent inequalities of refraction, offer various obstructions to astronomical research. But we must meet the difficulty in the only way in which it can be met. The astronomer cannot summon the zephyrs to give him a cloudless sky, nor command a thunder storm to clear it. He must transport his telescope to the purer air of Egypt or India, or climb the flanks of the Himalaya or Andes, to erect his watch tower above the grosser regions of the atmosphere. In some of these brief yet lucid intervals, when distant objects present themselves in sharp outlines and minute detail, discoveries of the highest value might be grasped by the lynx-eyed astronomer. The revolution of a nebula, the bisection of a double star,—the detection of the smaller planetary fragments; the details of a planet's ring,—the evanescent markings on its disc,—the physical changes on its surface, and perchance the display of some of the dark worlds of Bessel, might be the revelations of a moment, and would amply repay the national glory the transportation of a huge telescope to the shoulder or to the summit of a lofty mountain.†

We shall return to these volumes in our next.

#### THE CRUIZE OF THE DOLPHIN, U.S.N.

Lieut. Lee gives the following brief statement of the instructions which regulated the proceedings of this vessel alluded to in our last number:—

1st.—An hourly record of the direction and force of the wind; hourly record of the portion, kind, and direction of clouds; hourly observations of the thermometer, barometer, and of the state of the weather.

2nd.—The hourly temperature of the surface water: the force and direction of currents and their limits; the transparency and saltness or specific gravity of sea water in different parts of the ocean, and its temperature at various depths from specimens brought up in wooden cylinders with valves. In addition to the indications from changes of temperature, currents were to be ascertained by comparing the position of our vessel, derived from well corrected dead reckoning with those deduced from many good astronomical observations, to be taken during daylight and twilight, and also by heaving the log when becalmed from a boat anchored to its cable and iron pot, using a square sunken block for under currents.

3rd.—Deep sea soundings were to be made in favourable weather, (using 32-lb. shot and small fishing line, prepared and put on reels for the purpose,) as the depth of the ocean is an important element towards a perfect understanding of the tides, their laws of motion, the course and form of the tidal wave.

4th.—An examination of all dangers about which there are doubts either as to existence or position. A list of fifty-six of those doubtful dangers which disfigure the best charts of the Atlantic Ocean was given. The track to be taken was first towards Europe, and through that portion of the ocean around

\* This disc of flint glass was executed by Messrs. Chance, Brothers and Company, of the Southwick Glass Works, and was rewarded with a council medal of the Great Exhibition.—See *Reports of the Juries*, p. 529.

† This proposal, which was first made by the author in September, 1844, is likely to be now carried into effect. A committee of the British Association, and of the Royal Society, have, after a careful consideration of the subject, applied to government for the necessary funds.

and to the northward of the western islands, which is clustered with these reported dangers; thence westerly to the Gulf Stream between  $30^{\circ}$  and  $35^{\circ}$  of north latitude; thence easterly by the French Shoal to examine the region lying between the equator and  $7^{\circ}$  south latitude, and between  $15^{\circ}$  and  $25^{\circ}$  of west longitude, supposed to be volcanic and remarkable for its oceanic disturbances and tide rips; thence from the equator to Cape St. Roque, sounding and carefully examining the currents between Fernando de Noronha and the main; thence, after having satisfactorily examined the Equatorial and Amazonian currents homewards, crossing four times over a strip of the sea, remarkable for its temperatures, lying about 150 miles wide on each side of a straight line drawn from  $37^{\circ}$  west longitude on the Equator to Cape Charles of the United States.

Deep-sea soundings were, when practicable, to be taken along this track, and the reported dangers, rocks, shoals, &c., (commonly called vigias) near it searched for.

Of the several desiderata in hydrographic research, assuredly it is one of the most interesting to fathom the ground on which the several vigia stand disfiguring our charts; and considering the amount of nautical information resulting from maritime surveys that have been collected by the "Western Powers" of Europe, there was a rich field of investigation thus left in the Atlantic Ocean, to be gracefully taken up by the United States Government. The little *Dolphin* has done her work well, and we shall not fail to avail ourselves of it, turning to the volume and chart which contains it, as we shall have to do occasionally in some of our future numbers.

