

10
IRISH INDUSTRIAL DEVELOPMENT.



IRISH HARBOUR ACCOMMODATION

AND

IRISH SEA FISHERIES.

BY

W. J. DOHERTY, C.E.

ASSOCIATE MEMBER, INSTITUTION OF CIVIL ENGINEERS ; MEMBER OF THE
ROYAL IRISH ACADEMY.

DUBLIN

M. H. GILL & SON, 50 UPPER SACKVILLE STREET

1884

Price One Shilling.

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DEVELOPMENT OF THE IRISH FISHERIES.

THE question as to how the Irish Fisheries can be best developed is one that has frequently presented itself, and one that has engaged the attention of many individuals, as well as of several Select Committees of the House of Commons, all, no doubt, anxious to place the Irish Fisheries on a footing commensurate with their importance. This being one of the natural and productive sources from which large numbers of the Irish people could obtain employment, of a kind lucrative to themselves and advantageous to the nation generally, it ought to be fostered and availed of to the largest possible extent.

Yet we find that, so far, this national industry has been retrograding instead of extending; and an examination into the chief causes of decay, and non-progress will receive from the majority of Irishmen of the present day due consideration, as they are anxious to lend a helping hand to further any feasible scheme tending towards keeping the people at home, wherein they can be usefully employed; thereby preventing and stemming the mournful tide of emigration, which is so destructive to the interests of the country and the advancement of Ireland as a nation.

It has been with these objects in view that the writer has examined the most recent evidence on the subject, and particularly the proceedings of the Select Committee of the House of Commons on Harbour Accommodation, during the season of 1883, upon whose Report, principally, the Act of 1883 was passed, enabling £250,000 to be expended from the surplus funds of the Disestablished Church, on the improvement and extension of Piers and Harbours on the Irish Coast. The examination into, and the determining of the most suitable sites, whereon this sum so granted is to be expended, is at present the subject of an inquiry by the Fishery inspectors, presided over by Mr. Blake, M.P., the member for the county of Waterford, to whose ability and practical knowledge of the subject, as well as to his pertinacity of purpose, a great deal of the credit of obtaining this moderate grant is certainly due.

As the Blue Book containing the evidence given before the Committee *in extenso* is of a very voluminous kind—seeing that it embraces the evidence given before the Committee, appertaining to the whole of the Harbours of the Kingdoms of Great Britain and Ireland—the writer hopes that by presenting, in a condensed form, an abstract of the chief evidence contained therein, relating to the kingdom of Ireland, he will by that means concentrate thereon the minds of Irishmen interested in the development of the country and this branch of its industry, who, if need be, can consult the record of the entire proceedings as set forth in the volume referred to, as ordered to be printed by the House of Commons, July 13th, 1883.

It will be seen, on a perusal of the evidence, that even to some of the Members of Parliament comprising the Committee, that the chief cause of the decay and retrogression of the Irish Fisheries is, in their mind, mainly due to the Celtic character; and to the belief largely existing in England and Scotland that Irishmen are unfitted by nature to develop, or carry on successfully, almost any occupation in the absence of the directing genius of either Englishmen or Scotchmen.

If, however, it be remembered that the Manx, Scotch, Welsh, and French fishermen are portions of the same Celtic family, from which are alike descended the Irish, this ascribing to the Celtic blood of the Irish people their backwardness in the ways of commercial activity and industry, falls to the ground; and the blindness that produces such a state of feeling, in otherwise intelligent observers, amounting to a national prejudice, cannot but be deplored.

Therefore it becomes the more necessary to set forth the true state of the causes that have led to the distancing in the race of our countrymen, on that field, the sea, by which so many of our counties are bounded, and to show the means whereby they can not only attain to the same degree of equality, but let us hope they may ere long surpass and out-distance in the progressive onward march the best fishermen of the adjacent countries.

Primarily among the many causes has been the unrest and uncertainty surrounding the whole life of Ireland, since the days of Elizabeth down to the famine years of 1846. It is well known to even English historians, that from an early date Ireland enjoyed the reputation among European nations, as being famous for its plentiful supply of fish obtained in her rivers and on her coasts. In the sixteenth century, the princes of Tyrconnel carried on a

brisk trade in fish with Spain, thereby earning for themselves the *sobriquet* of "Kings of Fish."

With the "Flight of the Earls," and the plantation of Ulster under James I., commenced the harassing of the native fishermen; the inland waters, being granted by confiscatory patents to adherents and favourites of the Lord Deputy, or directly granted from the Crown; while the cruisers set around the coast to prevent and intercept the return of the exiled nobility, and their Spanish or French sympathisers, prevented the native fishermen from attempting to prosecute their calling by sea, just in the same way that their agricultural and pastoral compatriots were hunted from the plains and valleys to the inhospitable fastnesses of the mountains.

These facts are so well-known and recounted by so many authorities, both English and native, that it is only necessary to allude to them here. Nearly the whole of the 17th century the same causes were at work, until after the revolution of William III., when the plantation had obtained a secure footing by the dispersion and destruction in a great measure of the bone and sinew of the Irish race, culminating in the surrender of Galway and Limerick, and the transferring to the services of France the remnant of the Irish armies, soldiers and leaders; thus the complete domination of the Irish race by the successful soldiers of William, for the time being, were indisputably established, obtaining control of the country and its destinies, until many of their descendants became *Hibernicis ipsis Hiberniores*, and in a century after proclaimed in an Irish Parliament the right of Ireland to make her own laws.

As has been truly stated, "there is no country in Europe, or probably in the universe, so admirably situated for an extensive fishing-trade as Ireland."

Here is a field for the employment of large numbers of fishermen, whose operations would afford sustenance to at least one-third of the present population.

In the palmy days of Van Tromp, the Dutch were masters of the Irish fishing grounds, having in 1615 as many as 2,000 vessels, manned by 37,000 men, engaged; in 1618 they had 3,000 vessels and 50,000 men, with the necessary transports, absorbing in fishing occupations and its adjuncts 150,000 men. Blake's victories destroyed the Dutch fisheries on the Irish coast, but it did not establish in its stead an Irish or even an English fishery.

Sir T. Charles Morgan, during an inquiry into the condition of the Irish Fisheries by the Commission of 1835, presented "an Historical Sketch of the British and Irish

Fisheries," in which he states that : " Fish being an article of produce that pays no rent, a free gift of nature to the captor, the employment of fishermen might be thought fully equal to take care of itself, and to require no *encouragement* to call it into activity. It is therefore not without surprise that the inquirer learns the vast efforts made by *powerful nations* to create a fishery, and so often made in vain."

If failure has been the result of the exertions of powerful nations, it ought not to be a surprise to modern economists, after examining the shifting scenes of Irish history, to find that little or no progress has been made towards placing the Irish Fisheries on a permanent basis up to the present time, although the resources of Irish waters are almost inexhaustive.

Sir James Ware, during the reign of James I., states : " Among the advantages of Ireland, her great and plentiful fisheries of salmon, herring, and pilchards, which, salted and barrelled, are every year exported to foreign parts, and yield a considerable return to the merchants." Sir William Temple, Secretary for Ireland, writes to the Lord Lieutenant in 1673 : " The fisheries of Ireland might prove a mine under water as rich as any under ground ;" and he even proposed that no individual should be admissible into the House of Commons, or receive a Commission of the Peace, unless he could show that he had taken a practical part in the extension and encouragement of this industry.

Licences to foreign nations to fish in the Irish Sea extends as far back as 5th Elizabeth, when the Irish Parliament granted such permission on payment of 13s. 4d. on twelve-ton vessels annually. Philip II. of Spain paid into the Irish Treasury £1,000 for liberty to fish on the Irish coast ; and the Dutch, during the reign of Charles I., paid £30,000 for a similar license. In 1650, as a matter of favour, Sweden had permission to employ 100 vessels in the Irish Fishery. During all this time the idea never occurred to our rulers that the resources of Ireland ought to be made available for the benefit of Irish subjects.

In the 7th George II., an Act was passed for the encouragement of the coast fisheries. Owing to the system of bounties having taken root in England, the Irish Parliament (3 & 4 George III.) naturally adopted it, and 20s. per ton granted on all deep sea fishings ; this was altered (25 George III.) and limited to fish-curing. The consequence of the change was great distress among the fishermen who had made their arrangements dependent upon its retention as originally intended. The passing of the Act of

Union, and the ephemeral attempts in 1803 to form companies to fish the Nymph Bank off Waterford, led to nothing.

The bounties of 25 George III. were continued till 25th of March, 1795; and, with some insignificant details, this Act regulated the Irish fisheries until 1819, when the Irish Fishery Board was formed, and the ten succeeding years was the period of the greatest activity in the Irish fisheries, but with its existence terminated the efforts to further the fisheries by pecuniary encouragement. From 1830 reaction had set in, till the famine year of 1846 had almost completely destroyed and paralysed the efforts of the Irish fishermen. The position of the Irish fisheries had improved from 1830, when the number of boats and vessels engaged were 13,119, and the number of men and boys employed was 64,771, up till 1845, when the vessels and boats were 19,883, and men and boys 93,073; after the famine they rapidly fell, and in 1852 the number of boats and vessels were 13,227, men and boys 58,822; they have steadily declined to 11,590 boats in 1862, and 50,220 men and boys, to 7,914 boats in 1872, and 31,311 men and boys. In 1877 the numbers had reached the low-water mark, when they stood at—boats and vessels, 5,382; men and boys, 20,393. When the rising tide set in, though slow and sluggish, in 1880, boats and vessels, 6,459; men and boys, 24,548; whilst in 1882, consequent on the depression of 1880, they fell again to—boats, 6,089; and men and boys, 22,391.

Now that increased facilities, by the expenditure of £250,000 (under Mr. Blake's Act of 1883) on piers and harbours, under the Fishery Piers and Harbours Commission (Ireland), 46 & 47 Vict., cap. 26, comprising the following gentlemen:—John Aloysius Blake, Esq., M.P., J.P., chairman; Thomas F. Brady, Esq., J.P.; Major Hayes, William Johnson, Esq., M.A., commissioners, and Allan Hornsby, Esq., secretary; office, Dublin Castle. It is to be hoped that with this stimulus, if expeditiously carried out, which the public believe will be the case, by the gentlemen entrusted with the allocation of the money and the selection of suitable sites, the Irish deep sea and coast fisheries ought to receive a revival of a permanent character; and that in a few years the position occupied by Ireland, when compared with England and Scotland in this branch of industry, for which our coasts and our people are so well adapted, will be less marked than at present.

A short glance at the position of the Scotch and English Fisheries will best convey the immense lee-way that the Irish Fisheries have to make up before they are placed abreast in the race:

SEA FISHERIES.

Number of boats and tonnage registered under the Sea Fisheries Act of 1868, in England, Scotland, Ireland, Isle of Man, and Channel Islands, on 31st December, 1882.

	1st Class, 15 tons & above.		2nd Class. less than 15 Tons.		3rd Class. Row Boats.		Total.	
	No.	Tons.	No.	Tons.	No.	Tons.	No.	Tons.
England	3,931	170,367	5,683	32,218	471	770	10,085	203,355
Scotland	3,966	72,398	8,055	37,686	1,874	3,800	13,895	113,884
Ireland	500	12,213	3,597	12,355	4,345	7,198	8,442	31,766
Isle of man	311	6,481	128	626	8	8	447	7,115
Channel Islands ...	36	932	270	672	33	36	339	1,640
Total	8,744	262,391	17,773	83,557	6,731	11,812	33,208	357,760

HERRING FISHERIES (SCOTLAND).

