

PL/22

PRACTICAL SUGGESTIONS

ON THE

GENERAL IMPROVEMENT

OF THE

Navigation of the Shannon,

BETWEEN LIMERICK AND THE ATLANTIC;

AND MORE PARTICULARLY OF THAT PART OF IT NAMED BY PILOTS,

THE NARROWS.

WITH

SOME REMARKS

INTENDED TO

CREATE A DOUBT OF THE FAIRNESS OF NOT KEEPING FAITH

WITH THE

IRISH ROMAN CATHOLICS,

AFTER THEY HAD BEEN LURED INTO A SURRENDER OF LIMERICK,

(THEIR PRINCIPAL FORTRESS),

By a Treaty.

—  
BY THOMAS STEELE, ESQ.

ONE OF THE PROTESTANT MEMBERS OF THE IRISH CATHOLIC ASSOCIATION;  
M. A. MAGDALEN COLLEGE, CAMBRIDGE; AND AN ASSOCIATE MEMBER,  
OF THE LONDON INSTITUTION OF CIVIL ENGINEERS.

The Greeks—a kind of Eastern Irish Papists.

LORD BYRON. *Childe Harold. Notes.*

LONDON:

PUBLISHED BY SHERWOOD, GILBERT, AND PIPER,  
PATRONOSTER-ROW.

1828.

TO

**THOMAS TELFORD, Esq.**

PRESIDENT OF THE LONDON INSTITUTION OF CIVIL ENGINEERS,

F. R. S. L. & E.

*Ennis, County Clare, Dec. 1827.*

SIR,

ON the evening when I took my seat as an Associate Member of the Institution of Civil Engineers, I signed in your presence a Declaration, that I would always, to the utmost of my power, endeavour to promote the objects for which the Society had been founded; and I now, without at all identifying you with my Politics, beg permission to dedicate to you the following Pages; that, at the same time when I make an humble effort to fulfil my Pledge to the Institution, I may, as an Irishman, have the gratification of publicly expressing my sense of the benefit you have conferred on my Country, by increasing, to the extent that you have increased it, the rapidity of communication between Ireland and England.

In the progress of your Work, Sir, for drawing the two Countries by so many hours nearer

Copyright Limerick Archive

Copyright Limerick Archive

iv

to each other than they were before, you have not only formed one of the most magnificent Roads in the world over the mountains of Wales, but you have suspended in the mid-way air—not over a river, but over a portion of the mighty deep itself—a Monument to your Genius, harmonizing with the objects around, beneath, and on high; for, like the ridge of the Cambrian mountains, the ocean-tide, and the firmament of Heaven,

“This new wonderous Pontahee unhop’d.”

the Bridge over the billows of the Meri, is  
sublime.

I have the Honour to be,

SIR,

With great respect,

Your very faithful Servant,

THOMAS STEELE

Milton. *Paradise Lost.*

Copyright Limerick Archive

## Copyright Limerick Archive

### INTRODUCTION.

With respect to the form in which I have written the Remarks in the Second Part, I wish to say a few words.

One still and solemn evening last autumn, a little after sunset, I was in a boat on the Upper Shannon, returning to Limerick. I had passed that branch of it called the Abbey River, and was observing a part of the Island, the ancient Bridge, the towers of the Castle, dark almost to blackness, by the incessant smoke of several forges which are under them—the gloomy trees in St. Munchin's Church-yard, hanging over the water, the Gothic turrets of St. Mary's Cathedral, and the City itself—combining in such a manner, by the progress of the boat, as to form what Artists call, technically, *a picture*. My mind being a good deal occupied at the time with the subject of the Navigation of the Shannon, I called to memory, while I was gazing on the prospect before me, the story of the loss of the Rose of Chester, by striking on one of the

rocks, in sailing down the river, when all the souls on board, in number 120, with the exception of a few sailors, unhappily perished. They were some of the Irish garrison—a part of those who had formed the resolution of retiring to France, after the surrender of Limerick to Giuele.

After passing along the Island, the ancient Rampart and Bastion, and under one of the arches of Thomond Bridge, the boat suddenly emerged, and glided, in the grey twilight, close under the massive and gloomy towers of the Castle. At this moment many incidents of the history of Limerick crowded upon my memory—the prophetic denunciation of the Bishop of Emly—the death and despair of Ireton—the names of Hugh O'Neil, Friar Woulfe, Sarsfield, St. Ruth, Boisleau, Giuele, Talmash, Seravemore, Mackey, Nassau, and William the Third—and then calling to memory the attempt to storm the City, when William commanded in person—it occurred to me, “what a noble subject “would that be for *an historical picture!*”—The King himself commanding—the attack upon the counterscarp, and the attempt to storm the breach between the towers near St. John's Gate—the furious assault—the ferocious defence of the Irish

garrison—the heroism of the Limerick Women, who intermingled with the soldiers in the front of the breach, and showered stones and other missiles on the storming party of the enemy. The moment of the action to be, at the blowing up of the Brandenburgh Regiment in the Black Battery, by the explosion of the magazine.

Now, the scene I have thus rapidly sketched, is picturesque in the extreme; but is it, on that account, the less historically true?

In what I have written, I have endeavoured, taking *Limerick* as a basis, to write something on Irish Politics, in a form more picturesque and attractive to the general reader than a mere abstract discussion; but at the same time with rigorous adherence to historical truth and the production of authorities.

# Copyright Limerick

## NOTICE.

*Holmes's Hotel, Parliament-Street,  
Westminster, Jan. 14, 1828.*

LEST it should be supposed possible that I could, in an ill-natured form, make an allusion to the recent misfortune which has befallen Mr. Brunel, I take this opportunity of stating, that the page in which I have mentioned the Thames Tunnel, was printed several days before that afflicting circumstance occurred. Whether the work be persevered in, or abandoned, the part which has been finished, will remain for ages, an astounding memorial of noble conception, and admirable execution.

## ERRATA.

In the Chart of the Narrows, Harrold's Rock has been omitted: it lies between the Bight of the Cock Rock and the Kippen Rock.

The name of the rock "Carrickcloslough," at the western end of the middle bank of Sod Island, should be added.

Page 39, after the word "Seamen," in the third line, *read*, "Chap. IV. *The worst of the worst part of the river.*"—Extract from Conversations.

Same page, *for* "Sets from Harrold's Rock directly upon the Kippen Rock, in both tides"—*read*, Sets directly upon the Kippen Rock in both tides; but most dangerous when it sets on it from Harrold's Rock, in the ebb.

Page 74, second part, line 3, *for* "that the," *read* "the."

# Copyright Limerick

# Copyright Limerick

## Navigation of the Shannon.

### CHAP. I.

#### THE NARROWS.

LIMERICK PILOT. "Often they make us tremble in our skin, going by them by night, Sir."

FISHERMAN. "Ah! surely."

THE WRITER. "Why?"

PILOT. "THE CHANNEL IS SO NARROW, AND SUCH A RAPID TIDE, SIR."

*(Extract from the Writer's Notes, of Conversations with the Pilots and Fishermen on the Shannon).*

I WOULD not hazard the attempt of writing upon a practical subject, unless I felt a thorough conviction that my acquaintance with it was purely practical, and without any alloy or intermixture of theorizing or conjecture; and I venture to hope that, in the following observations, there will be found the impress of careful examination. That the internal evidence of this might be as strong as possible, I have in all cases studiously preserved the very forms of expression made use of by the Pilots and Fishermen, in my several excursions, while actually upon the water, or the islands, or the rocks of the river; and it is not to be overlooked, that their perceptions and recollections

must be at such times much more vivid than under any other circumstances, while in the actual contemplation of the objects about which I was inquiring: and furthermore, none of them would attempt to talk at random for a moment, as there were so many others always present to check or correct them.

I seldom took with me less than eight or nine Pilots and Fishermen, that I might not only have answers to my direct inquiries, but that I might have the advantage of their *interknowledge*; in listening to their unrestrained observations and reminiscences of circumstances which had occurred upon the river.

To carry into execution such a plan as I propose, obtaining a multitudinous collection of facts, is the very first thing necessary; and this can only be done by careful, patient, repeated, and reiterated inquiry of persons thoroughly familiarized with the Navigation to be improved.

What the author of the *Essay on the Human Understanding*, and of that on the *Conduct of the Understanding*, says, in the latter, of the intellectual world, is equally true of the physical—that, “although there be an intellectual world of infinite “beauty outside us, it must not be taken altogether, but must be brought home piecemeal;” and this is partly true in all physical investigations—we must get our facts one by one, and examine them one by one, with rigorous minuteness.

Men may revel as much as they choose in physical theories, but unless these theories be founded upon a sufficient number of facts in the first instance, and be afterwards confirmed and stabilized by fact—viz. the test of experimental proof—they are but unreal mockery, phantasms of imagination, images distorted and wavering, flung by a magic lantern upon a column of smoke.

I recollect that, upon one of the evenings of the meeting of the Institution, I was sitting near a Gentleman (Mr. Turrell), looking over some drawings, and in the course of conversation, I happened to observe to him my reckless disregard of all theories in natural philosophy, until confirmed by experiment. He replied to me by a sentence which contains more in a few words, than all I have ever heard or read upon the same subject, put together—“ ‘Tis very true, Sir; we say that the Devil has “ invented Practice to contradict Theory!”