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The provisions of the New Merchant Shipping Act require—

1st.—That a master of a ship (not being a passenger ship,) upon arriving at a foreign port, where there is a consular officer, or at any port within the British Possessions abroad, and remaining at the same for forty-eight hours, is to deliver within that time to the consular officer in the former case, and the chief officer of customs in the latter, his articles of agreement with his crew, and all indentures of apprenticeship which he may have, the officer receiving such documents, having power to retain them until a reasonable time before the ship takes her departure. Any master omitting to deliver such papers is liable to a penalty of £20.

2nd.—No master of a British ship is to discharge any seaman or apprentice in any British Possession abroad, except where the man or boy has been shipped, without obtaining the sanction, to be endorsed on the agreement of a shipping master, government officer, or chief officer of customs resident in the district, to do so; nor is he to discharge any of his hands at a foreign port where there is a British consular officer, without previously obtaining the sanction of such officer, or in his absence, that of two respectable resident merchants.

3rd.—No master of a British ship is to leave behind his seamen or apprentices at any port within the British Possessions abroad, or at any foreign port where there is a British consul, without having obtained a similar sanction as that above mentioned, and having the same endorsed on his agreement. A master who shall transgress any of these three rules will be held guilty of a misdemeanour. By an order in Council, dated 14th April, 1851, the fee payable for such sanction and endorsement is fixed at 2s. for each seaman.

Such is the purport of the notice just issued by the Board of Trade, and such are the provisions of the Act which the Board of Trade have determined in all cases of omissions to enforce.

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TABLE OF THE

To be demanded and received by Pilots licensed by the Corporation of Trinity of Parliament 8 Geo. iv. cap. 125, and 16 and 17 Victoria, cap. 129, for