Quantity of Herrings Cured and Branded, and exported during 1880 and 1881.

Year.	Cured.	Branded.	Amount of fees for Branding.	Herrings exported to			
				Ireland.	Continent.	Other Places.	Total.
1880	Barrels. 1,473,600	Barrels. 689,286	£ 11,488	Barrels. 32,482	Barrels. 976,300	Barrels. 1,029	Barrels. 1,009,811
1881	1,111,155	494,182	8,236	33,460	711,448	972	745,880

Quantity and value of Fish exported to England from Ireland.

Year.	Salmon.		Herrings.		Mackerel.		Cod.		Total value.
	Boxes.	150lb per box, at 1s 3d.	Boxes, 2 cwt. each.	Value £2 per box.	Boxes 2 cwt. each.	Value 2s per box.	Boxes 2 cwt. each.	Value £3 per box.	
1881	154,532	£ 511,237	115,233	£ 230,466	83,459	£ 87,632	54,365	£ 163,095	£ 992,430
1882	132,886	308,306	70,057	140,114	61,289	64,353	37,758	113,374	626,147

The amount of Licence Duty received in Ireland for the different fishing agencies for taking salmon was, in 1880, £1,055; 1881, £9,362; 1882, £9,935. The total receipts for the sale of every description of fishing licence was, in 1880, £9,605; 1881, £9,869; 1882, £9,935.

Query.—To what purpose is this £10,000 a year applied? Could it not be devoted to the up-keeping and repairs of piers and harbours?

The mackerel fishing is important as a branch of the Irish fisheries; in 1881 the capture was 129,702 boxes of six score to each box; in 1882 the number of boxes was 199,779, valued at £128,473. To direct attention to the effects of facilities afforded by cross-channel traffic direct, and railway communication in connection therewith, the

new harbour at Greenore, with daily steamers therefrom, belonging to the L. & N. W. Railway Company, is an instance. In 1875 the number of fishing vessels that landed fish here was 412. In 1879 the number increased to 3,100. The daily number in season of 1881 was 175. The deduction from this is clear: place the Irish fishing harbours in direct communication with the railways, and make the harbours equal with deep water to receive steamers.

The inspectors of Irish fisheries, in a special report, do not advise extending to Ireland the Scotch branding system, there being, as they say, no *bona fide* desire for it amongst the Irish fishermen or curers, as the present supply of herrings caught in Ireland are principally sold fresh; but with an increased fishery for exported cured fish, this should be altered.

The oyster fishery in Ireland is at present not in a flourishing condition, owing to over-dredging and exportation of small oysters, the sum realised being under £50,000 a year. This branch of the Irish fisheries can and ought to be extended with advantage to the fishermen and to the producing powers of the country.

What should be borne in mind by the Irish members in any future proceedings, is that the amount hitherto expended on Irish piers and harbours from 1832 to 31st March, 1883, has been, as pointed out by Mr. Brady in his Summary of Expenditure, set forth at page 385 of the Blue Book, only £166,964 os. 4d. for fishery piers and harbours; and that the sum of £250,000 granted under the Act of 1883, is *wholly from Irish funds*; therefore, for harbours of refuge, the Irish coast is entitled to an equal share *pro rata* of any Imperial expenditure for refuge harbours given to the United Kingdom over and above this sum of £250,000; and even then Ireland will not have received the attention or an equal share of public funds for harbour accommodation, as compared with England or Scotland.

EXTRACTS

From the Report of, and Evidence given before, the Select Committee on Harbour Accommodation during the Session of 1883, particularly of that portion relating to Ireland.

THE House of Commons ordered, on the 13th March, 1883:—
“That a Select Committee be appointed to inquire into the Harbour Accommodation on the coast of the United Kingdom, having regard to the laws and arrangements under which the construction and improvement of harbours may now be effected;” and on the 10th May it was further ordered:—“That the committee do consist of twenty-three members, five to form a quorum.”

The following members constituted the committee:—

<i>English and Scotch Members.</i>	
Hon. E. Marjoribanks (<i>Chairman.</i>)	Sir Eardley Wilmot.
Mr. Stevenson.	Sir Edward Watkin.
Sir Thomas Brassey.	Colonel Walrond.
Viscount Baring.	Mr. Askers Douglas.
Mr. Arthur Arnold.	Sir Charles Mills.
Sir Donald Currie.	Colonel Mill Holme.
Mr. Hanbury Tracy.	Lord Rendlesham.
Mr. Hastings.	Mr. Guy Dawney.
Mr. Heneage.	
Sir George Balfour.	<i>Irish Members.</i>
Mr. Charles Ross.	Colonel Nolan.
Mr. Salt.	Mr. Blake.
	Lord Arthur Hill.

1st Meeting—24th May, 1883.

9 Members present.

Irish Members present—Mr. Blake and Lord Arthur Hill.

2nd Meeting—1st June, 1883.

16 Members present and Chairman.

Irish Members present—Mr. Blake and Lord Arthur Hill.

3rd Meeting—5th June, 1883.

13 Members present and Chairman.

Irish Members present—All three.

4th Meeting—8th June, 1883.

14 present and Chairman.

Irish Members present—All three.

5th Meeting—12th June, 1883.

18 present and Chairman.

Irish Members present—All three.

6th Meeting—15th June, 1883.

13 present and Chairman.

Irish Members present—All three.

7th Meeting—19th June, 1883.

13 present and Chairman.

Irish Members present—All three.

8th Meeting—22nd June, 1885.

13 present and Chairman.

Irish Members present—Mr. Blake and Lord Arthur Hill.

9th Meeting—26th June, 1883.

14 Members present and Chairman.

Irish Members present—All three.

10th Meeting—29th June, 1883.

15 present and Chairman.

Irish Members present—All three.

11th Meeting—3rd July, 1883.

15 present and Chairman.

Irish Members present—All three.

12th Meeting—6th July, 1883.

14 present and Chairman.

Irish Members present—All three.

Motion made and Question, "That the Committee do meet on Tuesday next to receive further evidence; that on Friday next the Committee do meet to consider an interim Report from the Chairman, and that the evidence be reported to the House."—Put, and *agreed to*.

13th Meeting—10th July, 1883.

9 present, Mr. Salt in Chair.

Mr. Blake present.

14th Meeting—13th July, 1883.

14 present and Chairman.

Draft Report proposed by Chairman and Draft Report by Sir George Balfour.

Amendment proposed to add the words at end of paragraph 3: "The same observations would apply to the need of a similar Harbour on the West Coast of Ireland."—Put, and *agreed to*.

Mr. Blake endeavoured, and was supported by Colonel Nolan and Lord Arthur Hill, to have the following amendment inserted: "From the evidence offered in favour of the construction of a harbour of refuge on the south-east coast of Ireland, at Waterford, the Committee concur in the recommendation of the Select Committee of 1857, and the Royal Commission of 1859, on Harbours of Refuge, relative to the formation of Harbours of Refuge in Waterford Estuary," but the three English and Scotch members voted against its insertion.

Another amendment, proposed by Mr. Blake, fared no better, in which he wanted the insertion of a Harbour of Refuge on "the South Coast of Ireland," as previously recommended, Mr. Ross alone supporting the Irish members.

The Report, as amended, was agreed to.

Ordered: To report, together with the Minutes of the Evidence, and an Appendix.

REPORT OF THE COMMITTEE SO FAR AS IT RELATES TO IRELAND.

Par. 2. Your Committee think it desirable to report the evidence at its present stage to the House, to briefly refer to certain facts which appear to them to deserve immediate attention, and to make recommendations on some matters which seem to be of an urgent character, especially with regard to a proposal contained in the Sea Fisheries (Ireland) Bill to apply £250,000 from the surplus of the Irish Church Fund towards the construction and improvement of harbours in Ireland. In taking this course your Committee must necessarily defer the consideration of other matters covered by their inquiry, but in respect of which their investigation is at present incomplete. They therefore recommend that they should be re-appointed next Session to complete their labours.

Par. 4. Your Committee were specially instructed to inquire into the "laws and arrangements under which the construction and improvement of harbours may now be effected." In obedience to this instruction, your Committee have taken much evidence with regard to the Harbour and Passing Tolls Act, 1861, which was the outcome of the last inquiry on harbours, ordered by Parliament and carried into effect by the Committee of the House of Commons, appointed in 1857, and by the Royal Commission appointed in 1858, on the recommendation of that Committee. The Act of 1861 was intended to encourage a system of loans of public money in aid of harbour construction as an alternative to a policy of free grants. This Act has undoubtedly been productive of very great service, and, still with amendments as to certain details, affords the chief existing facilities for harbour construction.

5. . . . Your Committee would suggest for consideration that these loans should be made at a rate of interest not exceeding $3\frac{1}{2}$ per cent., and should be made repayable by means of a sinking fund extending over fifty years.

(c.) Under clause 7 of the Public Works Loans Act, 1882, a valuable provision is made enabling localities to give the local rates as collateral security to the Public Works Loan Commission for Harbour Loans. The rating authority is strictly defined and limited by that clause. In the case of small places, the additional security to be gained by mortgaging such rates is not granted. The Committee would suggest that, when willing to do so, larger areas, e.g., counties or divisions of counties, should be empowered to give their rates as collateral security for such a portion of the required loan as they may decide.

7. Though the Sea Fisheries (Ireland) Bill was not formally referred to by your Committee, its proposals have naturally taken a prominent place in the Irish evidence taken by your Committee. *They have examined ten Irish witnesses, all well qualified* to speak with authority as to existing harbours and piers in Ireland, as to the requirements of that country and any exceptional circumstances which may then exist, and as to the prospects and possibilities of the development of Irish fisheries. The evidence of these witnesses have been uniformly in favour of the expenditure of money in the manner proposed by the Bill of the Hon. Member for Waterford (Mr. Blake), with carefully devised safeguards to ensure its proper and useful application ; your Committee are impressed by the following facts :—

- (a.) *That the Bill does not propose to make any charge on the Imperial Exchequer, but to apply Irish money to the encouragement of important Irish interests.*
- (b.) That no expenditure is likely to be made of more value to Ireland, whether in the way of giving employment to the people or of developing the resources and commerce of the country, than for improving existing harbours and constructing new ones in carefully selected sites.
- (c.) That the poverty of the country generally, and more especially of its maritime population, seriously interferes with, if it does not absolutely forbid advantage being taken, on any extensive scale, of facilities offered by any system of loans for harbour construction.
- (d.) That on the east coast of Ireland, where considerable harbours do exist, especially the so-called Royal Harbours, the fisheries are prosecuted with success, and by a fine class of boats, though these are in a large proportion Scotch and Manx.
- (e.) That on the Atlantic sea-board of Ireland fishing-grounds, teeming with fish, abound, which are almost unworked, and cannot be worked, *except by large boats requiring harbours with a considerable depth of water at all states of the tide, to give them shelter.*
- (f.) That the coast of Ireland presents exceptional natural facilities for the construction of such deep-water harbours at a small cost.