Xenophon tells us of Socrates, that he went to work methodically and systematically, to make his friends *τραχτικωτερος*\*; but I am very sure that neither he, the great philosopher of antiquity, nor any of those three philosophers, whose “gorgeous “coming,” like “the sun’s,” has poured its resplendence upon modern time, ever said or wrote any thing at all comparable to what I have just mentioned—for neither Socrates; nor Bacon, the author

\* More practical

of the *Novum Organum*, and almost of the very system of Induction itself; nor Locke, who urged and insisted upon its necessity; nor Newton, who invented Fluxions, and untwirled the vortices of Descartes—ever in their lives, I am confident, made use of so good a sentence for overthrowing the sanctuary of vanity and ignorance—theory, *mere theory*—running the plough over the place where it stood, and sowing it with salt—as that short specification of this patent invention of the Devil.

“Then he must have died of apoplexy, in consequence of the amputation,” said a theorizer.

“But he did not die,” said the person who had seen the man alive.

“But then *he ought to have died, Sir!*” vociferated the theorizer!!!

I recollect this exquisite contrast as Mr. Turrell spoke; and I treasured from that moment, as my golden rule—my rule of gold of Ophir of philosophizing—in physic, in physics and metaphysics too—“THE DEVIL HAS INVENTED PRACTICE TO “CONTRADICT THEORY!”

To be the person who should direct the execution of a plan of my own, for the improvement of the Navigation of the Shannon, or at least give an exposition of a methodical and comprehensive plan for its improvement by others, has been an object to which, as an Irishman, I have long felt an impulsion; and, indeed, during a part of the very

time while I was first under water in my own diving-bell\*, I was occupied in forming a crude project, as to the mode by which it could be effected; however, by reason of long absence from this part of Ireland, I had no opportunity, until lately, of deciding upon the measures by which it might be carried into execution.

Even though Limerick possessed no other interest than that derived from her location, and were not a city almost sanctified by historical associations, the local situation alone is so peculiarly auspicious for inland trade and foreign commerce, that our leaving it as it is, without giving it the full advantage of its geographical position, by improving the Navigation of the magnificent river, reminds me very forcibly of certain objects described by Clarence, as seen in his dream, at the bottom of the sea—(I naturally, as a diver, take sub-aquatic illustrations)—“unvalued jewels,” in skulls without eyes, and without brains. But, by giving Limerick the full advantage of that geographical position, of which she is at present but half in possession, she will most probably become in time an august and mighty city—one of the first upon the globe, an emporium, and the point, not of commercial alone, but of political contact between Europe and America—the old world and the new.

\* The Communicating Diving-bell

Spenser, in the Faërie Queene, has described the Shannon as

“ The spacious Shenan, spreading like a sea; ”

and he thus describes Ireland, while he “ *much pities that ‘sweet land,’ that, above all other countreyes that he knew, it should bee thus miserably tossed and turmoyled with these variable stormes of affliction, wherein she hath thus wretchedly beene wracked. And sure it is yet a most beautifull and sweet countrey as any is under heaven, being stored throughout with many goodly rivers, replenished with all sorts of fish most abundantly; sprinkled with many very sweet ilands and goodly lakes, like little inland seas, that will carry even shippes upon their waters; adorned with goodly woods, even fit for building of houses and ships, so commodiously, as that if some princes in the world had them, they would soone hope to be lords of all the seas, and, ere long, of all the world: also full of very good ports and havens opening upon England, as inviting us to come unto them, to see what excellent commodities that countrey can afford; besides the soyle it selfe most fertile, fit to yeeld all kinde of fruit that shall be committed thereunto. And, lastly, the heavens most milde and temperate, though somewhat more moist then the parts towards the west.* ”—(View of the State of Ireland).

Spenser speaks of the goodly ports and havens opening to England; Sir John Davis speaks of the safe and large ports and havens lying open for traffick into all the western parts of the world too. He also speaks of the long inlets of many navigable rivers:—“*During the time of my service in Ireland which began in the first year of His Majesties reign, I have visited all the provinces of that kingdom, in sundry journeys and circuits; wherein I have observed the good temperature of the air, the fruitfulness of the soil, the pleasant and commodious seats for habitation, the safe and large ports and havens lying open for traffick into all the western parts of the world; the long inlets of many navigable rivers, and so many great lakes and fresh ponds within the land, (as the like are not to be seen in any part of Europe); the rich fishings, and wild fowl of all kinds; and, lastly, the bodies and minds of the people endued with extraordinary abilities of nature.*”—(Historical Relations).

Limerick is not a town upon the western coast, but she has the advantage of being deep-set on one of those long inlets towards the heart of the country, and in “*Mounster, which is the sweetest soyle of Ireland.*”

The city is admirably situated for commerce with the West Indies and America; and by the Steam Navigation established on the Upper Shan-

Copyright Limerick Archive

Copyright Limerick Archive

non by Mr. Grantham, and the Canal, and a Mail-coach Establishment, almost as good as any in the empire; it is now in close union with Dublin, and its highly improved and progressively improving harbour\*, the focus of London, Bristol, Liverpool, and Glasgow.

A Rail-road has been also projected by Mr. Nimm, between Limerick and Waterford.

Now, what I propose is, that Limerick should get the entire advantage of that auspicious geographical position, of which she is but half in possession at present, by reason of those obstructions and perils in her Navigation, which I shall endeavour to point out the means of removing.

Like one of the Spirits described in the Revelation; as bound in the great river Euphrates, so is the commercial spirit of this city bound in the great Shannon; and my object is to loose it, that it may join "the spirits that hold the winds of Heaven," by breaking its bonds, by annihilating those obstacles that now create retardation and peril to the Navigation.

Let any one, supposing those obstructions and perils to be removed, expand before his eyes the map of the world; let him read the History of the Steam Engine; and let him at the same time take

\* Howth Harbour, and Kingstown, have been, as it were, created in addition to the old ones.

another quantity, as a third element, into his calculation, viz. "*the quantity of mind*\*" working fervidly and incessantly all over the world, since the days of Watt, to bring Steam Navigation to still higher and higher progressive perfection;—now, after working his calculation with these geographical, physical, and metaphysical elements, as his data, let him point out another spot upon the globe, so likely as Limerick, to become such a point of contact as I have described.

This city, venerable by its antiquity, and, as I have said, and say again, almost sanctified in Irish history, abounds at this hour with objects of picturesque, and solemn, and romantic interest. The antique Castle, "built by King John of England," with its massive towers, washed by the waters of the majestic river;—the ancient Bridge, Thomond bridge, over which are seen the mountains of Clare; and at the end of the bridge, opposite the castle, at Thomond gate, is the stone—"the Stone of Sorrow"—on which, according to tradition, was signed, in presence of both armies, the Treaty of Limerick! At a short distance from the castle, stands the Gothic Cathedral†, the Church of St. Mary, originally the palace of one of the Irish Kings, with dark trees beneath its tower. In the lower part of the old town, near gardens and

\* For this admirable form of expression, I am indebted to my friend Mr. Penn, the Engineer.—"That depends," said he to me one day, "upon *the quantity of mind* a man has."

† In this, the Irish garrison laid down their arms to Ireton.

orchards, towards that part of the Shannon called the Abbey River, are the remains of priories, monasteries, and convents; and some of the ancient city-walls are to be seen near St. Peter's Cell. Here the Nuns of St. Clare have their convent, their solemn little Gothic chapel, and an extensive school. On two sides of their garden are ancient Gothic ruins. The convent of the Ursulines is on the opposite side of the Shannon. The Knights Templars had a preceptory near the river, but the site alone is known at present. Baal's Bridge is an ancient structure, connecting the Irish and English towns, with houses upon its western side. The convents of the Dominican and Augustinian Friars are in the new town, which is built upon what was formerly called St. Prior's Land. This new town (New Town Pery) is beautiful. There are extensive quays for the shipping. A new bridge is in progress, which is very much wanted, and will be an extraordinary improvement. The surrounding country is delightful, the women of Limerick are lovely, the men are patriotic, hospitable, and brave.

Such is Limerick at the present hour. The Pool of Limerick is in the Shannon, about a mile below the town. In the Pool\* are several rocks; some

\* "Vessels that draw seven or eight feet, may ride afloat in it; and, as the bottom is soft mud, large vessels need not be afraid to lye aground on it. Ships that draw twelve feet, by waiting till half flood, may get up to the Pool of Limerick."—*Norie's Piloting Directions for the South, West, and North Coasts of Ireland.*

of them have been always well known—Yemneen's rock, and some others—but another, called Harvey's rock, has been but lately discovered; and this, by the breaking of a vessel, half of which happened to lie upon the rock in the receding tide.

Lower down are the Bush rocks, and some others; but with these I have nothing to do, beyond mentioning their existence; as there are so many other things, of much greater importance, to be attended to.

By turning to the chart, at Tervoe, lower down the river than the Pool, will be observed a place marked "*Rocky*." This is the Cock rock; and at this point, that part of the Shannon called technically, by Pilots and Seamen, THE NARROWS—a "wat'ry labyrinth," in which the Navigation is most intricate and dangerous, has its commencement.