FROM	TO	7 Feet	8 Feet	9 Feet	10 Ft.	11 Ft.
		and under				
		£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
The Sea, Orfordness, or Hosesley Bay .....	The Nore or Warps .....	3 13 6	4 2 9	4 12 0	5 1 3	5 5 9
The Sea, Orfordness, or Hosesley Bay .....	Gravesend, Chatham, Standgate Creek, or Blackstakes .....	4 12 0	5 7 9	6 3 8	6 18 0	7 11 9
<i>Pilots duly licensed to conduct Vessels inwards above Gravesend, continuing in charge as far as any of the undermentioned places, are to be paid for the whole distance as follows:—</i>						
The Sea, Orfordness, or Hosesley Bay .....	Long Reach .....	4 16 6	5 12 3	6 8 0	7 2 6	7 18 2
	Woolwich or Blackwall .....	5 5 9	6 1 6	6 17 0	7 11 9	8 10 2
The Nore or Warps .....	Moorings, London Docks, City Canal, or St. Katherine's Docks .....	5 16 0	6 9 9	7 3 6	7 17 2	8 19 6
	The Sea, Orfordness, or Hosesley Bay .....	3 6 0	3 14 0	4 3 0	4 11 0	4 15 0
Gravesend, Chatham, Standgate Creek, or Blackstakes .....	Do. do. do.	4 3 0	4 17 0	5 11 0	6 4 0	6 16 0
	Do. do. do.	4 3 0	4 17 0	5 11 0	6 4 0	6 16 0
<i>Pilots duly licensed to conduct Vessels outwards beyond Gravesend, and continuing in charge as far as any of the undermentioned places, are to be paid for the whole distance as follows:—</i>						
Long Reach .....	The Sea, Orfordness or Hosesley Bay .....	4 7 0	5 1 0	5 15 0	6 8 0	7 2 0
	Do. do. do.	4 15 0	5 9 0	6 4 0	6 16 0	7 13 0
	Do. do. do.	5 5 0	5 17 0	6 9 0	7 2 0	8 2 0
The Sea or the Downs, and vice versa .....	The Nore or Warps .....	3 6 0	3 14 0	4 3 0	4 11 0	4 15 0
	Gravesend, Chatham, Standgate Creek, or Blackstakes .....	4 3 0	4 17 0	5 11 0	6 4 0	6 16 0
<i>Pilots duly licensed to conduct Vessels beyond Gravesend, either inwards or outwards, and continuing in charge to or from any of the undermentioned places, as the case may be, are to be paid as follows:—</i>						
The Sea or the Downs, and vice versa .....	Long Reach .....	4 7 0	5 1 0	5 15 0	6 8 0	7 2 0
	Woolwich or Blackwall .....	4 15 0	5 9 0	6 4 0	6 16 0	7 13 0
	Moorings, London Docks, City Canal, or St. Katherine's Docks .....	5 5 0	5 17 0	6 9 0	7 2 0	8 2 0
The Nore or Warps, and vice versa .....	Gravesend, Standgate Creek, or Blackstakes .....	1 13 0	1 19 0	2 2 0	2 5 0	2 14 0
	Long Reach or Chatham .....	2 2 0	2 5 0	2 10 0	2 14 0	2 20 0
	Woolwich or Blackwall .....	2 10 0	2 15 0	3 1 0	3 6 0	3 14 0
Gravesend Reach, and vice versa .....	Moorings, London Docks, City Canal, or St. Katherine's Docks .....	2 18 0	3 4 0	3 10 0	3 14 0	4 7 0
	Long Reach .....	0 9 0	1 3 0	1 8 0	2 1 0	2 7 0
	Woolwich or Blackwall .....	1 1 0	1 5 0	1 9 0	1 13 0	2 0 0
Long Reach, and vice versa .....	Moorings, London Docks, City Canal, or St. Katherine's Docks .....	1 5 0	1 11 0	1 16 0	2 0 0	2 10 0
	Sheerness, Standgate Creek, or Blackstakes .....	2 10 0	2 13 0	2 15 0	2 18 0	3 6 0
	Chatham .....	2 18 0	3 1 0	3 4 0	3 6 0	3 14 0
Woolwich or Blackwall, and vice versa .....	Woolwich or Blackwall .....	0 17 0	1 0 0	1 2 0	1 5 0	1 13 0
	Moorings, London Docks, City Canal, or St. Katherine's Docks .....	1 5 0	1 8 0	1 11 0	1 13 0	2 0 0
	Sheerness, Standgate Creek, or Blackstakes .....	2 18 0	3 1 0	3 3 0	3 6 0	3 14 0
Long Reach, and vice versa .....	Chatham .....	3 6 0	3 10 0	3 12 0	3 14 0	4 3 0
	Moorings, London Docks, City Canal, or St. Katherine's Docks .....	0 17 0	1 0 0	1 2 0	1 5 0	1 7 0
	Sheerness, Standgate Creek, or Blackstakes .....	3 6 0	3 10 0	3 12 0	3 14 0	4 3 0
Woolwich or Blackwall, and vice versa .....	Chatham .....	3 14 0	3 18 0	4 1 0	4 3 0	4 11 0
	Chatham .....	3 14 0	3 18 0	4 1 0	4 3 0	4 11 0

**RATES OF PILOTAGE**

House of Deptford Strond, or acting as such under the authority of the Acts Piloting Ships and Vessels within the limits, in the said Table mentioned.