8. After careful consideration, your Committee recommend that the House, by passing in the present Session, with such amendments as may be necessary, the Sea Fisheries (Ireland) Bills should set aside from the Irish Church surplus fund the sum named in that Bill, or such other sum as may be found practicable for the improvement and construction of harbours in Ireland.

9. Your Committee recommend that a report by a commission of inquiry, similar to that set forth in a work on the Norway Harbours, given to the Committee by a Mr. Manning, Chief-Engineer to the Irish Board of Works, might with advantage be presented.

10. Your Committee recommends that a large proportion of the money should be applied to the construction of real deep-water harbours, available at low spring tides. They also consider it of the utmost importance that, in the selection of any site for harbour works, *existing, or at any rate the probabilities of prospective railway accommodation, should be carefully taken into consideration.*

11. Your Committee recommend that in future the local contribution under 9 Vic., c. 3, of one-fourth, should not necessarily be insisted on, but that power should be retained to require it in desirable cases.

12. Recommends local harbour authorities should control larger harbours, and the Board of Works to look after the smaller class, their condition to be reported on by the fishery inspectors. That dues might be charged on all vessels and boats using such harbours or piers to aid in keeping same in repair, and that a small rate, levied on the whole of Ireland or on the maritime counties, might supplement the dues.

LIST OF THE WITNESSES EXAMINED, &c.

NAME.	OCCUPATION OR PROFESSION.	COUNTRY APPLICABLE TO.
Mr. Thos. Henry Farrer.	Permanent Secretary to the Board of Trade.	Board of T., England.
Mr. F. Newman Hunt.	Chairman Public Works Loan Commissioners.	England.
Mr. E. R. Spearman.	Sec. Public Works Loan Commissioners.	England.
Sir Reg. Earle Welby, K.C.B.	Assistant Financial Sec. to the Treasury.	England.
Capt. Sir F. J. O. Evans, R.N., K.C.B.	Hydrographer to the Admiralty.	England.
Mr. Archibald Young.	Inspector Salmon Fisheries.	Scotland.
Sir John Coode, C.E., F.G.S.	Member Royal Commission on Harbours of Refuge, M. Inst. C.E.	England.
Mr. Provost Brand.	Provost of Dunbar.	Scotland.
Mr. Thomas Brady.	Inspector of Irish Fisheries.	Ireland.
Captain A. Boxer.	Inspector of Irish Lights.	Ireland.
Sir Thos. J. Boyd, F.R.S.E.	Chairman of the Scottish Fishery Board.	Scotland.
Mr. T. Stevenson, M. Inst. C.E.	Vice-President Royal Society, Edinburgh.	Scotland.
Mr. W. Lane Joynt.	Solicitor to the Treasury.	Ireland.
Mr. George Le Hunte.	Chairman of the Waterford and Wexford Railway.	Ireland.
Staff Commander C. H. C. Langdon, R.N.	Naval Officer acquainted with West Coast, Ireland.	Ireland.
Mr. J. Caldwell Bloomfield.	Director of Railway proposed to town of Donegal.	Ireland.

LIST OF THE WITNESSES EXAMINED, &c.—*Continued.*

NAME.	OCCUPATION OR PROFESSION.	COUNTRY APPLICABLE TO.
Mr. J. Abernethy, M. Inst. C.E.	Past President Inst. C.E.	Scotland.
Major Joseph Hayes.	Inspector of Irish Fisheries.	Ireland.
Mr. R. Manning, M. Inst. C.E.	Engineer-in-chief, Board of Public Works.	Ireland.
Mr. Thomas Emerson.	Officer, Trinity House.	England.
Mr. Spencer Walpole.	Lieut.-Govr. Isle of Man.	Isle of Man.
Colonel King Harman, M.P.	Evidence in favour of West Coast of	Ireland.
Mr. Provost Rae.	Provost of Wick.	Scotland.

APPENDIX PAPERS HANDED IN.

1. Mr. R. W. Duff, M P.	Paper presented by the Chairman.	Scotland.
2. Mr. R. Farrer.	Various Papers and Returns presented by self.	General.
3 & 4. Mr. Spearman.	Various accounts presented by self.	General.
5, 6, & 7. Sir F. Evans.	Particulars of Harbours.	England and Scotland.
8. Sir Thomas Boyd.	Particulars of Harbours and Fishery Piers.	Scotland.
9. Captain Boxer.	Suggestions as to Lights, Piers, &c.	Ireland.
10. Mr. Milner Gibson.	Presented by the Chairman as to Loans.	England.
11. Mr. W. J. Doherty, C.E., A.M., Inst. C.E.	Presented by the Chairman East Coast of Ireland Harbours & Requirem'ts.	Ireland.
12. Mr. R. Manning, M. Inst. C.E.	Public Works Harbour returns.	Ireland.
13. Mr. Thos. F. Brady.	Expenditure—Irish Piers.	Ireland.
14, 15. Mr. T. Stevenson.	List of Harbours, Wick Breakwater, &c.	Scotland.

ABSTRACTS FROM MINUTES OF EVIDENCE.

MR. THOMAS HENRY FARRER'S evidence relates chiefly to the system under which loans are granted by the Board of Trade, and to the difference of opinion as to the meaning of the Act, that has sprung up in the carrying of it into effect by the Public Works Loans Commissioners, showing clearly that in some cases the Treasury had to step in and override the decisions of the former

body; thus demonstrating the necessity of having a more defined rule, that would be applicable to every case. Mr. Farrer's evidence is highly instructive, and shows further that the views of Mr. Gladstone and Mr. Milner Gibson were not carried out afterwards; and that if the loan of public money is to be availed of to any great extent for the purpose of improving the Harbour accommodation of the United Kingdom, it must be placed under a body constituted specially for that purpose; for at present, so far as Ireland is concerned, even the Irish Chief Secretary appears to be powerless when pitted against the Public Works Loan Commissioners. Mr. Farrer shows in his extensive evidence a thorough knowledge of the subject; but when questioned as to Ireland, he shifts the responsibility properly on to the shoulders of the Irish Government.

MR. THOMAS NEWMAN HUNT, a Public Works Loan Commissioner for twenty-two years, and now its Chairman, in his evidence defends the action of his Board. When questioned by Mr. Blake as to the reasons why his Board refused further advances to the Rosslare Harbour, he replied at question p. 480: "That they could not give any more unless they were satisfied the tolls would pay the interest, and without further collateral security; and further suggest if it is to be finished it must be by Parliament or by some other authority, which he would be glad to see; but at present it is not within the province of his Board. It would appear that this body of sixteen gentlemen, appointed in 1875, requires supervision at an early date by Parliament, as the Board is a perfectly self-propagating one, and when three members constitute a quorum, the chances of a division of opinion is reduced to the lowest possible limit; still as to Rosslare, Mr. Hunt considers it a strong case—in fact no stronger one, in his opinion, could be presented—to have the work finished by means of a grant; and it is to be hoped that the Commission over which Mr. Blake now presides, will see that this useful work be speedily brought to a successful termination. Mr. Hunt is in favour of Baronial Guarantees, and quotes Coleraine as an example.

MR. E. R. SPEARMAN, Secretary of Public Works Loan Commissioners, describes the *modus operandi* by which applicants for loans approach the Board, chiefly by means of interrogatories supplied, and filled up in form much after the manner of a Chancery suit, the whole proceeding ending frequently in costs to the applicants; but he clearly states that the Public Works Loan Commissioners are the sole judges of what is, in their opinion, good and valid security; and he rather comes to grief over the Tyne question put to him by Mr. Stevenson.

SIR R. E. WELBY, K.C.B., Assistant Financial Secretary to the Treasury, shows that he acts directly under the Chancellor of the Exchequer, and is cognisant of all questions relating to loans and the public expenditure. He shows that the Herring Brand Fees of the Scotch Fishery, amounting to £7,710 in 1882, cost for collection about £5,400. As to the Irish Grants for Piers, he shifts the estimates for same on to the broad shoulders of the Irish Board

of Works, and shows that unless a local contribution be forthcoming, no grant is made under the 9 Vict. c. 3.

CAPTAIN SIR F. J. O. EVANS, R.N., K.C.B., was examined, as head of the Hydrographic Department of the Admiralty. Recommends that anything approaching a commercial harbour should be fortified; and recommends concrete blocks as the best adapted material for harbour construction. His evidence refers chiefly to harbours of refuge, and knows nothing of reports made to the Admiralty as to deficiency of Irish harbour accommodation with the exception of Waterford Harbour, which he approves of as requiring dredging at the entrance.

MR. ARCHIBALD YOUNG, Fishery Inspector for Scotland, considers the improvement in the herring fishing of Scotland to be chiefly due to the extension and improvement of its harbour accommodation, and is of opinion that a few large harbours, where boats may arrive and depart at all states of the tide, a necessity. 96,873 persons were employed in the fisheries of Scotland in 1881. The value of the fish caught in 1880 for herrings alone amounted to £2,209,500.

SIR JOHN COODE, C.E., F.G.S., as an engineer practising for thirty-five years in harbour and marine engineering, in addition to his general evidence on refuge harbours all over the British dependencies, stated, in reply to Mr. Blake, M.P., that he had not sufficient knowledge of Ireland to speak with advantage; but he was well aware that the proportion of fish on the Irish coast is as great as, if not greater than, on the coast of Great Britain. With regard to Waterford, he considered that there are not many places where £64,000 could be spent with greater advantage, and the opening its estuary as a port of refuge a work of national importance. He further considers that for all commercial purposes the depth of water at Duncannon was sufficient; but as the opening up of the estuary as a refuge harbour would follow, he would recommend the £64,000 to be a grant for Imperial purposes. For similar reasons he had, as one of the members of the Commission of 1859, recommended Carlingford as an analogous case with Waterford.

MR. THOMAS F. BRADY, Inspector of Irish Fisheries, and nearly 38 years in the Public Service, stated that the grant of £5,000 a year given for the encouragement of the Irish Fisheries by the Act of 1819, had been appropriated principally for the erection of piers and the improvement of harbours. It was continued down to 1830, when the Act of Wm. iii. c. 54, reduced the grant to £4,500 for 1st year, £3,500 for 2nd year, £2,500 for 3rd year, £1,500 for 4th year, and £1,000 for 5th year. When it was extinguished in 1835 no grants were made till 1846, when 9 Vict. c. 3 passed, and a sum of £50,000 granted for the erection of piers and harbour improvements, on condition that each grant was not to exceed three-fourths of the cost of the work, and the other one-fourth to be supplied by local effort. The whole amount had been long since expended, and in the following Session an additional sum of £40,000 had been granted, all of which had been expended. By an Act passed in 1866, 29 & 30 Vict., c. 45, the Treasury were authorised to pay to the Board of Works any sum voted by Parliament for a similar

purpose. Then the Relief of Distress of Ireland Act of 1880, a special sum of £45,000, to be expended in distressed unions; this, with £15,000 contributed by the public, were also expended. In 1882 Arklow Harbour received a grant of £35,000, and for Ardglass a special grant some three or four years before.