The peril arises—

1st, From the narrowness of the channel, notwithstanding the great expansion of the river.

2nd, From the rapidity of the tide among the rocks and foul grounds—and,

3rd, From the angular settings and driftings of the currents among the rocks and shoals.

A person who had not examined the subject, would be, I think, not easily persuaded, that the actual channel is so narrow as it is, in a river that expands so widely as the Shannon below Limerick.

THE NARROWS contain—with other rocks and shoal-grounds, of less importance, to be mentioned—

- The Cock rock.
- Harrold's rock.
- Two lines of foul ground, near the Kippen rock.
- The Kippen rock itself.
- The Whelps.
- The Scarlet rocks, generally called “the Scarlets.”
- The point of Gregg island.
- Shawn-a-Garra, (Cut John); and called also “Dirty Billy\*”—a very dangerous sunken rock.
- Crawford's rock.
- The Hogshead rock.
- The Slate rock.
- Foul ground, near the Hogshead rock.
- Laheen's rock, at Grass island.

I shall, in another place, give an account of the different angles made by the currents among the rocks, in this part of the river. These currents are, of course, “most dangerous in the ebb, when the “waters are falling off of the mud.”

There are two passages in this part of the river, the north and the south; and the place where it may be crossed with security, in getting from the north to the south, is marked by the apparent coincidence, or rather approximation of certain trees

\* So named, I should imagine, after King William the Third.

near the water-side to one of the castles (there are two) of Cratloe. "When there is a full tide," the southern channel is preferred by Pilots, "as it is more straight than the north one, and fewer tacks are necessary to be made in it."

There is a certain rock, called Carrick-a-thruse, and when this ceases to be visible, there are always fourteen feet of water in this channel.

By reason of the rapidity and angular settings of the currents which sweep through this part of the river, among the rocks and shoal-grounds, it requires great steadiness and caution in piloting, in crossing from one passage to the other in calm weather, "*when there is not wind to command a ship*," and when, if the wind should altogether fail, unless she can let go her anchor, and very quickly, or can be towed by boats, she is altogether at the mercy of the drifting tide.

There is a great difference between the navigation of a river like the Shannon and the open sea; in general, in the latter, the great danger is to be apprehended in storms; in the river, where the "channel is so narrow, and such a rapid tide," the great danger is, I think, to be apprehended in calms. When, as I have just said, there is not wind to command a ship, and she becomes ungovernable, and consequently, unless she can let go her bow anchor without the danger of its going through her bottom, or can be checked by her kedge, or towed by her boat—she must be swept by the tides among the rocks and foul grounds.

A vessel may eud through the outer extremity of Maelstrom\* in a hurricane, but she is inevitably lost, if taken in it by a calm.

The following is a description of the angular driftings of the currents through the Narrows :

1st, Fron the bight of the Cock rock, towards Harrold's rock.

2nd, From Harrold's rock, on the Kippen rock.

3rd, From the Kippen down to the south-west, towards the Whelps and Scarlets ; or, if you go the north channel, you get into a current that sets on Crawford's rock from the Whelps.

4th, From the Scarlets towards the tail of Gregg island.

5th, From the tail of Gregg island, down towards Carrick-a-dhurtha.

6th, Fron Carrick-a-dhurtha, towards the Hogs-head rock.

7th, From the Hogshead rock towards the buoy on Grass island.

8th, " After getting clear of Grass island, THE  
" WHOLE TIDE SETS RIGHT DOWN BODILY upon the  
" rock called the BIG BIRD, near Sod island; but  
" then, astur passing Sod-island point, there is FAIR  
" PLAY, and a straight tide, ' to Bally castle.' "

Now, although I venture to believe that what I have said, will be found to contain its own reason, in proving the danger of the Navigation of

\* Round the shores where loud Lafoden  
Whirl to death the roaring whale.

CAMPBELL. *Ode to Winter.*

this part of the river ; yet still, it would be a very wide deviation from the plan upon which such a subject ought to be treated, were I not to give what may be called the experimental test of the truth of what I have affirmed.

In order, therefore, to give the practical illustration, I shall here write *verbatim*, as I wrote it down from the lips of the Pilots themselves, and the Mate of one of the vessels, and a very intelligent Ship-broker, Mr. Parker, an account of the wreck of three vessels in this part of the river.

From Mr. Parker I had the following:

“ The Albion, of Dumfries, was endeavouring, “ with a boat a-head, to cross from one channel to “ the other in a calm. The Pilot was Crawford. He “ hoped to be able to weather the Hogshead rock ; “ but finding himself unable to do so, and sweeping “ towards the rock with the current, he let go his “ anchor ; but he was too late—the vessel struck, “ her keel was broke, her buttocks, starboard and “ larboard, were broke—all her floorings were “ broke: she was obliged to be broken up—she “ was utterly unserviceable.”

A ship called the Friendship, was struck by the same Pilot, upon the rock called, (after him) Crawford’s rock ; but she was got off again with the next tide.

I have not been able to learn the circumstances with sufficient accuracy, to venture to give an account of the manner in which this vessel struck.

*Account of the Wreck of the Alice and James on  
the Whelps, in February 1826; given me by  
Martin, her Pilot.*

" We let the Pool at six in the morning, the  
" wind at south. At the Kippen the wind headed  
" us—the wind wested. There was a *shower* of  
" *wind*, and a little rain. I boxed her about, her  
" head to the northward. She took the Spit of the  
" Whelps, [a bank of sand near these rocks],  
" and trailed along until she stopped—until her  
" butts opened, and she took in the water."

I asked him why he did not let go the anchor?  
He replied, that " if he did, it would go through  
" her bottom."

I now give an account of the same thing, by  
another Limerick Pilot (Magragh), who saw it  
when it occurred.

" I was in the Union sloop a-head, down at  
" Newtown—the wind was all a-head—the Alice  
" and James was about a quarter of a mile a-stern:  
" they followed upon the tack to the northward,  
" towards the Spit of the Whelps, when he" [the  
" Pilot Martin] "thought to stay her. The vessel  
" began to trail in the Spit of the Whelps, and  
" was trailing until she struck. They let go  
" no anchor. After she struck, the wind sprung  
" up fresh."

The following is an account of the wreck of the "Lord Newborough," a Welsh vessel, on the same rocks, last October, and not half a cable's length from the point where the Alice and James struck upon them last year:

The Pilot, Martin, (one of the sons of the Martin just mentioned), was trying to get across from the north to the south channel; but he missed both, and struck upon the rocks between the two, by the *failure of the wind, and by coming too far down in the first instance, and not making his tack in the proper place.*

The Pilot's account, in presence of the Captain, Mr. Parker, and four other Pilots:

"We got under way at the Pool, on the half tide, or a little more than half tide—we carried high water down with us at the lower end of 'the Hole.' A dead calm came; not a breath of wind out of the heavens. Then a light breeze of wind from the westward—little or none, but what was of it was from the westward. We made two or three tacks; in the first tack the Captain called a boat alongside, and then went down, and then went asleep," [half past eleven or twelve o'clock, noon].—"I told the boat to go a-head again. We canted her head away from the north side to the southward—she was dropping down—we expected that she would clear the rock. I hoped to check her head to the southward, but the boat did not

“ work with sufficient power; for the oars were  
“ weak, like paddles, and so she was swept away  
“ by the current, and struck upon the rocks. - I  
“ told the boat to lie upon the larboard bow, but  
“ she kept hanging upon the starboard bow.”

When I inquired about the anchor, whether it was let go, there was an altercation between the Captain and the Pilot on this subject; the Pilot affirming, that there were not hands enough on deck to pay away the cable, and that the Captain ought not to have gone below. To this the Captain replied, that having taken a Pilot, he had nothing to do with the ship while he (the Pilot) was on board; and he denied that the boat hung upon the larboard bow.

The following is the account given me by the Mate, in the presence of the Harbour-master of Limerick, on board the vessel, as she lay on the rocks the day after her wreck:

“ The wind was fair from the Pool: the wind  
“ after some time headed them—a baffling wind;  
“ then a calm. The boat was sent a-head the  
“ first time, then a second. The Pilot ordered to  
“ pull round—no wind to command the ship, and  
“ the ship became ungovernable; the tide run-  
“ ning strong. They pulled as much as they  
“ could, but the heavy tide drifted them along.  
“ About mid-channel the wind failed, and she  
“ struck upon the rocks; but half the length of an  
“ oar would have saved her.”

This vessel was lost by extremity of bad piloting, and not tacking in time. It is quite clear, that unless Pilots attend to them, they may just as well have for their land-marks "a cow and a hay-stack," as a mountain and a church-steeple, or a clump of trees and a castle.

It may be perhaps objected to me here, that I am not consistent, in mentioning the wreck of this vessel, when I attribute it altogether to bad piloting. It is not inconsistent: every thing that shows the actual operation of the tides and currents, will be important to those who are to determine whether the improvements I propose are judicious, or the contrary.