12 Feet	13 Feet	14 Feet	15 Feet	16 Feet	17 Feet	18 Feet	19 Feet	20 Feet	21 Feet	22 Feet	23 Feet and upwards
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
6 5 0	6 15 6	7 7 8	7 16 6	8 14 9	9 8 6	10 17 0	11 10 0	12 17 6	14 5 3	16 11 3	18 8 0
8 3 6	8 19 6	9 15 3	10 7 0	11 0 9	11 14 6	14 1 0	16 13 0	19 6 6	21 5 0	23 3 9	25 2 3
8 14 9	9 9 6	10 0 0	10 16 3	11 10 0	13 3 6	15 9 0	18 11 9	21 5 0	23 0 0	24 16 9	26 13 6
9 4 0	10 2 6	11 0 9	11 14 6	12 8 6	14 3 6	16 5 9	19 11 0	22 1 6	24 16 9	27 12 0	30 7 3
9 13 3	10 11 6	11 10 0	12 8 6	13 2 3	14 14 6	17 0 6	20 10 3	23 4 6	25 18 9	28 13 0	31 7 3
5 12 0	6 0 0	6 13 0	7 1 0	7 17 0	8 10 0	9 16 0	10 7 0	11 12 0	12 17 0	14 18 0	16 11 0
7 9 0	8 2 0	8 14 0	9 6 0	9 19 0	10 11 0	12 13 0	15 0 0	17 18 0	19 3 0	20 17 0	22 12 0
7 17 0	8 10 0	9 0 0	9 15 0	10 7 0	11 17 0	13 18 0	16 14 0	19 3 0	20 14 0	22 7 0	24 0 0
8 6 0	9 2 0	9 19 0	10 11 0	11 4 0	12 15 0	14 13 0	17 12 0	19 17 0	22 7 0	24 17 0	27 7 0
8 14 0	9 10 0	10 7 0	11 4 0	11 16 0	13 5 0	15 6 0	18 19 0	20 18 0	23 7 0	25 16 0	28 5 0
5 12 0	6 0 0	6 13 0	7 1 0	7 17 0	8 10 0	9 16 0	10 7 0	11 12 0	12 17 0	14 18 0	16 11 0
7 9 0	8 2 0	8 14 0	9 6 0	9 19 0	10 11 0	12 13 0	15 0 0	17 18 0	19 3 0	20 17 0	22 12 0
7 17 0	8 10 0	9 0 0	9 15 0	10 7 0	11 17 0	13 18 0	16 14 0	19 3 0	20 14 0	22 7 0	24 0 0
8 6 0	9 2 0	9 19 0	10 11 0	11 4 0	12 15 0	14 13 0	17 12 0	19 17 0	22 7 0	24 17 0	27 7 0
8 14 0	9 10 0	10 7 0	11 4 0	11 16 0	13 5 0	15 6 0	18 19 0	20 18 0	23 7 0	25 16 0	28 5 0
3 0 0	3 5 0	3 8 0	3 14 0	4 1 0	4 11 0	5 5 0	5 16 0	6 19 0	7 17 0	8 14 0	9 11 0
3 11 0	3 14 0	3 18 0	4 4 0	4 15 0	5 5 0	6 2 0	7 9 0	8 14 0	9 11 0	10 9 0	11 10 0
4 1 0	4 9 0	4 18 0	5 5 0	5 12 0	6 8 0	7 7 0	8 6 0	10 9 0	11 6 0	12 9 0	13 11 0
4 15 0	5 4 0	5 12 0	6 0 0	6 8 0	7 5 0	8 6 0	9 19 0	11 12 0	12 9 0	13 5 0	14 2 0
1 11 0	1 15 0	1 19 0	2 4 0	2 8 0	2 12 0	2 16 0	3 0 0	3 4 0	4 3 0	5 0 0	5 16 0
2 8 0	2 16 0	3 4 0	3 11 0	3 17 0	4 4 0	4 11 0	5 12 0	6 16 0	8 2 0	8 14 0	9 6 0
2 18 0	3 6 0	3 14 0	4 3 0	4 11 0	4 19 0	5 8 0	6 13 0	7 17 0	9 2 0	10 7 0	11 12 0
3 14 0	4 3 0	4 11 0	4 19 0	5 8 0	5 16 0	6 4 0	6 13 0	7 1 0	7 9 0	7 17 0	8 5 0
4 3 0	4 11 0	4 19 0	5 8 0	5 16 0	6 4 0	6 13 0	7 1 0	7 9 0	7 17 0	8 5 0	8 13 6
2 2 0	2 10 0	2 18 0	3 6 0	3 14 0	4 3 0	4 13 0	5 5 0	5 16 0	7 9 0	8 6 0	9 3 0
2 10 0	2 18 0	3 6 0	3 14 0	4 3 0	4 13 0	5 5 0	5 16 0	6 13 0	8 6 0	9 19 0	11 12 0
4 3 0	4 11 0	4 19 0	5 8 0	5 16 0	6 4 0	6 13 0	7 2 0	7 9 0	7 17 0	8 5 0	8 13 0
4 11 0	4 19 0	5 8 0	6 16 0	6 4 0	6 13 0	7 1 0	7 9 0	7 17 0	8 6 0	8 14 0	9 2 0
1 9 0	1 13 0	1 17 0	2 2 0	2 5 0	2 10 0	2 14 0	2 18 0	3 2 0	3 6 0	3 10 0	3 14 0
4 11 0	4 19 0	5 8 0	5 16 0	6 4 0	6 13 0	7 1 0	7 9 0	7 17 0	8 5 0	8 13 0	9 1 0
4 19 0	5 8 0	5 16 0	6 4 0	6 13 0	7 1 0	7 9 0	7 17 0	8 6 0	8 14 0	9 2 0	9 10 0