The country, owing to the smallness of the grants, did not reap the benefits it might, as only small works could be undertaken, and all generally dry, at low water, thereby affording no shelter to boats running in at low water: this policy has extended up to 1880. He instanced Iniscrone, Co. Sligo, where a great number of daring good fellows, men of excellent character, had to haul up their boats a distance of 150 yards, when they returned from fishing. He considers it next to impossible to obtain local assistance to carry out works in Ireland at present; and considers that the requirements of one-fourth in many cases should be dispensed with. A sum of £285,056 18s. 7d., less £95,551 6s. 6d. repaid and local contributions; and including £22,541 14s. 11d. expended on Belmullet Canal and Tarbert Piers, Shannon, leaving a total of £166,964 0s. 4d. expended during fifty-one years. He further considered that for fishery purposes the piers had been erected on unsuitable sites; and were generally erected to suit the convenience of the parties locally subscribing, than the general good of the fishermen. In reply to the Chairman (whose extensive knowledge of the subject and kindly disposition throughout to further Irish fishing interests stands in favourable relief), Mr. Brady stated that "what we require in Ireland to benefit the fisheries and their development are proper harbours, with sufficient depth of water," as no protection existed except for row-boats, and even what were afforded for this class of an inferior kind. Harbours of less depth than eight feet at low water, he thought, would be unsuitable for fishing-boats, and only at Teeling, county Donegal, did any of this class exist; the latter cost about £8,000. A harbour at Killeaney Bay, near Arran Islands, would be most important, as a great fishing bank exists near Achill Head, extending to Tory Island, on the Donegal coast, which, owing to no shelter, this great bank remains unfished. Large craft load there in twenty-four hours; consequently fishing is only spasmodic, on account of the want of a good harbour. The character of the people could not be better, and crime of every description is unknown among them. The fishermen of Moville are a very fine class of men, and often go out sixteen or seventeen miles in their small boats. Out of an advance of £50,000 of the Irish Reproductive Loan Fund, owing to the punctuality of the payments by the fishermen, only about £1,200 was in arrear.

SIR EARDLEY WILMOT, M.P., pressed a question as to the industry of the Irish fishermen, stating that there was an idea prevailing that they were wanting in this characteristic, to which Mr. Brady replied that he was glad of the opportunity of being enabled to record his favourable opinion of them, and thought they were well worthy of encouragement. The seventy-one harbours recommended for construction would cost in round numbers £250,000. It would take seventy-five years of the present grant of £4,000 a

year to complete the necessary harbours, all of which were of pressing importance, and you cannot have fishermen and boats if you have not harbours. In answer to Mr. Blake, M.P., Mr. Brady was of opinion that the mackerel fishing on the Irish coast would, by the extending of harbours, be enhanced by £250,000 yearly, if an expenditure of £250,000 on harbours were made.

MR. BLAKE, M.P., pointed out in his questions that previous to the famine year of 1847, so many as 20,000 boats and 113,000 men and boys were engaged in the Irish fisheries, and that last year the total boats were 6,089, of which only 303 were first class, and the number of hands employed 21,597, and it was quite impossible to fish the coast with this number.

MR. ARTHUR ARNOLD, M.P., felt anxious upon the question of the character of the population, especially as to its non-criminal character. Mr. Brady reiterated his previous good opinion, and that no crime had been brought home or conviction for felony during his experience of thirty-eight years. Mr. Arnold's political economy was outraged by the idea that if the fishing interest at Carrigaholt would be benefited to the extent of £100,000 a year by an expenditure of £10,000 on harbour accommodation, why it was that security for the repayment of the £10,000 could not be obtained; but Mr. Blake explained that Manxmen, Englishmen, Scotchmen, and even Frenchmen would be sharers with Irishmen in the advantages obtained. In reply to Sir George Balfour, M.P., Mr. Brady pointed out the mischief caused by the want of prompt action being taken by the county surveyors in regard to repairs of piers, and this was caused from the grand jury system. The cost of a proper boat for herring fishing, with gear and nets, amounts to £1,000 or £1,100. He regretted that the regulations with regard to the trade in herrings in force in Scotland were not in force in Ireland. Herring stations in Scotland gave them the advantage, as well as the branding system, and the system of obtaining information in Ireland was totally deficient. Mr. Brady considered that if proper harbour accommodation were provided, the Irish boats using the harbours would be glad to pay reasonable tolls. He also, in reply to Sir Edward Watkin, M.P., stated as his opinion that the Irish fisheries might be developed to an illimitable extent, provided there were suitable and convenient harbours.

In reply to a question put through the Chairman by the member for Gateshead (Mr. Stevenson)? Mr. Brady accounted for the decline of the fishing between Slyne Head, in Galway, to Tory Island, from what had been in the olden days, to—1st, the boats going to a better paying trade, namely, the Liverpool carrying trade; 2nd, the famine of 1846 deprived the people of everything, so that the young men on the coasts were now almost incapable of handling a boat as they did formerly. He severely criticised the inaction of the present grand jury system, to whom were delegated the maintenance of existing piers.

CAPTAIN ALEXANDER BOXER, Inspector of Lighthouses on the coast of Ireland, considered, from seventeen years' experience on the Irish coast, that it much required more harbours; as well as better harbours, distinguishing, under the direction of the Chairman,

the class of harbours, as first and second. The first class he would call great national harbours or refuge harbours—first at Galway, second Waterford, Rosslare a second-rate harbour of refuge in Wexford Bay. The natural refuge harbours for large vessels requiring no expenditure, he named Queenstown and Bantry, Loughs Foyle and Swilly, and Belfast Lough. All these have been improved by marking the channels and lighting. These were for vessels drawing from twenty-eight to thirty feet of water. Under the head of second-class harbours, with draught of water up to twenty feet, he classed Dundalk for coasting trade; but the entrance to Dundalk Harbour was getting very bad and required improvement, and with many wrecks blocking it up was becoming dangerous. Under the head of Government Harbours, which were more or less filling in, he classed Howth and Kingstown, both silting up, the latter kept open by dredging insufficiently. Wexford Harbour Bay is getting unsafe, so as to almost shut out trade. As to small class harbours for life and shelter for fishing vessels and coasters, he thought Courtown, with its piers destroyed and inner basin blocked up, and Kilmore perfectly useless. With any amount of fish around Ireland, the people were afraid to remain out for want of piers and harbours. Ballycotton required a small pier extension. Garnish, off Dursey Island, required a pier or slip for fishing purposes. Berehaven ought to be lighted up to define the south entrance as a harbour of refuge and the fishing trade. He approved of the new harbour in Tralee Bay inside Samptown Islands. Smerwick, off the Kerry coast, requires protection, as a large fleet in the fishing trade of late years run there for shelter. A harbour is required between the Shannon and Galway Bay, having a long break on the Clare coast of forty or fifty miles, which is very unsafe; and the canal between Broadhaven and Blacksod Bay, named by Mr. Brady for deepening, would be most useful, being at the worst turning point on the west coast, and at present is not navigable through silting. Tory Island wants a small pier in the east bay. An extension of the pier at Arran Islands would afford shelter to coasters. Many of the piers could be extended further out, affording thereby the required shelter. He considers Wexford Bay to be one of the most important places on the east coast for a refuge harbour and breakwater. The present works at Rosslare would require an extension of eight hundred feet more to the north and north-westward. There is good holding-ground at from five to six cables from the pier, all in marl. He considers it would require an expenditure of from £60,000 to £70,000 to complete it, in addition to the £75,000 already advanced. And to the chairman's question, "That such a harbour would be the means of saving a great amount of life and property," he entirely concurred. The difficulty was how to get the money, and he did not think the barony round Wexford would supply the security.

Waterford was a first-class harbour, but with only nineteen feet of water on the bar vessels would not run the risk of crossing in bad weather; and if once dredged no risk of silting would arise on account of the scour of the river. Rosslare and Waterford were both subjects for harbours of refuge. He looked upon Galway Bay

as the harbour of refuge for the west of Ireland, with good holding ground, but it sadly wants a breakwater. By joining Mutton Island and extending the breakwater to the south-west at least two hundred yards, it is a fair harbour but not equal to Bantry Bay. These works, he concurred with Mr. Brady, should be carried out by an absolute free grant.

In reply to the question of Sir George Balfour, M.P., "as to how do you account for the greater enterprise of the Scotch and Manx and other boats over those of Ireland?" Captain Boxer gave it as his opinion "that it was all owing to the character of the people." Thus alike in the minds of the Scottish representative as in the official of an Irish department, the character of the Irish people were accountable for every defect. Consequently in giving the opinions of Captain Boxer on the wants of Ireland for harbour accommodation, his evidence cannot be quoted as that of an Irish visionist.

When further questioned by Sir George, "If he thought if good harbours were built for fishing-boats that the trade in fishing would develop more on any part of the coast?" Capt. Boxer candidly replied in the affirmative, and particularly for small boats there is any amount of fish on the coast of Ireland. In reply to Sir Edward Watkin, M.P., who put a straightforward and honest question as to the advantages of Galway as a great National harbour, in the following words:—"If it be a fact that the Government of this country had agreed to make, at the cost of the general taxpayers, a new harbour at Dover and a new harbour at Filey, do you see any reason why they should not do the same thing for Galway?" the answer was: "No; I think that a harbour at Galway is very much required. It certainly would be a very important naval station if we ever had trouble," particularly, as suggested by Sir Edward, if that trouble was with the United States it would be "of inestimable value as head-quarters for our steamers." Here is the opinion of a witness going a long way to point out the superiority of Galway Bay as a transatlantic station, which it is to be hoped will not be lost sight of by Galway's representatives. And in reply to Colonel Nolan he thought the Government were fairly entitled to contribute towards its cost. Mr. Blake brought out from the witness the fact that none of the fishery harbours were lighted, and reconfirmed his observations as to the fruitfulness of the coast and the excellence of fishing-grounds for all descriptions of fish in the neighbourhood of Tory Island, and one of the best banks for turbot in Ireland exists off Inistrahull Island, north coast of Donegal.

The want of railways for the transmission of the fish was also referred to as being badly wanting in those outlying districts.