I shall now, as very important to the subject, give *verbatim*, what was said to me by the Ship-broker, whom I have already mentioned, on the dangers of the Narrows:

"The cause why so many accidents occur now, "more than formerly, is, that the Pilots are now "so enterprizing, that they twist and turn their "vessels among these rocks and currents, as if "they were Galloways."—"It is now, among "them, trying who will be the best man, and "bring his ship through most rapidly; but for- "merly they were slow and steady, and would not "attempt the passage, unless the circumstances "were all favourable. I have known them more "than a week going down to the Hole," &c. &c.

He said, that "many accidents constantly occur

" now to vessels, from this cause; *and that,*  
" *although they escape, they often receive great*  
" *damage in getting off these rocks—they injure*  
" *their keels, and knock off their copper,*" &c. &c.

The practical deduction from this is, that vessels are at present placed between the Scylla and Charybdis of danger and delay.

I have, in the head of this Chapter, given an extract from one of my Conversations with the Pilots and Fishermen; and I now take occasion to mention something which was said to me in the same spirit, on the day when I went down the river to examine the Lord Newborough, as she lay upon the Whelps, and to make inquiries on board of her, into the circumstances under which she had struck upon them. In going down the river, accompanied by Picket, Baldwin, two Martins (father and son), and Magragh, all Pilots, and the Fishermen whom I employed as rowers; on my inquiring about the part of the Narrows where the vessel had been wrecked, one of the Pilots, after describing it to me, thus concluded—" *Often the*  
" *same place made the hair of our head stand on*  
" *end!*"

I noted these words very particularly at the time; and I am equally particular in introducing them here, by reason of the coincidence in spirit with what I mentioned before;—for they appear to indicate a kind of habitude of the sense of danger in this part of the river;—and the speaker,

without any hesitation, took upon him to answer, not only for his own terrors, but for those of all the others who were present too.

Among the perils of the Narrows, it is heart-sickening to be constrained to mention the atrocious spirit of the Cratloe peasantry, who, descending from the woods and mountains in the vicinity, when vessels are in distress, instead of affording them any succour, approach in their boats only for the purposes of plunder. This may be observed even in Limerick itself, from the turrets of the steeple of St. Mary's Cathedral, with a telescope, where (as there is a view of eighteen miles down the river) the Ship-brokers have a watch, to give notice of the approach of vessels from the Atlantic.

The day before that on which I was aboard the Lord Newborough, the crew had been under the necessity of preparing their arms, to prevent some of the Cratloe-men, who were in a boat alongside, from forcing their way on board; and the day after, one or two of them, who, under some pretext, were admitted, while the crew was engaged in throwing the cargo into lighters, contrived to open the chest upon deck, in which the arms had been laid the day before, and stole out of it a pistol, with which they got away.

The son of another Limerick Ship-broker (Mr. Mullock, jun.), mentioned to me, that in the last year of the late war, his father had been obliged to send a corporal's guard on board some of his ships,

to prevent them from being boarded and plundered in passing this part of the river.

A western boat was some years ago plundered by these mountain robbers; the unhappy crew was murdered, and then buried in the mud.

There is, near Kilbaha bay, in the lower Shannon, a spot believed to be haunted. The crew of a Portuguese vessel was here savagely murdered; and their spirits are believed by the peasantry to glide at midnight about the place where this deep damnation was perpetrated.

Among many other superstitious and romantic legends of this part of Ireland, is one of a spectre-ship, that shews itself amidst the storms.

There is a point which ought not to be omitted by any one who writes upon the means of diminishing the dangers of the Navigation of this part of the Shannon. Pilots ought to be ordered to ascertain with accuracy, for themselves, what number of feet of water the vessels draw that they take in charge, and not to depend upon the reports of any other person whatever. A Master told a Pilot that his vessel drew thirteen feet ten inches; now she really drew fourteen feet and a half. I give this as an example.

CHAP. II.

THE NORTH AND SOUTH PASSAGES — AND THE  
BEACON TOWER ON THE BEEVE ROCKS.

And the Lord went before them \* \* \* \* \* by  
night, in a pillar of fire, to give them light \* \* \* \* \*  
And the Children of Israel went into the midst of the sea.

EXODUS, chap. xiv.

INSTEAD of detailing what I think ought to be done for the improvement of the Navigation of the Narrows, I shall continue the description of the dangers along the line, as far as they can be considered to have an existence; and I shall then endeavour to give a general and comprehensive exposition of the measures which, after a great deal of meditation upon the subject, I believe to be the best calculated for effecting their removal.

I have already said, in the words of one of the Pilots (Magragh) who gave me the angles of the currents, that, "after passing Sod-island point, "there is a straight tide, and FAIR PLAY, to Bahy "castle."—So there is; but certainly not before; for, as was said in the same page, "the *whole* tide "from Grass island sets right down bodily upon "the Big-bird rock, near Sod island;" and this rock is the point which, in this part of the river, sepa-

rates the north and south channels. It is so called from its resemblance, when seen at a distance, to a black water-bird floating upon the river. The two channels are separated, a little lower down, by the middle bank of Sod island ; a sand-bank, with several rocks on it, which extends from the island to the westward for about three miles.

Of these rocks; "the westernmost begins to dry " at half-ebb ; the next appears at two hours' ebb ; " the third is not quite covered at high-water " neap-tides. The easternmost one dries at three- " quarter ebb. The west end of the sand on which " these rocks lie, is always covered with from two " to six feet. The extremity of this part of the " sand bears north-east by north from Bahy castle."

Now the tide, "THE WHOLE TIDE," sets from Grass island so vehemently down upon the Big Bird, and the foul ground by which it is surrounded in heavy floods (I of course do not mean flood-tides), in calms, that vessels are sometimes "DRAGGED down" towards that rock by the current, and are in imminent peril, unless they can come to anchor ; and that peril arises from a two-fold cause—*First*, To get into the north channel is very hazardous, under the drift of such a current as I have described, by reason of the narrowness of the entrance to it, and the extreme foulness of the ground to the north of "the Big Bird." This rock is described by the Pilots and Fishermen as "a very bad rock, with a hard root and tails ;"

and the foul ground extends not merely to the north, but for a considerable way around it in every direction.—*Secondly*, Even though, by good fortune, or the perfection of good piloting, the vessel, so “DRAGGED down upon the Big Bird,” should effect the entrance of the north channel without striking on the rock, “the hard root,” or the tails, or receiving damage to her bottom on the foul ground; yet still there is very great peril in running through it now, even though the channel itself be perhaps better than the south one.

I now come to a subject on which there is a very great and general error among those who have not given it due consideration—I speak of the danger to vessels at the “Herring rock,” near Ahenish island, by reason of the vehement current “which sets right down upon that rock “from the Beoves;” and I affirm, that the extent of that danger has been enormously exaggerated. It is, I most freely acknowledge, an exceedingly dangerous part of the river *in a dark winter night*, even with the very best piloting, in a strong ebb-tide; but by day, the peril is not in the tide, however rapid be its current; nor in the rocks, however far they extend under water; but in the ignorance or obstinacy of pilots and crews.

I shall shew the mode of removing the danger of this passage by night, when I come to speak on the subject of improvements. With any point lower down the Shannon than this, I have nothing to

do ; for there is such open " sea-room " and deep water lower down, that it would be wild and reckless speculation, were I to advise laying out one shilling on any part of it, while there is work of so much more importance to be done nearer Limerick. However, as a vessel was lost, about fifteen years ago, in the very part of the river where I say I would not advise to have one shilling laid out in improvement, I shall give an account of the manner in which that vessel was sunk, to shew that it was neither in a " narrow channel," nor in " a rapid tide," nor an eddying current among rocks or foul grounds, but that it was in *deep water* (fifteen fathoms), and open sea-room.

I lay down as a principle, what is, I believe, acknowledged by all seamen, viz. that if a vessel be "*taken aback*" by a violent wind, unless her masts go by the board to ease her, she must go down.

The following is an account of the loss of the "Alice," near Foyn's island. I wrote it down as it was given me by old Martin, the Pilot, who has been fifty years on the river, and who told me that " it was he took all the souls out of her."

" She was coming down with single-reefed top-sails, the wind at south. There was a *squash* of wind came suddenly, and struck her, and put her on her side. They could not ease her, she lay so much on one side. The Pilot came from below ; and seeing her on her side, gave the

“ helmsman a push, saying to him at the same time, ‘Why don’t you ease the vessel?’ At this moment another sudden squall came, and taking her aback, ~~AS SHE HAD NO LIFE THROUGH THE~~ water, heaved her in such a way bodily round, and threw her so completely on her side, that down she went, body and bones.”

I now come to the subject of the Improvements I recommend; and the exposition which follows, is very nearly *verbatim* the same that I gave\* when I

\* MEMORANDUM.

*Moriarty's Hotel, Limerick,  
Friday, Sept. 14, 1827.*

I this day gave the Directors of the Chamber of Commerce, a detailed exposition of the nature of my Plan for the Improvement of the Navigation of the Shannon, below this city. I made a request that the best Pilots on the river should be called in, to be present while I was speaking. The Directors did not think this necessary; but I requested it as a personal favour; for, as what I had to say was not on a matter of abstract science, *but of practical Navigation, the Pilots, from their experience, were the very best judges who could be found in the world.* They were then called in. As soon as they were present, I went methodically and in detail into the subject; and the three Pilots agreed with me upon every point of it. The Resolution I required was then passed by the Directors; namely, that “if the Improvements I recommended were to be carried into execution, the Trade of the Port of Limerick would be materially benefitted.”