The several rates and prices specified above are subject to a reduction of one fourth part, in respect of vessels propelled by steam and vessels towed by steam vessels, provided that if any such vessel shall be propelled by steam, or towed by a steam vessel for a part only of the distance for which any such rate or price may be payable, the reduction of one fourth shall be made on such part only of the said rate or price as shall be proportionate to the distance so propelled or towed.

Vessels not exceeding seventy tons, chiefly laden inwards with fish, corn, or other provisions, are to pay during the summer months, viz.: from Lady-day to Michaelmas-day inclusive, the following rates only, viz.:—

From Sea to London or vice versa . . . . . £4 14 6  
 „ Gravesend to London, or vice versa . . . . . 1 5 0

Vessels exceeding seventy tons and not exceeding 100 tons, chiefly laden inwards with fish, corn, or other provisions, are to pay during the summer months, viz.: from Lady-day to Michaelmas-day inclusive, the following rates for the outward voyage, viz.:—

From London to Gravesend . . . . . £1 5 0  
 „ Do. to the Nore . . . . . 2 18 0  
 „ Do. to the Sea . . . . . 5 5 0

A pilot taking charge of a foreign vessel, on board of which there may not be any individual qualified to interpret his orders, shall be authorized to employ a person to assist him as leadsman or interpreter; provided it be distinctly understood that the necessity for the employment of such person shall be proved to the satisfaction of the corporation of Trinity House, in which case only the following rates shall be chargeable in addition to the regular pilotage, viz.:—

For the whole run from Sea to Gravesend . . . . . £2 10 0  
 Ditto from Gravesend to Sea . . . . . 1 0 0

*Table of the Rates of Pilotage from the Downs to the Isle of Wight, and vice versa,*

7 Feet, and under.	8 Feet.	9 Feet.	10 Feet.	11 Feet.	12 Feet.	13 Feet.	14 Feet.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
3 8 0	3 19 0	4 10 0	5 1 0	5 12 0	6 1 0	6 11 0	7 2 0
15 Feet.	16 Feet.	17 Feet.	18 Feet.	19 Feet.	20 Feet.	21 Feet.	Above 21 Feet.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
7 11 0	8 2 0	8 10 0	9 18 0	11 14 9	13 10 0	15 6 6	16 4 0

Ships not having British registers are to pay one fourth more than ships having British registers, except when such first mentioned ships shall be chiefly laden with fish, corn, or other provisions; or shall by any order of Her Majesty's Most Honourable Privy Council be privileged to enter the ports of this kingdom, upon paying the same duties of tonnage as are paid

by British ships; in which case such ships and vessels, not having British registers, shall pay the like rates of pilotage only as are payable by ships having British registers.

The additional rate, for intermediate portions of a foot, in the draft to be regulated as follows, viz. :—

For 3 in. and under ..... No addition.

For more than 3 in. and under 9. in .... The medium between the two rates

For 9 in. and upwards ..... The rate for the next foot.