SIR THOMAS J. BOYD, Chairman of the Fishery Board for Scotland, gave evidence; and although it does not treat on the Irish portion of the question, yet, relatively, some extracts will be of service as showing the control placed in the hands of Scotland's Fishery Board, and the extent of the industry there. In reply to the Chairman, the witness stated the Board administered the Acts of Parliament for herring, cod, and ling fisheries of Scotland, gave clearances to herring-fishing vessels, fishing and curing at sea, received notices from curers on shore of

their intention to cure herrings, cod, or ling, maintained the standard cran measure as between buyer and seller; the standard size of barrels for British white-cured herrings, quality of the cure, branding at the request of owners, collection of fees for same, attending to the export inspection of officially branded white-cured herrings, and to see that all barrels so exported are of the legal size, to prevent the use of illegal nets, the protection of sprat fishermen in their right boundary, to maintain order on the fishing-grounds, to register, letter, and number all sea fishing-boats and their naming, enforce police regulations at sea and courts of law, maintain the fishery connection with France and other foreign countries, receive and restore property lost at sea, to build fishery piers and harbours, to collect and furnish to Parliament statistical returns of the herring, cod, and ling fisheries of Scotland. These duties were transferred from the old to the new board, and in addition the new board was empowered to take cognisance of—1, The coast and deep sea fisheries of Scotland; 2, the general superintendence of the salmon fisheries of Scotland; and 3, to report annually their proceedings to the Secretary of State for the Home Department to be laid before Parliament. They had at their disposal £3,000 a year to assist in the construction and improvement of fishery harbours, and the surplus brand fees £2,300, out of which £1,000 may be granted to extension of telegraphs in remote fishery districts. Herrings were got much further from the shore now than formerly, consequently requiring first-class decked boats of 30 feet keel and upwards, drawing five to seven feet of water, thus requiring harbours so as to admit them at all state of the tide, which if provided would frequently save many lives. Cured herrings on the east coast, from a yearly return of 398,045 barrels average over the 10 years, from 1833 to 1842, has risen to a yearly average of 819,689, for 10 years, from 1873 to 1882. Last year the number of barrels cured was 978,226: on the west coast, from 1833 to 1842, the yearly average was 64,280, and from 1873 to 1882, a yearly average of 174,709. Last year the number was 304,747 barrels, and the general increase since 1809, when the Fishery Board was first established as a separate board, is, 1809, total barrels, 90,185; 1882, barrels, 1,282,973! So much for local self-government in the fishery department of Scotland, under a Scottish fishery board. Where in Ireland is its counterpart?—and if not, why not?

The value of boats employed in the Scottish fishery, Sir Thomas Boyd gives, in 1862, to be £272,960; in 1882, to the sum of £646,883. Again he states the netting, in 1862, was value for £407,237, and in 1882, to £711,039; and he believes “the herring fishing might be almost indefinitely increased, and thus the wealth of the country would be greater if there were proper harbours along the coast.”

Herrings require to be cured and packed within 24 hours or they cannot be branded. Vessels for curing at sea were about 60 tons each, and vessels of such size would not have to land after a small catch, but be able to cure them at sea. The number of fishermen and boys employed last year, 1882, was 48,296; fish curers, 1,072; coopers, 2,564, and other persons estimated at

47,464, or in round numbers a total of 100,000 persons, with the families dependent thereon, would be nearly 500,000 people. The estimated value of the capital employed in boats, nets, and lines last year was £1,472,200. The witness considered deep-water harbours essential for the proper development of the fishery, and that where required, where no trade exists, "a Government grant seems the only thing." The total number of barrels exported, in 1882 from Scotland was 825,982 $\frac{3}{4}$, of which 462,612 $\frac{1}{2}$ were branded. The brand fees were £7,770 4s. 2d. The defect in branding more was caused by calms detaining the boats beyond the 24 hours, and delay in consequence of insufficient harbour accommodation with deep water. He considered money should be spent in improving harbours irrespective of its improving local land, as many public improvements benefit individuals who are not expected to contribute towards the cost.

MR. T. STEVENSON, M. Inst. C.E., examined as Engineer to the Board of Northern Lighthouses and to the Fishery Board for Scotland, for harbours, gave evidence of an interesting kind upon the generation of waves, the tranquillising effects of harbours, the formulæ as to the reductive power of a harbour, his "Marine Dynamometer," registering 3 $\frac{1}{2}$ tons as the greatest force of the sea of the German Ocean on the square foot, with other scientific evidence of a like kind, describing waves at Wick as 42 feet from crest to hollow, these waves, on striking the wall, rising to not less than 150 feet, and passing over the parapet 21 feet above high water in solid blue water, 25 to 30 feet in depth. In 1872, a mass of concrete, 1,350 tons, was moved *en masse*; again, in 1887, a similar mass of 2,600 tons in weight was moved from the end of the pier. He considered 10 to 12 feet, where water was unsheltered, the depth of water required for a vessel drawing six feet. He did not think that floating breakwaters, owing to the propagation of the swell being below any floating mass, likely ever to be turned to any practical account. Mr. Stevenson's evidence is well worth the perusal of engineers, particularly "Maritime Engineers," as he described that branch of the profession on which engineers were engaged as experts in harbour construction. In reply to Mr. Blake, the witness considered that for small fishing communities, who may not fish on a large scale, or have large boats, people who combine farming with fishing, as in certain parts of Scotland, small slips and small tidal harbours were to them of very great service.

MR. WILLIAM LANE JOYNT, Solicitor to the Treasury in Ireland, examined by the Chairman, stated he had an intimate knowledge with respect to harbour construction in Ireland, and the facilities given by the Government for that purpose, as well as the condition of the Irish population on the coast.

Mr. Lane Joynt's evidence, as might be expected, was of a kind, sympathetic, and even anxious, for the advancement of the Irish fishermen. His knowledge of their wants, derived from his position as member of the Mansion House Fund in 1880, as well as his more extensive knowledge as a Commissioner of Irish Lights, in which capacity he had many opportunities, from personal observation, of seeing the wants of the fishermen around the whole

coast of Ireland. He pointed out Baltimore as a place for pier extension, and gave the fishermen of that district an excellent character for every quality required—brave and courageous; and considered as an element in their favour the success of the loans given by the Baroness Burdett Coutts, the proximity of the railway at Skibbereen, and with assistance to the population at Baltimore, they would be very successful. The money advanced to the fishermen had been all willingly repaid. The contiguity of the railway and the presence of mackerel, pilchards, herrings, and other fish at Baltimore, had created a general spirit of enterprise; and what most Irishmen will admire in Mr. Lane Joynt's evidence is the disassociating himself from his official capacity in his replies, thereby giving his evidence additional weight as from a member of the community. Several of his remarks are characteristic of the whole case, as where he says: "I have no doubt whatever that the more facilities that are given them, the more you will find the population to be enterprising and industrious, thus wiping away the reproach of indolence, which is probably very often attributed to them when it is the want of appliances to work and not an unwillingness to do so."

Again he says: "I know the worth of these people, and they certainly should not be abandoned to themselves, but every effort that we can make to stimulate their industry should be put forth, and we should hear no more of money being uselessly spent in Ireland."

Mr. Joynt alluded to the evidence of Mr. Nimmo, an accomplished engineer, who preceded Sir Richard Griffith. Sixty years ago he recommended both large and small harbours for fishing purposes; so much so, that his evidence might be considered as belonging to the present time, and is contained in a Blue Book, No. 200, of 14th April, 1825, p. 168.

Mr. Joynt described to Sir Eardley Wilmot, M.P., how 25,000 people who live on the islands from Clare to Donegal were employed in farming and fishing, and when the potatoes fail are invariably in great misery. He strongly advocated the erection of a pier at Bray.

In reply to Mr. Blake, he thought Portdoon the best place for a harbour on Tory Island; and that harbours recommended by Mr. Nimmo had never been constructed. The fisheries, in his opinion, had never recovered since the famine of 1846, and although trade had improved in Ireland for the past 25 years, the fisheries have not thriven in proportion.

In reply to Mr. Blake, as to the character of the fishermen, the witness stated they were merely not contentious or quarrelsome, but they were men of excellent character, and distinctly honest—so much so that in many places their doors and windows were never bolted—and industrious, as the more opportunities we can secure for them of industry the better.

In reply to Sir George Balfour, M.P., who asked if it did not show the difference of spirit of enterprise in the two peoples, the Scotch and the Irish, when the Scotch went out 25 to 60 miles to sea to fish, the Irish only went out 10 miles? Mr. Joynt replied:

"It does ; but you have had a great many advantages in Scotland : for years you have had a settled industry, skill, thrift, and perseverance, and a large capital in the trade ; and you have had, in short, the advantages which we seek to possess in Ireland." Again, the Scotch member, wishing to fasten the want of enterprise on the Irish, asked if "the witness found that the enterprise of Scotch people do that without harbours which the Irish will not do at all, though they have so many harbours?" Mr. Joynt replied : "That is a hard way of putting it. I do not think so. For instance, in Scotland they have been using an annual grant for the purpose of making small fishery piers, in order, in fact, to do the very thing we are wanting to do in Ireland." Sir George Balfour exhibited the bitterness of jealousy in his questions, and would perhaps wish the whole of Ireland under the sea, to make room for Scotch fishermen, but in Mr. Joynt he had a witness quite impervious to his unreasoning harshness. The whole of Mr. Lane Joynt's evidence is worthy of perusal by the Irish fishermen, and it is a pity it should not be placed within their reach *in extenso*.

Mr. GEORGE LE HUNT, Chairman of the Waterford and Wexford Railway, gave some evidence advocating the establishment of a fishery harbour at Rosslare.

Staff-Commander CHARLES H. C. LANGDON, R.N., examined by the Chairman, stated he had great opportunities of making himself acquainted with the west coast of Ireland, in connection with the relief of distress, having been appointed, in conjunction with the engineers, as a naval officer, to select sites for piers, of which they selected 25. He considered the position of Arran Island a splendid place for a large refuge harbour, and might cost £150,000. He would also recommend an increase of the class of piers already existing. He did not consider the Irish fishermen, unless taken as second and third hands to boats from England and Scotland, to train and encourage them, would answer ; and "that those men were rather cultivators of the soil, who eke but a scanty subsistence by fishing," as the chairman put it, with which definition he coincided. He considered the natural advantages of the west coast of Ireland greater than England or Scotland. Between Teelin and Downie's Bay, 50 or 60 miles, there is no harbour you can go into in the strong westerly winds. In answer to Sir George Balfour, the witness described the poverty of the people and their inability to fish for want of gear and boats, and thought they would do very well if assisted, which should be done by sending men and boats from England and Scotland. In reply to Mr. Blake, he did not approve of the class of engineers sent down by the Board of Works, all being young men, and thought no pier ought to be constructed without a nautical man looking at the position. He confined his observations to the class of fishermen he saw on the west coast. At Baltimore and Kinsale they were not real fishermen.

In reply to Colonel Nolan, the witness stated that by opening up a line of communication with Galway "would tend to promote the fishing, because often now, when men get a boatload of fish, they do not know what to do with it." Sir Eardley Wilmot stated that in 1876, from Mr. Brady's report, mackerel to the extent of

110,223 were caught, and in 1882 it reached 128,473. The witness believed that between Wexford and Waterford fish of every description are abundant, and he concurred in the statement submitted by Sir Eardley Wilmot from Mr. Brady's report, "that all along the Waterford coast, from Fethard, county Wexford, to Ardmore, herrings, mackerel, and pilchards were found in great shoals from June to October, but they are not looked after by the fishermen, who have neither boats nor gear of the character to suit the fishing."

In answer to Mr. Salt, M.P., the witness thought that the Government might spend some of the money in buying boats, which would be self-supporting; and the question of getting access to the land carriage and to market is considerable, and the want of railway communication great. Mr. Salt's question is important: "Then in order to create a large fishery on the west coast of Ireland, which you, in common with other witnesses, say would be perfectly possible, we not only require a considerable establishment of sufficiently equipped boats, but we also require a greatly improved railway accommodation." Yes, I think we do; and he would consider public money should be employed, in addition, to improving the harbours, on men and boats, but he was not so capable of giving an opinion as to the railways.

MR. JOHN CALDWELL BLOOMFIELD advocated the extension of railways from the Ballyshannon line to Donegal, which he described as admirable as a tidal harbour, and described the capabilities of Donegal coast, and adjoining for 200 miles, as crammed full of fish, which at present are unutilised, and perfectly neglected; and if accommodation existed, so far as Donegal is concerned, the capture of fish would be enormous. With a railway to near Killybegs the fish could be sent to Greenore, and thence to London.