T. S.

brought the matter forward at a Meeting of the Directors of the Chamber of Commerce of Limerick. Adhering to the same methods which I adopted in speaking before the Directors, I shall not here mention first in order, the most important improvement which could be effected on the river, speaking of it absolutely, but that which would be of the greatest importance, in proportion to its cost; that which would give the maximum of advantage on the minimum of expenditure. I shall preserve the same method in speaking, not only of this first improvement, but of all the others, in their order. I say, therefore, that the improvement decidedly of the greatest utility, in proportion to the expence of carrying it into execution, would be the establishment of a light, during the winter months, in the Beacon-tower, on the rocks called the Beeves. This would cost little or nothing in the first instance; not more than the expence of the oil, the reflectors and lenses, and fitting up a little room in the Beacon-tower. The Pilots, who must be good authority in this case, assure me, that they know very well the owners of vessels would joyfully contribute the sum necessary for paying the person who should have the care of the light, and all the other necessary expences.

“ Vessels now, in the long winter nights, often  
“ loose a passage, both above and below the Beeve  
“ rocks, by being obliged to come to anchor,” not  
daring to risk the passage in the dark in that

vehement tide. Now this is solely for want of a light to direct them; and the loss even of a single tide in the Shannon, to vessels outward-bound, is considered a matter of no light importance by their owners, if they happen to observe the setting-in of a westerly wind.

The Pilots tell me, that if they had such a light as I recommend, and urge the necessity of establishing, instead of being constrained to anchor, they could pass down the river at any time of the night, without apprehension of being drifted on the Herring rock, of which, in the dark, they are at present in terror in the rush of the ebb; and then, after passing the point of Tarbert, they would have the light at Carrickaholt, and finally the light at Loop-head, and so get out to sea.

I have lately read of a natural light which has burst forth upon the shores of Lake Erie, in North America. The flame ascended through a chasm of the rock, and burned uselessly upon the ground. A hollow pedestal was reared over it, that the flame might ascend through it, and gleam from its summit, as a beacon light for vessels. They had the light, and wanted the pedestal—now we only want the light, for we have the pedestal ready formed in the Beacon-tower.

I strongly recommend placing a buoy upon the Herring rock, below the Beeves; because I know that it would be an advantage (although by no means absolutely necessary), that the Pilots should

have a fixed mark on which to rest their eye by day, when sailing in a current so vehement as that which sets on the Herring rock from the Beeves.

Notwithstanding the vehemence of this current, and the extent of the tail of the Herring rock, there is such good sea-room in this part of the river, that even though I do recommend putting down this buoy, I affirm, in direct opposition to a very generally received opinion, that there is no danger of passing the Beeves by day, except the danger arising from bad piloting or bad seamanship.

An hermaphrodite schooner was wrecked upon the Herring rock in October 1822. I heard the Pilot (Picket), upon whose judgment, in the navigation of this river, I have the greatest confidence, one day talking on the loss of this vessel with one of the Fishermen—"I suppose," said the Fisherman, in speaking of the Pilot of the schooner, "that the tide dragged him upon it."—"What's anchors for?" was Picket's decisive reply. I say decisive, for here there is such deep water, that there is no danger of an anchor running through the ship's bottom when dropped from her bows.

I have said, and I repeat it, the danger here by day is not in the rocks, nor in the current, though it sometimes drifts with so much violence as it does. The danger is in the Pilots: if they do not acquaint themselves with the force, and direction, and variation, of the currents, and act promptly and decisively upon that knowledge.

"If they," said Picket, as he one day stood by me at the helm, instructing me how to steer through this passage, "will not have a knowledge of the tide, and be beforehand with the tide, what must they expect, Sir?"

To pass here with security, they must both "mind the run of the tide, and keep the rock of the Beacon-tower close aboard;" and if the vessel does not answer her helm, to keep her off the Herring rock, I ask, "what's anchors for?"

The camel is called in the East, the ship of the desert; and a ship was called by the ancient Scandinavians, the horse of the ocean. Now, what should we say of any one who called himself a fox-hunter, and who, if he found his horse running away with him, and drifting him towards a gravel-pit, or a crag, or the verge of a cliff, should choose to forget that he had a bridle in his hands? And in the very same manner, if a Pilot, finding his horse of the ocean running away with him in a current, towards some shoal ground, or a rock, or another vessel—what should we say of him, if, finding himself in this situation, and being without wind to command his vessel, he should choose to save himself the trouble of remembering that there was an anchor at the bows?

I introduce here, for its practical force, a precept given me by the same Pilot; an admirable one in practical navigation, and not less admirable as a metaphor in the navigation of a certain tide of

"russian billows" mentioned by Shakspeare—the "tide in the affairs of men." "You must take the tide BEFOREHAND, Sir: its no use to be a Pilot, even though you know the rocks, unless you have the knowledge of the tide BEFOREHAND, and to be BEFOREHAND with it."

The importance of the light, for giving an increased security at night at this part of the river, will be more manifest by a single glance at the chart; for although the tide in the Narrows be so vehement in the ebb, the ebb-tide at the Beeves is still more so; and that tide sets down directly upon the Herring rock. The reason is this: some miles above them, opposite Grass island, the two rivers, the Ougarnee and the Maig, empty themselves into the Shannon; and the channel of the Fergus is above them too. I say *the channel* of the Fergus, which is between the Horse rock, Moylan's rock, and Moylan's children.

It is to be further observed, that the mouth of the channel of the river Fergus being on the north side of the Shannon, there is consequently here a cause not only of the increase of the force of the current, by the additional body of water of the three rivers, but an additional impulse of that current towards the Herring rock on the south side.

I have purposely let my boat drift through the passage by the Beacon-tower, to ascertain for myself the direction of the current, and its velocity; and although I should have no more apprehension

for the security of a vessel passing here by day-light, with any of the Pilots who were in the habit of attending me, than I should feel if she were at anchor in the Pool of Limerick—I again urge the necessity of a light in the tower, during the long and dreary winter nights.

“ But chiefly spare, O, King of Clouds,  
The seaman on his airy shrouds.”

CAMPBELL. *Ode to Winter.*

## CHAP. III.

## DIMINISHING THE DANGER OF THE NORTH CHANNEL.

" This passage is never made use of, except when vessels are dragged  
" down upon the Big Bird by the heavy tide."

*(Extract from Notes of Conversations on the River,  
with Pilots and Fishermen).*

LET me now imagine that it were to be said to me, " you have examined the state of the Navigation of the Shannon, you say, with great care, and you hope with great accuracy, as in your several excursions on the water, you made it a point to be attended by some of the best Pilots of the port of Limerick, and by Fishermen familiarized with every part of the river. You say too, that these Fishermen know the situation of rocks and shoal grounds with extraordinary accuracy, by the infallible experiment of often touching them with their nets. You say furthermore, that you have sought information in every other quarter in Limerick and Clare, where you could hope to obtain it. Now, therefore, as the practical result of all this, what do you propose as the most important improvements which could be effected in the Navigation—im-

“ improvements which would require the application  
“ of some fund for carrying them into execution?  
“ That at the Beeves, viz. the light during the  
“ winter months, would be paid for, you say, by  
“ the Masters of vessels, without encroaching on  
“ any sum which might be appropriated to the  
“ improvement of the other parts of the river.  
“ State those improvements, in what appears to  
“ you to be the order of their relative importance.”

To this I should immediately reply:

*First,* The work of the greatest importance, without any question, would be clearing the tail of the Cock rock, opposite Conoh-point, *by reason of the length and extreme narrowness of that rocky passage; and because the whole of both tides sets a vessel right in on it.*

*Secondly,* Next to this, the work of the greatest importance would be, the removal altogether of the Kippen rock on the north mud, near the fort of Cratloe.

*Thirdly,* After this, the most important improvement which could be effected, would be to diminish the danger of the north passage, between the middle bank of Sod island and Tradree, in the county Clare. There are other points, of minor importance, which I shall notice *in transitu*.

Let me now imagine that it were to be inquired of me—“ Do you therefore propose that, in the first place, the tail of the Cock rock should be cleared,

" which should be done under water, and rendered less foul, to give a greater amplitude to the passage at that point—the commencement of the NARROWS?"

I should reply to this—Permit me to make a distinction. If you ask me my opinion of the absolute importance of the work necessary to be done at those points I have named, without relation to expenditure, the order I have mentioned is certainly, I think, the true one. But if you allow me to give the subject consideration, upon another, and a more practical principle, I should invert that order, and speak, not of what I conceive to be the work of the greatest absolute importance, but of what was of the greatest importance in proportion to the expenditure; taking these two considerations, not separately, but in combination.

Upon this principle of taking them conjointly, I say that the most important improvement beyond comparison which could be effected with the smallest expenditure, would be diminishing the danger of the passage through the north channel;—next, of the least expence in proportion to its utility, would be the removal of the Kippen rock;—and, lastly, the most important of all, but at the same time the most expensive, would be the clearing of the Cock rock.