For removing a ship or vessel from moorings into a dry or wet dock :—

For a ship under 300 tons.....£0 15 0

Ditto of 300 to 600 tons..... 1 1 0

Ditto of 600 to 1000 tons ..... 1 11 6

Ditto above 1000 tons..... 2 2 0

In the Thames above Gravesend—For a boat of a class carrying an anchor of above 4 cwt. with a corresponding tow line £2 2s. Ditto 2 cwt., £1 1s. Ditto, under 2 cwt., 15s. per trip for the whole distance from Gravesend to London, and in proportion for any part of that distance, and for each man's service in those boats 8s. per tide.

For putting a pilot on board and for pilotage of ships and vessels to the anchorage in the Downs.†	60 Tons an under 250		150 Tons and under 150		250 Tons and under 400		400 Tons and under 600		600 Tons and upwards.	
	£	s. d.	£	s. d.	£	s. d.	£	s. d.	£	s. d.
From off Dungeness to off Folkstone, the church bearing N.N.W. by Compass	1	16 0	2	14 0	3	3 0	3	12 0	4	14 6
From off Folkstone to the South Foreland; the Lights in one .....	1	7 0	1	16 0	2	5 0	2	14 0	3	15 6
From off the South Foreland to the Downs	1	2 6	1	2 6	1	7 0	1	16 0	2	17 0

† When the pilot is put on board by a boat from the shore, one-seventh to the pilot, and the remaining six-sevenths to the boat and crew.

Approved by Her Majesty in Council,

At the Court at Buckingham Palace, the 18th day of February, 1854.

(Signed)

WM. L. BATHURST.

#### DR. KANE'S ARCTIC EXPEDITION.

By the last advices from New York, it appears that Dr. Kane's Expedition, now two years absent in the Arctic Seas, in Smith's Sound, has returned "with all on board safe and well." Our readers will rejoice to learn this, and will eagerly look for the interesting results of his voyage, of which at present nothing is known.

The government steam ship and transport sent this summer to his relief have spoken in Davis' Straits on their return to New York.

LIEUT. DE BRAY, OF THE FRENCH NAVY.

This fine young officer who accompanied Capt. Kellett in the *Resolute* to the Arctic Seas, and rendered himself an universal favourite, has just been promoted to the rank of Lieut. de Vaisseau, for his Arctic services. He has also been made a Chevalier of the Legion of Honour.

PRESERVED VEGETABLES FOR THE CRIMEA.

We have seen many favourable reports of the value Edward's Patent Preserved Potato has been in the Crimea and elsewhere, particularly where scurvy has appeared. The few minutes this vegetable requires for cooking and its known economy, will, we trust, cause the security of a plentiful supply for both services while wintering in the East.

CAPTAIN M'CLURE.

The whole Naval Service will hail with satisfaction the honour which our Sovereign has bestowed upon this gallant officer, who received the honour of Knighthood on Wednesday, the 21st inst., when the Queen held a Privy Council at Windsor. His name now stands as it should in what Lord Byron aptly termed—"that glorious roll of men, who circumnavigate the Pole." And long may he live to enjoy his hard earned honours, and to be a distinguished ornament to the profession.

OBELISK IN MEMORY OF LIEUT. BELLOT, OF THE FRENCH MARINE.

The Obelisk in front of Greenwich Hospital to the memory of the brave Lieut. Bellot, who unhappily lost his life in the Arctic Seas, while attached to H.M.S.V. *Phœnix*, is now completed. It consists of Aberdeen granite, with the simple inscription of BELLOT on the Pedestal—a name which will be honoured by every Englishman throughout all ages.

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NEW AND CORRECTED CHARTS, &c.

*Published by the Hydrographic Office, Admiralty, and Sold by J. D. Potter, 31, Poultry, and 11, King Street, Tower Hill.*

CHINA PILOT	-	-	-	-	-	-	3	6
TIDE TABLES, 1856	-	-	-	-	-	-	1	6
South American and Pacific Ocean Lights, corrected to 1855	-	-	-	-	-	-	0	6

EDWARD DUNSTERVILLE, Commander, R.N.  
*Hydrographic Office, Admiralty, November 20th, 1855.*

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We have been compelled from want of space to reserve several subjects for our next,—one especially, the recovery of the *Resolute*, a ship of Sir E. Belcher's late expedition in Davis Strait.

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