MR. JAMES ABERNETHY, C.E., knew very little of the Irish coast, and confined his evidence chiefly to Scotland.

MAJOR JOSEPH HAYES, an Inspector of Irish Fisheries for nearly fifteen years, considered Ardglass important as a fishing station for the United Kingdom. The fishing there varied as high, in 1877, as 116,114 increase, equal to one-half a cran, or about 620 herrings, and value for £130,628; while in 1881 and 1882 they were 10,509 increase, value £14,449, and 14,520 increase, value £14,545 respectively. The Irish can fish mackerel with the Scotch, but were not equal to them for herrings; nor are the English equal to the Scotch in the latter fishing. The Ballycotton fishermen he described as particularly a hard-working and industrious race, who remain out in gales of wind, as they dare not run in; and a breakwater there, at small cost, would make a perfect harbour of refuge at Ballycotton Island. This witness gave general information as to the want of piers at specified localities, such as at Dungarvan Bay and Kinsale; the latter he did not think of much account, either for fishery purposes or for refuge purposes, and directed attention to an island called Horse Island, outside Kenmare. Fenit, below Tralee, would be valuable as a fishing harbour, as it would have railway connections. Speaking generally, the local men have nothing but canoes and yawls to fish with, the inhabitants want

accommodation, and complain terribly of the distance to get to market. Sir George Balfour was anxious to get the witness to ascribe to the want of enterprise on the part of the fishermen than to anything else their backward state; but Mr. Hayes did not think so; he said, "they required to be educated, and had no means of fishing with large boats, and instanced Smerwick Harbour, where they all fish from canoes, but as they received instruction in handling large boats, their backwardness, by bringing them into contact with other fishermen, would show them how to fish by the force of example. He considered the Government should supply a vessel for the use of the Inspectors of Fisheries for purposes connected with the fisheries, manned by skilful fishermen, for experimental purposes." Sir Edward Watkin, M.P., in his questions, displayed a more kindly spirit with Irish fishermen, and a clearer conception of existing wants. Mr. Ross, M.P., also advocated the extension of railways as a means of developing Irish fisheries.

Major Hayes gave valuable practical evidence, in reply to Mr. Ross, M.P., as to the desirability of railway connections with fishing harbours; and in reply to a question about the Cornish fishermen, he said: "I know you have a very extraordinary population in Cornwall. I visited it myself some time ago, and I found in a little place called Mousehole that the Government had given them a large sum of money upon loan, I believe, on the security of the fishermen; and I think they faithfully repaid it. I was very much struck with their care of their harbour, and the care taken of their boats, and with the class of boats that they were fishing from, many of them value for £1,200." And further, he stated, that "It is important that we should have the big harbours, but that the minor work should not be neglected." In reply to Lord Arthur Hill, M.P., he said: "I am in a position to say that the extension of the harbours at Annalong and Kilkeel, county Down, is absolutely required." In reply to Sir Thomas Brassey, M.P., the witness said: "I have been long of opinion that if we had the class of boats used in Scotland for the herring fishing, and afterwards for haddock fishing, we should fish a great deal more;" and "I think it would require additional means of curing in the country. We consume an immense quantity of imported fish at the present time imported from Scotland; the main portion of our salt fish is imported from Scotland and Newfoundland." The Chairman asked: "Do you know Killybegs Bay?" "I know that it is a splendid harbour." "There might be some little facilities given in the way of a slip, or a landing-place." "There is no railway nearer than the town of Donegal."

MR. ROBERT MANNING, M. Inst. C.E., Engineer-in-Chief to the Irish Board of Works, in reply to the Chairman, stated that he was able to speak from personal knowledge, extending over fourteen years, and from records within the century, as to all the piers and harbours constructed under the Board of Works. Mr. Manning did not consider the requirement that one-fourth of the money should be provided locally a good provision generally, as it went to diminish the efficiency; because, if left to himself, he would have spent more money upon almost every pier he designed. The

principle of local contribution he concurred in; but sometimes it rendered the selection of the best sites difficult, although at present the Fishery Inspectors recommend the sites. Mr. Manning's evidence on the subject of what a really good fishery pier ought to be is highly important. He says: "But if you want to increase a fishery, and make a national industry of it, you must have deep water harbours; you must have harbours capable of bringing in vessels drawing at least nine feet at low water, if you want to materially improve the fishery industry." The Chairman: "And that class of harbour does not exist in any numbers in Ireland?" "There are the Royal harbours" (Howth, Kingstown, Dunmore, Donaghadee, and Ardglass). Two piers, Teelin and Downies Bay; the Board of Works literally were obliged to get their engineer to make the designs to suit the money available. Mr. Manning recommended that £200,000 of the quarter of a million proposed should be expended on harbours having a depth of from six to nine feet at low water, and £50,000 for extending other harbours.

Mr. Manning gave interesting particulars of what the Norwegian Government was doing for the fishing industry of Norway, where it is proposed to expend £1,500,000 on about 300 places on that coast. He considered tolls should be charged on all boats using piers, so as to provide funds for the up-keeping of the piers. He did not approve of the system of grand jury supervision of piers after their erection, and thought piers should be used for developing the general commerce, as well as for fishery purposes. Howth required dredging out. He also, in his report of 1880, recommended an outlay of from £6,000 to £8,000 at Inishocone, Kallala Bay, as "he had formed a very favourable opinion of the site;" but, owing to want of funds then, only £3,220 had been expended; thirty-six piers, which £71,080, under the grant of 1880 of £45,000 and £15,000 from the Fishery Pier Committee, were completed within the estimates.

In reply to the chairman's question: "Would you not think that any harbour would be really useless for the development of fisheries, unless there was a railway up to the spot or within a reasonable distance of it?" Mr. Manning's answer is valuable. "Yes," he says, "I think so, to a certain extent. But, for example, let us take Donegal Bay, where I have seen the finest fish I ever saw in my life caught by fishermen who had no means of getting rid of it but by cartage along the road." Again the chairman asked: "This want of railway accommodation would seem to be a very great drawback to the harbour of Teelin, which is, I understand, a first-rate low-water harbour?" "Yes, that is so." "And although, Mr. Manning, in the absence of a railway, if a fishery were once established, would advocate a steamer from Teelin to Ballyshannon." He advocated large harbours, as they improve the industry, and would improve the class of boats using the harbours. In reply to Sir Eardley Wilmot, who conveyed in his questions a sympathetic tone, as "he wanted to know if Ireland, looking at her position as a sister country, had obtained an adequate sum for the improvement of harbours; and, considering the want of employment of labour so striking in Ireland, would it be very proper

that such labour should be employed in improving the harbour accommodation in the country?" Mr. Manning said: "I believe that anything that would give additional employment to the people in Ireland would be a great advantage, and thought that a harbour of refuge would be required at Galway:" but he was not an advocate for convict labour, as it dragged itself out too long to build a harbour promptly.

In reply to Colonel Nolan, Mr. Manning gave the labourers around the coast an excellent character for quietness and industry.

Mr. Manning, in reply to Sir George Balfour, considered that in Ireland fishery harbours were very deficient in the matter of harbour authorities.

An important answer as to the "send" of the sea was given by Mr. Manning—That when a heavy roll outside existed, allowance should be made for the "send," as described by the chairman.

Mr. Manning's evidence is very full as to details on the Irish harbours generally, and will well repay reading in *extenso*.

Mr. SPENCER WALPOLE, examined by the chairman, said he was Lieutenant-Governor of the Isle of Man, Inspector of Fisheries from 1867 to 1882, Special Commissioner for Crabs and Lobsters in 1877, Herring Fisheries in Scotland in 1878, Sea Fisheries of England and Wales in 1870.

The Chairman asked—"What are the three requisites that you consider desirable in harbour accommodation?"—"First, of course, shelter; in the next place, a harbour to be perfect ought to be accessible as much as possible at all times of the tide; and, in the third place, perhaps from a fishing point of view, the most important point of all, there ought to be adequate accommodation for landing the fish rapidly, ample quay space." He further says: "I have been very much struck with the circumstance that on the west coast of Scotland there is natural shelter on almost every portion of the coast; the same thing is true to a certain but lesser extent of the west coast of Ireland; while, on the east coast of both England and Scotland there is very little natural shelter. But you have this remarkable fact, that the fishermen are all on the east coast, where there is no natural shelter, and speculated that the reason was, that where the Norse and Saxon blood existed you find a race of fishermen, and the absence of harbours have compelled the east coast men to build better boats, thereby going further to sea. He believed wherever you construct great facilities for landing fish you create a fish trade, and ample space is absolutely essential. The great object of the Scotch herring trade is to secure the crown brand, which is only given to fish landed within twenty-four hours after they are caught. He could not see why Scotland was entitled to £3,000 a year any more than England or Ireland, which has been voted for political reasons ever since the Union, and the Scotch attach importance to the grant. He advocated the State lending money to localities, as the State can raise money at 3 per cent. In the Isle of Man, during eighteen years, they spent £330,000 on harbour works.

"They had three hundred first-class boats in the Isle of Man, the finest draft boats in the British Islands. At Port

Erin a large sum has been spent, about £80,000, a portion of which was contributed by her Majesty's Government, *because at the time the island had not the advantage of managing its own revenue.*" By "We," he explained to Sir Edward Watkin, he meant the Government of the Isle of Man who have paid for the works out of the taxes of the island. "We have now a consolidated debt which is raised in the open market where we can borrow money at $3\frac{1}{2}$ per cent.

Such are the practical advantages conferred on the Isle of Man by having the management of its own affairs transacted by its insular Parliament. In reply to Mr. Stevenson, the witness stated "that our boats from the Isle of Man in February and March go to Kinsale and catch Irish mackerel, the great mass of which are caught by Manx, English, and Scotch boats, and sent to the English markets." When asked if the Manx people were not Celtic, the witness said "they had strong Norse blood in them;" but when taxed by Mr. Stevenson that his argument went to prove that the absence of harbours created better boats, the witness said: "In common humanity and prudence if you can provide shelter for them, and prevent the lamentable loss of life the better it will be for the country." The witness stated that their $3\frac{1}{2}$ per cent. stock of the Isle of Man is now selling in the open market at ninety-eight and ninety-nine. Messrs. Coutts took the loan firm at ninety-six. The earnings of the fishermen of the island he put down at £140,000 a year, and the cost of a first-class boat equipped about £600. He put the earnings, divided among 2,800 fishermen, to be £1,000 per boat or £40 per man after paying 10 per cent. on the capital, which he reckoned at £250,000. Although Ireland was only producing 25,000 tons of fish yearly, as compared with 336,000 tons produced by England, Mr. Walpole did not consider that Ireland should receive exceptional treatment, and thought England quite as destitute of harbours, and the State ought to construct harbours where the fishermen are and where fish are caught, if at all. But Sir Edward Watkin called his attention to Grimsby, and asked if he was aware that there twenty-five years ago there were no fish? "Quite so," was the reply; "and by the energy of the railway company and of the local people they had now got the greatest fishing trade in the United Kingdom." Sir Edward, pressing his vantage, asked: "Was not that trade created entirely by the harbour and by the forwarding facilities?" "Certainly, which were provided by the locality and the railway companies trading to the locality." Sir Edward Watkin pointed out that 60,000 tons of fish (one-sixth of the whole English take) was landed at Grimsby, at a port where fifty years ago there was only one fishing-boat. Mr. Walpole acquiesced in the term *illimitable* as applied to the fishing trade, and presented for his definition by Sir E. Watkin: "Yes, I think it is practically illimitable; the sea is inexhaustible, and the extension of the trade depends upon the demand for fish, I think." This is important from one who has evidently studied the whole question closely and officially. "The Manx fleet drew £40,000 a year," he said, "out of the south-west of Ireland."