The entrance to the north passage I have already described, as being near the Big Bird;

and I have also said, that "*the whole of the tide  
in the ebb, sets bodily down upon this rock from  
Grass island.*"

It is here to be observed, that two of the rivers which increase the body of the Shannon, the Ougarnee and the Maig, enter it near Grass island, and consequently add considerably to the strength of this current.

Now the Pilots tell me, that although, at present, the north passage is never attempted except through overwhelming necessity (a necessity very expressively described in the heading of this Chapter), yet if there were some buoys put down at points which they determined at my desire, they would run through this channel without any positive apprehension of danger. They have, however, at the same time frankly acknowledged, that "they would never take it by choice;" never enter it at all, unless constrained "by necessity," viz. by being "dragged into it by the current, or driven into it by the wind." They wish for two buoys, one on the north, and the other on the south of the Big Bird; one on Great Limerick, one on Fergus island, one on Little Limerick, one on the Bridge rock, (the Bridges, Gallivan's rock, &c. &c. are in the south channel), and one on the Bank rock, Carrickocloush. They are also very anxious for buoys upon the Small rock, and the Horse rock.

At present, Pilots have to let go their anchors when they find themselves drifting down upon the

Big Bird in the heavy tide: but this resource is not unattended with danger; "for if, after they " have dropped anchor, the tide shall fall, and the " wind change, and the weather become rough " and stormy, they may be driven upon their own " anchor, so that it may go through their bottom."

Since I am on the subject of placing buoys, I think it important that one should be placed on that sunken rock in the Narrows, called Dirty Billy; one near the Hogshead rock; and two others at points which I shall mention hereafter. The one at present near the Big Bird, wants to be attended to and repaired, for it does not "watch."

I am not writing an abstract essay on seamanship; laying down the positions of buoys on a chart, as if they were only mathematical points; I am writing *practical suggestions* upon the means of diminishing the dangers of a particular river; and I wish it to be distinctly borne in mind, that I do not recommend any thing so useless as putting down these buoys in the Shannon (for this would be but to waste money), without at the same time appointing persons, whose interest it should be made to guard them, and to be responsible for their security. I do not know what the law may be upon this matter, but I think that any of those who steal the buoys for the iron of the hoops, ought, if caught in the fact, to be immediately drowned, without any kind of scruple. House-breaking and highway-robbery are as virtues which ought to be

honoured and rewarded, in comparison with this combination of what may be called robbery of merchants, and murdering of seamen.

The Kippen rock lies in a direct line between the noble ruin of Carrickogunnel castle, in the county Limerick, and the ruined mass called the Fort of Cratloe. Now, the great importance of the removal of this rock, will I think be very clearly perceived, on taking into consideration the circumstances which I shall detail. A very strong current sets from Harrold's rock, directly upon the Kippen rock, in both tides, but most dangerous in the ebb. The rock, without taking into consideration the tails, *which do not extend very far*, is about twenty-five yards from north to south, and about seventeen from east to west, and has about six and a half or seven feet of elevation at its highest part, above the slob of the north mud. Now, this rock is so close to the Spit of the Whelps, and so narrow is the channel at this point of the river, that when there is not wind to command a ship, or when you have not a lively vessel, but one that moves like a log in the water; "a heavy, " clumsy, bladder of a ship, that won't answer her " helm; when they are swept down by the rapid " current that sets upon the Kippen, and would be " very glad to hug the north shore [viz. keep close " to it] if they could; if they can't check them- " selves to the southward with their kedge, they " are obliged to run their vessels themselves upon

" the Spit of the Whelps, that they may not wreck  
" upon the Kippen." The vessels that strike in  
this manner, are obliged to remain until the next  
high tide, when they get off; like the secrets of  
some men, that stick in their foul grounds while  
they are sober, but get up steam, and crowd sail,  
on a spring-tide of wine. They certainly lose that  
tide at least, and perhaps many more, to say nothing  
of the risk of injury by running their vessels in the  
manner I have described, if the weather should  
become stormy while they are aground; and that  
they must do it, is certain, "unless they are active  
" enough with their kedge to keep her from the  
" rock, by checking her to the southward."

It may be asked, "Why run the vessel upon the  
" Spit of the Whelps, instead of coming to an-  
" chor?"—The answer is this: "Unless you have  
" time to haul the vessel round with boats, if you  
" drop the anchor from her bows, it will run  
" through her bottom in some periods of the  
" tide."

If a vessel strike upon the Kippen, from its  
nature and form, I think she must either crash on  
it by her own weight, or tumble off in the manner  
which seamen call *turtle-wise*, with the falling tide.

The *direct* effect of the removal of this rock,  
may be inferred from what I have just described;  
but without hazarding an opinion, I submit for  
consideration, whether another consequence would  
not result from it, and one of so much importance,

that the proximate and mediate practical benefit will scarcely be more important than the mediate and more remote one.

In the page where I gave the angles at which the currents set on the different rocks in the Narrows, I mentioned one (the third) which sets "from the Kippen down to the south-west, towards "the Whelps and Scarlets." Now I am very strongly of opinion, that the removal of the rock will annihilate another element of danger in that part of the river; namely, this angle at which the current shoots off from the Kippen, in the direction of the rocks that have been just mentioned.

If the Kippen rock be removed, in addition to the advantage of an increase of the actual breadth of the channel, of several fathoms, the current will I think then set fairly down the north channel; instead of drifting, as at present, at an angle to the south-west; viz. *an angle at which it drifts directly upon the Whelps and the Scarlets.*

The Pilots have often spoken to me, in passing these rocks, of the great benefit that would be done to the Navigation of this part of the Narrows, by clearing the extremity of the tails by the use of a diving-bell, or any other means which I could contrive to put in operation under water; and of course it was impossible that I could dissent from their opinion. But it appears to me, that the removal of the Kippen rock will of itself produce a practical effect, to a certain degree equivalent;

for the danger here is (if I may so express it without quaintness) in a ratio compounded of the length of the Whelps (which diminishes the breadth of the north channel), and of the quantity of the angle at which the current shoots on them from the Kippen. Now if, by removing this rock, you diminish the cause of drifting on them, by a quantity generating, say ten fathoms of latitudinal drift, its effect will be I think equivalent to the actual removal of ten fathoms of their tails. If this were done, and what I am now about to recommend besides, I think this part of the Narrows would be very much improved.

First, I strongly recommend, that there should be two buoys put down on the tails of the Whelps and Scarlets, and most firmly moored; with rings in them, to check vessels by, which, in such currents as those of this part of the river, will be found of infinite utility.

Secondly, *The sunken rock, Shaw-a-Garra*, about thirty fathoms to the north of the Whelps, ought to be marked too—to be avoided.

Thirdly, The buoy near the tower of the Scarlets ought to be removed to the north of its present position; and the tower itself ought to be regularly graduated by circular lines of white, and numbers marked on it in white, to shew the depths of water to vessels on the river.

The Kippen rock might be so very easily removed, that I told the Directors of the Chamber of Com-

merce it might be done by any common blaster of rocks in the country.

It is to be observed, that there are many of the tails of the rocks below Limerick, of which parts might be cleared away with very great advantage by the most ordinary kind of labour, and without the necessity of any diving apparatus whatever; by merely getting men to work at low water, and especially at "*great low water in summer.*" Some very useful work of this kind has been already done near the tower of the Scarlet rocks. Men accustomed to work in the limestone crags, and who have acquired that tact in quarrying, which they call in this county (Clare), "*the knack of getting under the stones,*" would do work of this kind on moderate terms, and I think very rapidly too, if it was given them by task-work, instead of hiring them by the day. The upper parts of the tails being cleared in this manner, the parts always under water might be cleared of the largest and most dangerous masses of rock, either by the use of a diving-bell, or perhaps of another machine, the principle of which I shall hereafter describe. The diminution of danger, if what I have recommended were carried into execution, would be I think to an extent of which those alone who have devoted some attention to nautical affairs, and take an interest in them, can form any conception.

The effects of wintry storms, and sudden squalls, and "*squashes*" of mountain winds, and eddying

gusts in the air, and vehement tides, and angular and eddying currents and floods among rocks and foul grounds in calms, (when of course ships become ungovernable for want of wind); which currents and eddies then become a kind of aquatic storms and whirlwinds; in narrow, sinuous, and rocky channels: these effects, I say, are not at all necessary to be described to those who have ever had any nautical experience; and it is, of course, equally unnecessary to impress on them the advantages, when it can be effected, of rendering these channels less rocky, less sinuous, and less the beds of fierce angular and eddying tides.

Speaking of it as an abstraction, and without any relation to the cost,—no more than if the work could be done by uttering the words, “Let it be “done!”—the greatest improvement, as I have already said, would be clearing the tail of the Cock rock, opposite Conoh-point, to give greater amplitude to the passage, which is here as narrow, and much longer, than any other on the river. *There are not more than twelve fathoms from the tail of the rock to the opposite bank, and it extends in length not less than one hundred and twenty fathoms.* I have measured it at low water, with great care and attention, accompanied by the Pilots. Now, between the tails of the Whelps and the sunken rock, Dirty Billy, there are thirty fathoms; and between the tails of the Scarlet rocks and Gregg island, there are twenty fathoms clear. The whole

breadth of the Shannon at the Cock rock is about ninety-two fathoms, viz. twelve fathoms of channel between the tail and the north mud, and on the south, about eighty fathoms, of rock and foul ground.