In reply to Mr. Blake, the witness acknowledged that Cornwall

was a Celtic country, and it produced "a magnificent race of fishermen." Mr. Ross therefore hoped that as the Celts of Cornwall had shown such enterprise in fishing, the Celts of the west coast of Ireland may do the same. And the honourable member pointed out that the fisheries of Cornwall had developed to a considerable degree during the past twenty years, owing in a great extent to railway connection. In reply to Sir Eardley Wilmot, the witness stated that "Liverpool will take any amount of fish, and that a great many of the boats for the Irish fishing trade were being built in the Isle of Man. Out of a total population of 54,000 in the island, 2,800 were fishermen, representing a population of 11,000 to 12,000, and it had been slowly increasing; and when the harbour works were completed it would be very prosperous.

Mr. Walpole's evidence, owing to his intimate knowledge of the subject, is highly instructive.

COLONEL KING-HARMAN, M.P., was examined, and pointed out the want of harbour accommodation on the west coast of Ireland; but not having his papers he could not go into much detail. He directed attention to Howth Harbour and a memorial he had from the fishermen as to its silting up, which he considered very detrimental, as if looked after it would, from its contiguity to the railway, be extremely useful. Pullocheeny, in Sligo, he also called attention to, pointing out the destitute state of the whole coast for want of harbours and lights. Sir George Balfour again alluded to £200,000, which he stated had been expended on Irish fishery harbours.

The witness acknowledged that the grand jury did not take proper precautions to find out immediately that a defect has taken place in a harbour, and that the system should be improved, and would approve of a small tax in the £ being levied upon the county valuation to keep the harbours in repair. Sir George was exacting in his questions as to how the fishermen and boats could be created, but the gallant colonel had a favourable word to say on behalf of "the men are quite good enough men, that they will learn their trade very quickly, and they are anxious to learn." He advocated Government inspection of harbours by the best officials, and considered that the fishermen of the north-west coast, if they had the opportunity, would follow their avocation well.

No. 11 in Appendix to Select Committee's Report.

PAPER HANDED IN BY THE CHAIRMAN, THE HON. E.
MARJORIBANKS, M.P.

IRISH HARBOUR ACCOMMODATION,

BY

WILLIAM J. DOHERTY, A.M., INST. C.E.

THE hitherto almost total neglect of providing, from Imperial sources, for the erection of harbour accommodation in Ireland, has been, in the opinion of the writer, one chief cause why the fishing industry of that country has been so unprofitable and unfruitful to the people, and has prevented its extension or development, which, to a country having about fourteen of its counties with a sea-board, must produce a corresponding detrimental effect upon the limited producing resources of that country.

If the harbours of Kingstown and Howth, in the county of Dublin, are excluded (both of which were constructed for Imperial purposes), we find that very little has been done elsewhere, except by local enterprise and for purely commercial purposes. Of the latter, Dublin, Cork, Waterford, Belfast, and Derry are examples where, no doubt, much has been done locally to provide for the ordinary harbour accommodation required for the shipping interests of these ports; but beyond advantage being taken by the fishermen of Ringsend, near Dublin, of the deeper water provided for the Dublin Port and Docks Board, whereby their fleet of superior fishing vessels, suitable for deep-sea fishing, can, to a limited extent and under certain restrictions, take advantage of, yet for the purpose otherwise of developing the fishing industries of the country these commercial harbours, except for giving immediate means of transport to England for the fish, are of little benefit to the fishermen as harbours of refuge.

WATERFORD.

Taking the east coast of Ireland (with which the writer is better acquainted), and commencing at Waterford, what, in the writer's opinion, is chiefly required to develop the fishing industry of the country is to place safety harbours, with deep water for fishing

smacks drawing up ten to twelve feet of water at least, available at all stages of the tide, and place these harbours in direct communication with the rest of the United Kingdom by means of railways in Ireland, coming down to the harbours, and of piers, so that steamers could come alongside, thereby giving facilities for the speedy and safe transit of the fish both to the interior and to the English ports.

TRAMORE.

At Waterford this could be effected by the construction of a safety harbour, open to the sea, and in contact with railway communication at Tramore, or such other suitable site in the neighbourhood. This would be a most important locality for the service of a large extent of sea-board, and at a port where the cross-channel traffic is already fully established, and in contact thereby with the English railway system.

ARKLOW.

Arklow would be another suitable place for a refuge and safety harbour. At present there is in course of erection a pier and breakwater, upon which is about to be expended, under the Irish Board of Works, a sum of about £25,000. It is very doubtful, in the opinion of the writer, that this sum will effect all the good that is expected from it; most certainly it will not protect the harbour from north-east to south-east winds; and if the depth of water at all stages of the tide be not such as indicated (ten to twelve feet), it will be as a safety harbour comparatively useless. On this point the engineer-in-chief to the Irish Board of Works could supply the Committee with valuable information. It would appear, when a sum of £25,000 is being already expended, to be a pity that, if by an additional expenditure of, say, £25,000 or £30,000, an efficient harbour should not be constructed, as the Arklow fishing interests would be largely assisted and developed, and as the central position of the harbour in regard to the counties of Wicklow and Wexford, together with its being already in communication by rail, through the Dublin, Wicklow, and Wexford Railway, with Dublin and the interior, much good must arise by reason of a superior harbour at Arklow.

WICKLOW.

At Wicklow a pier is at present being constructed; whether it is sufficiently sheltered and extensive enough is a question for the town of Wicklow, who are constructing the harbour, I understand, at their own expense by way of a Treasury Loan, or whether if a larger sum was set apart for Arklow, a portion of it might not be given to Wicklow, should be determined by the Commission that is proposed to be appointed under the Bill now before Parliament, which is under the charge of the honourable member for Waterford (Mr. Blake); but decidedly Arklow or Wicklow should be selected as a refuge and safety harbour, and constructed for the general good of the fishing interests.

KINGSTOWN AND HOWTH.

Of the first (Kingstown) it is unnecessary to speak: its im-

portance from an Imperial point requires it should be, as it hitherto has been, most carefully attended to. But Howth is more important as a fishing harbour, being to a great extent monopolised by the fishing smacks of the entire fishing fleet, English, Scotch, and Irish, during the fishing season. An improvement could be effected even here, if funds were available, as the space of deep water at all times of the tide is very limited; and this harbour should receive the attention of the Commission, with a view to its further improvement and extension.

MALAHIDE, SKERRIES, AND BALBRIGGAN.

The most important of the three fisheries and harbours of Malahide, Skerries, and Balbriggan is that of Skerries; the fishermen are, like all the Dublin, Wicklow, Wexford, and Waterford fishermen, most energetic and industrious, and only want to be provided with safe harbours to enable them to make rapid strides in working and developing the Irish fishing industry and its adjunctive branches.

Skerries should be made the central harbour for this important district. At present there exists almost nothing to shelter them from the north-east, and in no place could from £30,000 to £40,000 be better expended on harbour accommodation than at Skerries, to which a short railway branch of about one mile from the Irish Great Northern Railway would place them in direct communication rapidly with Dublin and the English markets. At present fish is often unobtainable in the Dublin markets; and as to about 200,000 of the people of Dublin, on fast days, when they, in accordance with their religious opinions, must either obtain fish or fast in reality, it is a matter of the greatest importance to them, as well as to the fishery interests, that they be placed in early communication with each other.

DUNDRUM BAY.

Near Dundalk a fishery pier has been erected, within the past few years, by the Board of Works, at Giles's Quay, at a cost of £16,000 or £18,000, but for want of sufficient funds stands, like many of the Irish fishery piers, useless except at high water, and is therefore incapable of giving that protection so essentially necessary for improved fishing craft, without which it is useless to expect much improvement in the extension of the Irish fisheries.

ARDGLASS, COUNTY DOWN.

By far the most important fishery harbour on the east coast of Ireland, from Kingstown to Belfast Lough, is Ardglass, where all the fishing fleet congregate on account of its deep water, sheltered position, and immediate proximity to the fishing beds between the Irish coast and the Isle of Man. Here a pier was constructed, but which was washed down about the year 1839, and remained in a ruinous state from that time till about three years ago, when it was reconstructed and rebuilt, principally by the writer, under the direction of the engineer-in-chief of the Board of Works (Mr. Manning). It has been constructed chiefly with concrete, and

extends the distance of the old pier, in fact occupying its site, the foundations of which have been made use of to a large extent; at present the Board of Works are cleaning out the *debris* from the interior of the pier. Hundreds of fishing-boats, Scotch, Manx, and Irish, use this harbour, and it may, therefore, be looked upon (so far as the United Kingdom) as a sort of international harbour. The area of the harbour is very much restricted and useless on account of several rocks that lie partly submerged within, and upon which several wrecks have occurred; these, no doubt, would have been removed but for want of funds, and, as a consequence, the good arising from this pier is greatly marred. It would require, to make this a moderately comfortable fishing station, a further expenditure, beyond the £20,000 lately spent, a sum of at least £20,000 to clear away the rock obstructions and to improve the landing quays and approaches to the harbour, would be required. In addition to this a short line of railway, about eight miles in length, would be required to connect the harbour with the railway to Belfast at Downpatrick, as the herrings have at present to be shipped by steamers especially provided by the English or Scotch merchants, or carted to Downpatrick to the railway there.

ARDGLASS AS A REFUGE HARBOUR.

There does not present a more suitable position on the whole of the Irish coast, abutting on St. George's Channel or the Irish Sea, for a refuge harbour than Ardglass; but the amount of money required to construct should be forthcoming from Imperial sources, as the project would be Imperial. If an extensive breakwater were constructed at Ardglass, so as to enclose the natural waters of the port, it would be capable of access from all parts of the Channel; and if £100,000 were expended thereon, hundreds of shipwrecks would thereby most probably in the future be prevented; the deep water, and its sheltered position, except from the S. and S.W., and its immediate contact with the Irish Sea, renders it a problem why it has not hitherto been made use of as a refuge harbour. It would be useless to speak of doing this from the funds likely to be available towards the development and improvement of the fishery harbours; but, from a point of view affecting the entire shipping interests of the United Kingdom, or at least that portion of it passing through the Irish Sea, it is well worthy the particular attention and of the recommendations of the honourable Committee on Harbour Accommodation.

No doubt many minor shelter harbours might be constructed at intervening places, such as Kilkeel, Newcastle, and Bangor, not entailing much expenditure; but this could be more readily ascertained by local inquiry by the proposed commission of selection (which I look upon as most important), and on the spot.