"Is not this a narrow place, Sir, to knock a 'tack out of a vessel?" was the question of the Pilot Baldwin, in passing here; and his remark which followed, was very forcible and expressive— "If there be some ships here together, the middle one will find herself in the centre of a hobble!" On hearing this observation, another of the Pilots who was in the boat told me, that "one day he was going down the river, and that the wind suddenly took him aback in this passage, and that he had to *back and fill*\* through it, and that several vessels that were above him, seeing the plight he was in, immediately let go their anchors." He then said, "I have often given the tail of the rock a box with a vessel, and couldn't help it."—I heard him afterwards speak of this

\* *Back and fill*.—As the nature of this process may not be generally understood, it will not be out of place to explain it here. Suppose a vessel going down through the narrow passage with a leading wind, and that the wind should suddenly head her; in that case, you bring her head up to the north bank, and then heave all aback, and give her stern-way, till you find her heel coming too near the tail; then square her yards, and fill her sails again, and bring up her head as before; and repeat this process until you have her clear.

to the Captain of one of those vessels that had come to anchor (Captain Doughall), who observed in reply, that "no one who had not actual experience of the Navigation of the river, could suppose that "the channel was so narrow as it is."

The Cock rock is, in the opinion of the Limerick Pilots, the worst of the worst part of the river, viz. the very worst of the Narrows; for, in addition to what has been already mentioned, "THE WHOLE "OF BOTH TIDES SETS A VESSEL RIGHT IN ON IT."

There are tremendously heavy currents drifting here, and in the other narrow channels in winter, in the ebbs; and by reason of the vicinity of the extended ridge of the Clare mountains, all this part of the Shannon abounding in rocks, and shoals, and foul grounds, in addition to the ordinary danger from storms blowing (to use a poetical expression which has been applied to the wind) "with "unrelenting force" from a particular point—is in winter peculiarly subjected to frequent, furious, irregular, capricious eddying gusts, and squalls and "squashes" of mountain wind. The Pilots are constantly under a necessity of kedging their vessels through these passages.

I ascertained the nature of that part of the Cock rock which is always under water\*, in the following manner: I had my boat rowed slowly and stea-

\* There are about fourteen feet of water in this passage at half tide. The difference between the highest and lowest tides is about eight feet.

dily over the rocky tail at "great low water," and particularly along its extremity, the Pilots then steering the boat by their land-marks\*. I have, upon these occasions, heaved the lead; but instead of raising it as in taking soundings, taking care to have the boat's velocity as nearly uniform as possible, I have trailed it along the bottom. Now I found the actual resistance, and what Pilots term *the jump of the lead*, to be in every part equable. It is particularly necessary that the uniformity of my own motion should be kept steadily in contemplation, as it enables me to deduce a practical conclusion of accuracy quite sufficient for my present purpose.

Having, by the experiment, established the fact of the equality of resistance, and equality of *jump of the lead*, on every part of the rock that was under water, I got out of the boat, and supporting myself in the current by the gunwale, I walked over every part of the tail that was not beyond my depth. Now, as the velocity of the boat was uniform while I trailed the lead along the bottom, there was consequently no secondary cause in operation to generate a variation in the quantity of resistance and quantity of the jump. I therefore infer directly, that the part of the tail of the rock which was beyond my depth, and which I could

\* The *little castle* (there are two) of Cratloe, under a particular point of a certain mountain above the wood, and the head of a small island appearing in front of a particular bush at Tervoë.

not walk on, is just of the same nature with that on which I could.

Again—The part on which I walked, was just of the same nature with a part of what is visible above water when the tide is very low; so that, ultimately—trailing the lead along the bottom, and using my legs and feet as instruments of mensuration in the part within my depth, determined the fact I wanted to ascertain, just as well for my purpose as if I had inspected in a diving-bell the bottom of the part beyond it. Neither the loose masses, nor the protuberances which elevate themselves from the rock, are *in general* of any very great magnitude. There are several enormous lumps scattered over the tail; some loose\*, and others forming a part of its actual solidity. Now if there were only three, indeed if there were only one, of these masses rearing and upheaving itself above the general level, without having its situation perfectly known; the removal of that single mass would be, for all the purposes of practical navigation, virtually *deepening, by a quantity equal to its altitude, the whole of that part of the channel.*

A clearing of this kind on the verge of the tail, will also give; of course, *an additional quantity to the breadth of the channel.* At present,

\* There are some dark masses close to the south bank, which afford an example of the magnitude of some of those which, under water, raise themselves above the general level of the tail of the rock.

however wide the river between Conoh-point and Tervoë, vessels cannot, without striking on those rocks, deviate from the narrow track marked out for them by the bearings. Now, many of those loose masses might be removed under water by the diving-bell, or perhaps by another machine, of which I shall describe the principle, and of which the construction suggested itself to me since I began to meditate on the present subject. Some might be broken under water with wedges, and sledges, and crows, and some of the solid protuberances\* blasted with gunpowder.

Many other useful works might be executed at other points of the river—clearing the tails of the Whelps and Scarlets under water, clearing the tail of Laheen's rock, clearing away some of the top of Shawn-a-Garra, &c.; but the immediate advantage would not be by any means proportionate to the expenditure.

The rational mode of proceeding appears to me to be this—Let us, in our generation, make such improvements in the Navigation, at a moderate expenditure, as may cause a proportionate improvement in the commerce of the city—and in the city

\* Some very important work was done under water in the Thames, near the entrance to the West-India Docks at Blackwall; but there the substance is not rock, but a concretion of flint and gravel, and other substances; and although exceedingly heavy, gunpowder takes no effect on it, at least not sufficient to use it as an agent.

itself, as the necessary consequence. Let another generation make improvements, at an expenditure proportionate to what Limerick may be then; but let us, in our age and generation, set the example.

In writing upon the improvement of the Navigation of the river of Limerick, I should be guilty, I think, of a very great omission, were I not to mention a plan which was proposed some years ago, of forming a canal, to cut off the reach of the river between the Pool and the Hole. The plan is not mine; but it would be of extraordinary utility if carried into execution. Vessels are now not unfrequently detained, for perhaps seven or eight days together, by the setting in of northerly or of southerly winds;—for, first, if the wind blow (“with unrelenting force” from the north, and unless it be a little free, vessels from Limerick cannot get round the point, and must remain in the Pool; and if the wind blow) unrelentingly from the south, and without being a little free, they cannot get round the point in going to Limerick, but must remain in the Hole.

What I have said, and a glance at the chart, will so very clearly demonstrate the importance of a canal, to permit vessels to pass at all times, that it would be an excess of absurdity, were I to dwell upon it for a moment longer.

I have thus endeavoured to give a general and comprehensive view of the nature of what I propose for the improvement of this noble river; and when

I remember the number of direct inquiries I have made, the number of conversations I have (to use a vulgarism) "set agoing" among Pilots, and Fishermen, and Seamen, that I might extract their essence—I venture to hope that, whenever improvement shall be carried into execution, the foregoing observations may be found useful as a basis.

With the following most practical observation, I conclude what I have to say upon this subject:

In some cases where a work has been commenced, it may be of such a nature (for instance, the Thames Tunnel), that unless it be brought to the point of its actual completion, all the money expended will have been as utterly sunk, to those who advanced it, as if it had uncoined itself and sunk into its native mine. But in what I recommend to have done for the improvement of this Navigation, I could undertake in all cases to point out advantages, in constant and steady proportion to any sums which might be named, from 50s. to 50,000*l.* For example;

How might 50*s.* be laid out in an useful improvement?—Send a painter with a brush and a pot of white paint, to graduate the tower of the Scarlets, and paint figures, that the depth of water may be always known.

How 10*l.*?—Put down a buoy, with a ring in it, to check vessels by, in the heavy current on the tail of the Whelps.

How 20*l.*?—Put down another, of the same kind, on the tail of the Scarlets.

How 100*l.*?—Diminish the danger of the north channel.

How 200*l.*?—Remove the Kippen.

How 2000*l.* 3000*l.* 4000*l.* 5000*l.*?—Widen the channel at the Cock rock.

How 20,000*l.* 30,000*l.* 40,000*l.* 50,000*l.*?—Make the canal, &c. &c. &c.

---

#### NOTE.

For a general account of the Navigation between the lowest point I have described, viz. the Herring rock near Ahenish island and the mouth of the Shannon, I refer the reader to the following extract, from "Piloting Directions for the South, " West, and North Coasts of Ireland, from Carn- "sore Point to Rachlin Island; intended to accom- "pany a Chart of those Coasts; compiled from the "Surveys taken by order of the Right Honourable "the Lords Commissioners of the Admiralty, by "Murdoch Mackenzie, sen. and from those of "Captain Joseph Huddart and others, by J. W. "Norie, Hydrographer; in which are described "the Harbours, Anchorages, Rocks, Shoals, Light- "houses, Tides, &c." Printed in London in 1825, for J. W. Norie and Co. Chartsellers to the Admi-

rality and the East-India Company; and Agents to the Admiralty for the sale of their Office Charts; at the Navigation Warehouse and Naval Academy, Leadenhall-street.