Donaghadee is a neat harbour, much exposed, small in extent, and placed at a point not of much importance as a fishery station, and practically not used as a shelter harbour.

BELFAST LOUGH.

Belfast Lough is an open roadstead, not much availed of by

fishing-boats, but very useful as a shelter for coasters, and its anchorage near Garmoyle, ten miles up the Lough towards Belfast, is often crowded with windbound coasters. Bangor and Carrickfergus are the harbours on each side nearest the sea; the former might be easily protected for fishing vessels, and the latter harbour is at present being extended and improved by the Carrickfergus Commissioners as a commercial port, which will locally be of advantage; but, as a fishing station, it is not much used, perhaps, owing to its proximity to Belfast, where other trade industries absorb the labour of the surrounding population.

LARNE HARBOUR.

Larne Harbour is one of the safest and most accessible natural harbours on the north-east coast of Ireland, and well adapted, with its terminable railways to Belfast and Ballymena, for the establishment therein of a landing-pier set apart for the use of the fishing interest. The public spirit of Mr. Chaine, M.P., has already provided for the commercial interests of the harbour, which, within the past ten years, he has at his own expense provided with commodious steam and other berthage accommodation. Whether any special facilities should be provided by the erection of a fishery discharging-pier or not, is a question for the Committee of selection.

THE ANTRIM COAST.

The fishing industries of Red Bay, Glenarm, Cushendale, and Ballycastle, is not unimportant, and could be greatly improved and extended. This is a long stretch of coast, with deep water and few protections.

The coast from Fair Head to Portrush is very much exposed; but whether the fishing industries could be further developed there by reason of improved harbour accommodation I am not sufficiently informed to offer an opinion. Portrush is a small harbour and well-sheltered, but rather difficult of ingress and egress during the prevalence of north and east winds. The salmon fishing of the Bush and the Bann receives special care from the owners of the "several fishery" existing thereon. The county Antrim, with its large linen trade and its relation with Belfast, as the principal seat of the linen trade of Ulster, has not a congested population, so that its requirements in the way of extending and improving the fisheries on its coasts is a question of not such pressing importance as it is to other parts of Ireland, where trade or manufacturing industries do not exist; but we soon pass on to where the facilities for extension of the fisheries become of more vital importance.

GREENCASTLE, CO. DONEGAL.

The fishermen of Greencastle and Inishowen Head are among the most hardy and venturesome of any of the Irish fishermen in their boats, so well known all over the North coast of Ireland as "Druntheims," or Greencastle yawls. They often proceed to sea to fish when other more imposing boats dare not make the attempt.

They are badly provided with harbour or railway accommodation

for the disposal of their fish; only that they take advantage of having them conveyed by the Liverpool and Glasgow steamers sailing occasionally from Derry by intercepting them, the only market they have would be Derry, to which they frequently, during the winter, sail their boats a distance of eighteen miles, in order to dispose of their fish. The small harbour they have at Greencastle is sheltered enough, but, not having sufficient water, is only of service at high tide; the steam-boat pier at Moville is only available as a landing-pier, and affords them no shelter for their boats, besides being too far distant from their *locale*.

The extension of the Greencastle Harbour and the formation of a railway from Derry to Moville (the latter if constructed by means of a loan from the Treasury would, I believe, be profitable), would give a stimulus to a very hardworking, industrious, and most peaceable community; besides, it is one of those districts where the population cannot well subsist on the small farms they occupy, but which, by means of fishing operations as an auxiliary, they could be moderately comfortable. This explanation will, in a great measure, apply to the whole population engaged in fishing around the Donegal coast, from Lough Foyle to Bundoran, in Donegal Bay.

INISHOWEN.

Great scarcity, or rather total absence of harbour accommodation exists from Inishowen Head to Lough Swilly, for the fisherman of the peninsula of Inishowen; although the ling or cod fishing of Culdaff, Malin, and Inistrahull are most important for the people. The want of a narrow gauge railway from Carndonagh to Buncrana also affects them, as any fish they have to dispose of has to be carried from twelve to fifteen miles to the nearest railway station: this of itself prevents the fish reaching the markets in the condition they ought. This portion of the coast, either at Malin or Culduff, should receive the attention of the contemplated Commission, and mark it out for the erection of a safety harbour, which might be constructed for £20,000, and would be of as much importance and advantage to the population as to any other part of Ireland that may be selected.

LOUGH SWILLY.

As a general harbour of refuge of the natural order, Lough Swilly stands among the first; yet until very lately the accommodation for the fishing interests has been *nil*.

BUNCRANA PIER.

The pier erected by the Board of Works a few years ago at Buncrana is certainly an improvement; but, for the want of funds, it is of very little use, except at high water. It would require an expenditure of £10,000 more to make it such as it ought to be, in point of depth of water; the wonder is that with the £6,000 it cost so much has been done.

On the Fannett side of the Lough, especially near Ballymastocker Bay, near the entrance to the Lough a small harbour might be

constructed with advantage to the fishery interests of that part of Donegal.

RATHMULLAN PIER.

Rathmullan Pier, which was also a dry water pier, has recently been extended fifty feet by the Board of Works, and is now very useful, but it still requires an extension of another fifty feet, or an expenditure of about £8,000 to bring it to deep water that a steamer could come alongside at all states of the tide. As a station of Her Majesty's Navy, where the Channel Fleet lie at anchor occasionally, this extension would be of more than local importance.

FROM LOUGH SWILLY TO SHEEPHAVEN, DOWNIE'S BAY.

The distance between these sea inlets and the country between being broken up with another inlet, called Milford Lough, does not require very extensive attention, but in Sheephaven, a very exposed and open inlet, no protection exists for the fisherman; a small pier is at present being constructed by the Board of Works, in a very sheltered position, at Downie's Bay; but, in my opinion, the sum of money set apart for the purpose is too limited to make the pier the success it ought to be. If from £5,000 to £6,000 more were available, more than the value of the extra cost, by way of advantage, would be secured.

DUNFANAGHY.

At Dunfanaghy, on the north-western side of the haven, a small pier had formerly been constructed (during the famine period of 1846, I believe), but, like most of the piers and roads constructed at that time and from that fund, it is wholly useless as a harbour.

DUNFANAGHY BAR.

Whether a mole, such as Sir John Coode is at present constructing for the Coleraine Harbour Commissioners at the mouth of the Bann, would improve the approach to the harbour of Dunfanaghy, and prevent the sand from forming a bar across the entrance, or whether by a cut through the sandbanks at the north-west end of the harbour would be the best means of improving the well-sheltered estuary at Dunfanaghy, is a question, like others, that could be best determined by the commission of execution and selection proposed under Mr. Blake's bill.

But there cannot be any doubt that Sheephaven could be improved as a harbour with advantage to the fishery interests, and if, as it ought to be, that a narrow-gauge railway were extended from Letterkenny, this ought to become the centre of an improving locality, thereby relieving another of the congested Donegal districts.

TORY ISLAND.

Tory Island, about twelve miles from the mainland, with its four or five hundred of a population, has not, I understand, even a boat-slip, or any better landing accommodation than the natural beach affords, yet the sole support of the inhabitants is derived from the pursuit of fishing and the sea. The cost of construction

in these almost inaccessible places often prevents moderate sums and moderate works from being expended or executed.

BALLYNESS PIER.

This is another of the piers of former days, and if extended and improved might be more useful to the district. Large quantities of bag-iron ore are often shipped off from here; and as superior sand for the manufacture of glass (disintegrated granite) exists in the mountain Muckish, in the vicinity, a trade might be developed from here to assist the agricultural pursuits of the people.

DONEGAL BAY.

From Bloody Foreland to Teelin Head the coast is cut up with numerous indentions, almost any one of which might be improved for the fishing interests of the district in which they are situate, and render corresponding benefits to the inhabitants. The Board of Works have recently constructed (where formerly nothing artificial existed) a few piers and boat-slips on this extensive coast.

MALINMORE.

At Malinmore, near Glencolombkille, the theatre of the greatest recent temporary suffering from privation (and where the Chief Secretary lately visited), in north-west Donegal, some improved landing-places have been provided.

TEELIN BAY.

At Teelin Bay a pier is now almost completed, which will be of much service as a deep-water pier, although the sum to be expended is under £8,000

This is one of the most important of the piers on the Donegal Bay, undertaken recently by the Board of Works, yet from want of a sufficient grant, it is questionable whether it is extensive enough for all the purposes required. That it will afford accommodation for the Sligo or other steam-packets going to Liverpool to call and open up an intercourse with the district, as well as offering thus the means to the fishermen to dispose of their fish, will be one of its many advantages.

KILCAR PIER.

Another small pier (costing about £800), useful in its way, has also been constructed on this bay, on the opposite side of the harbour. It is questionable what further should be done to make Teelin Bay a refuge harbour for fishery and other purposes, and, without further examining all its approaches, I am not prepared to offer a definite opinion; but it is, from its position, worthy of notice and reference to the commission of selection.

POOLHURRIN.

This is another small pier and boat-slip, built recently by the Board of Works, and is decidedly an improvement on the former state of things here. Of course it only applies to the protection of small fishing-boats, capable of being drawn up by means of a crab winch.

KILLYBEGS HARBOUR.

We come now to the most important and commodious natural harbour on the north-west coast of Ireland, carrying its sheltered banks and deep water to within a few hundred feet of the beach.

As a refuge harbour for fishery purposes this one should not be lost sight of, as, with a narrow gauge railway extended from the town of Donegal to Killybegs, the whole fishing population of the north-west would be put into direct communication with the interior of the country, and with the construction of a suitable landing-pier, at a cost not exceeding £10,000 at most, this harbour could be made use of by steamers at all states of the tide. To keep a natural harbour such as Killybegs inoperative, or of no special service to the country, for want of an expenditure of from £7,000 to £10,000, is another of those anomalies almost unexplainable; certainly it would exist in no other country except in Ireland, and this place is quite adjacent to one of the most congested districts in Ireland.

BALLYSHANNON AND BUNDORAN.

On the opposite or north-eastern side of Donegal Bay the only provision for the numerous fishermen is the erection of a pier and small harbour at Bunatraohan, within one mile of Ballyshannon, at a cost of £3,000. Here, as elsewhere, the money to provide a shelter harbour has been wanting, and to make a proper shelter on the side of the bay, available at all stages of the tide, would require a sum of at least £10,000 to be expended. At Bundoran a landing and shelter ought to be provided at perhaps a similar expense, but that the necessity exists for one in the interests of the fishing population, and of its extension, permits of no doubt; besides, as the railway comes into Bundoran, it is just probable that the whole fishing-boats would elect to land their produce here in suitable weather and if accommodation were provided.

Not being personally acquainted with the coast west of this point, I offer no opinion as to its wants, although I believe it would be found they exist to a great extent all around the Irish coast.

GENERAL.

Owing to the use of concrete in the construction of harbours and piers, and the abundance of rubble building materials on the sea-coast, no difficulties in the way of carrying out the works required (except the present remoteness of the districts) presents itself, as it has been found that by using concrete blocks and cement the works designed by the engineers mostly have stood, when more early structures, not built with cement, have succumbed to the storms.

(Signed)

WILLIAM J. DOHERTY, C.E.

WESTMINSTER PALACE HOTEL,
30th June, 1883.