"The river Shannon is of easy access, in which fleets of the largest ships may ride in safety. Ships, when a great distance off at sea, may know how to steer for it by the Brandon mountains, which may be seen fifteen leagues off. As they approach nearer to the coast, they will discover the Blasket islands, and the light-house on Loop Head. This light may be seen, in clear weather, at the distance of four leagues, and exhibits a fixed steady light.

"The entrance to the Shannon is formed by *Kerry Head* on the south side, and *Loop Head* on the north side; the latter bears from the former N. N. E. & E. distant nearly eight miles; between them are from fourteen to twenty-seven fathoms. Fifteen miles E. by N. from *Kerry Head*, and twelve miles E. S. E. from *Loop Head*, is *Beal Point*. *Beal Bar* is a sandy shoal, or flat, which extends about half a mile northward from the Point. In spring tides, part of it dries about a quarter of a mile from the shore; on its outer edge, or end, are three fathoms, and near to the outer edge are from fourteen to eighteen fathoms; and this part of the deep channel will, unless when the tide is slack, be always distinguishable by a ripple. To avoid this shoal, keep *Ray Hill* shut in a little by *Kilkadrane Cliff*. Above *Kilkadrane Point*, on which stands a light-house, is *Carrigahoul Bay*, a good place for anchoring: the marks for this road are, *Carrigahoul Castle*, bearing N. and *Kilkadrane Point*, S. S. W. & W. in from three to eight fathoms, the ground holding

well. In this bay, the stream of tide runs always southward, about one mile and a half an hour, when strongest. In the channel off Kilkadrane Point, the spring tides run about three miles and a half an hour, and the neap tides run one and a half. The tide flows here until three quarters past three o'clock.

"About four miles E. S. E.  $\frac{1}{2}$  E. from Beal Bar, and S. S. W. from the south end of Scattery Island, lies the rocky shoal called Rinanna; on the shoalest part of which, near the north end, are two fathoms and a half; on the other parts are three fathoms and a half at low water. The north end of the shoal lies with Scattery Tower on with the west end of the clay cliff, or south end of Scattery, and a north part of the Hummock, which may be seen on Kilkadrane Cliff, on with the top of Ray Hill. The mark for the south end of it is the top of Ray Hill, just open of Kilkadrane Cliff. To get clear of the south end, keep the top of Ray Hill a little open to the southward of Kilkadrane Cliff, or keep near to Carrigue Island. To go between the shoal and Scattery Island, keep Kilkadrane Cliff on with the south end of Ray Hill; this mark will carry you within a cable's length of the island. None but large ships, when the water is low, need be in fear of this shoal.

"*On the east side of Scattery, you may anchor with Beal Point (but not the castle), shut in with the south point of the island, and Scattery Tower bearing N. W. by N.; here you will have six or 'seven fathoms, on a bottom of strong clay. On this side of Scattery is a spit of sand, which runs out above a cable's length S. S. E.  $\frac{1}{2}$  E. from the point near to the old buildings; the least water on it is one fathom. There is also a small rock, about a cable's length from the shore of*

Scattery, opposite to Hog Island, which dries. Along the west side of Scattery it is shoal in most parts, about half a cable's length from the shore. On the north end of Scattery is a rock, which lies above a cable's length from the shore, and dries with spring tides: from the east part of this rock is a sand-bank, which extends to the N. E. point of the island. The tide at Scattery island flows until four o'clock. *The spring tides, when strongest, run about three miles and a half in an hour, and the neap tides run one mile and a half.*

"About six miles S. E. by E. from the south end of Scattery Island, is Tarburt Point. *In Tarburt Bay a ship may anchor about a cable's length to the southward of Tarburt Point, in four or five fathoms. This is a better road with the flood tide than with the ebb; the former, having very little strength; but the spring ebbs run at the rate of three miles an hour.* To the eastward, and about a cable's length from the opposite shore, lies Carrickvilaan rock, nearly in the direction of a straight stone wall that runs to the top of the rising ground above the shore. You will avoid this rock on the south side, by keeping the tower of Scattery Island on, or to the southward of the high water-mark of Tarburt Point. Between the rock and the shore of Kilkerran, is a passage, in which are two fathoms; to go through which, you should be careful to keep about half a cable's length from the shore.

"About four miles and a half from Tarburt Point is *Labbasheda Bay, where is good anchoring, about half a mile to the eastward of Red Gap, and nearly half a mile from the north shore, in from three to six fathoms. Here ships lie out of the stream of the tide, and have good ground.*

"About four miles from Labbasheda Bay is Foyn's Island. *The best anchorage for large ships off this island, is S. E. by E. from Chiracon-house, and S. or S. S. E. from a small island which lies about a mile to the eastward of that house, in from six to twelve fathoms; the ground good. It is high water about five o'clock. Spring tides rise sixteen feet, and neap tides eight.*

"Carrikaronki, or the Seal rocks, are two miles and a half to the eastward of Foyn's Island, and one mile E. by N. from the north point of Achnish Island; *they lie nearly in the mid-channel, and begin to appear at two hours' ebb.* To avoid them on the south side, keep the middle of Knockimore Hill a little to the southward of Rinellan Point, or *Beh Castle on with the middle of the low hill that extends northward from the hill beyond Limerick, called the Keeper;* the mark to keep you clear of them on the west side, is the houses on Low Island, in a line with the top of Inshtagrume Hill, &c.

"**TIDES.**—It is high water on full and change days, at the Tuskar, at 30 minutes after 6; at the Hook point of Waterford, at 30 minutes after 5; at Youghall, at 5; at Cork and Kinsale harbours, at 30 minutes after 4; at Courtmacsherry bay, at 15 minutes after 4; at Castlehaven, Baltimore, and Cape Clear, at 4; at Bantry bay, at 45 minutes after 3; at Kenmare river, and Dingle bay, at 30 minutes after 3; at the Blaskets, and entrance of the Shannon, at 45 minutes after 3; at Foyn's island, in the Shannon, at 5; and at Limerick, at 6 o'clock.

"*Along the south coast of Ireland, the stream of flood sets from the westward, and the ebb the contrary way. Off the Skellig rocks it divides into two branches, one*

stream running northerly along the coast, the other running south-eastward to Cape Clear, and along the south coast of Ireland, for St. George's channel. At the Bull, Cow, and Calf rocks, the stream of flood does not begin to run until it is half ebb on the adjacent shore; nor does the stream of ebb begin to run from the south-eastward, until it is half ebb on the shore. Between the Bull, Cow, and Calf rocks, and Dursey, its velocity, with spring tides, is three miles an hour, neap tides one; in Dursey sound four miles, when strongest; in Kenmare river it is scarcely perceptible, until nearly as far up as Rosmore island, where it runs about half a mile an hour. Near Mizen Head, the ebb runs three miles and a half an hour, making a rough sea; while the flood, except in blowing weather, is hardly felt. Between Cape Clear and Dundedy Head, if above one mile from the shore, the strongest tides do not run above one mile an hour; but when near the headlands, they double their velocity: it continues nearly at this rate as far as the Hook of Waterford, at which point, the meeting of different streams, occasions a kind of ripple on the water. Three or four miles off the Hook Point, the tide sets, for equal spaces of time, to the east and west, and the eastern stream runs until eight o'clock; off Cork, till half-after seven. Five or six miles from the shore, its rapidity does not exceed one mile an hour; but the current increases to three near the land. From Waterford to the Saltees, it runs one mile an hour; at the Saltees two miles; and off the Tuskar four miles an hour.

"The northerly stream which divides at the Skelligs, sets in from the S. S. W. running one mile an hour. Spring tides at the Blaskets run about two miles; in

Dingle bay it does not run above half a mile an hour, until near the entrance of Castlemain harbour, where it runs about two miles; *from the Blaskets to the Shannon it decreases its force, and becomes scarce sensible; but up the Shannon, spring tides run three miles and a half an hour; neap, one and a half.*

"The vertical rise of the tides at the Tuskar rock is 4 feet; off the Hook of Waterford, 13 feet; between Waterford and Dundedy Head, 11 feet springs, 7 neaps; Cork harbour, 18 springs, 8 neaps; Cape Clear, 11 springs, 7 neaps; Bantry and Kenmare bays, 11 springs, 5 neaps; Dingle bay, 11½ springs, and 7½ neaps; at the Blaskets, 8 springs, 4 neaps; *at the entrance to the Shannon, 12 springs, 8 neaps; at Carrigahoul, 11 and 12 feet springs, and 6 and 7 neaps; from Foyn's island to Limerick, 16 feet with springs, and 9 feet with neaps;* and time of low water is generally six hours after the time of high water."

There are no directions given in this book for bringing a vessel through the Narrows. It is said that, "IN THIS PART OF THE RIVER, THERE ARE SEVERAL ROCKS AND SHOALS IN THE CHANNEL," and that "those that INTEND TO GO UP TO THE POOL OF LIMERICK, SHOULD PREVIOUSLY BE FURNISHED WITH PILOTS."







