

XXVII.

THE HISTORY AND STATISTICS OF THE HERRING
FISHING IN NORWAY AND SWEDEN.

BY WILLIAM WATT.

THE early history of sea-fisheries is very imperfectly known. Fish-commerce on anything like an important scale is a comparatively modern development; but the art of fishing was cultivated as a means of supplying human necessities in the way of food during many long ages before the art of curing was invented and fish became an important article of merchandise. Sea-fishing would have its small beginnings among poor men impelled by hunger and not given to writing histories of their experiences. To this day fishermen are not a literary class, and as little are they experts in the very modern science of statistics.

Among historic fishes the herring compares favourably with most in the length and eventfulness of its record. It is probably the "fish" on which, so long ago as the time of the Romans, the inhabitants of the Hebridean islands are said to have to a great extent subsisted.¹ The late Mr. John M. Mitchell, to whose industry all subsequent writers on the herring are much indebted, gives us the clew to various specific allusions to this fish in the pages of writers of the middle ages; and in Swiuden's *History and Antiquities of Great Yarmouth* we find a doubtful suggestion that the herring-fishing began on the East Anglian coast soon after the landing of Cedric the Saxon, at the end of the fifth century, and a hardly less doubtful legend about a church built and a "godly man" placed in it to pray for the success of the fishermen that came to Yarmouth in the herring season—the church and the godly man dating from the middle of the seventh century. By the tenth and eleventh centuries, however, we find indubitable testimony on the subject, and testimony more directly to our present purpose. In the days of those "Early Kings of Norway" of whom Mr. Carlyle has left us such vivid sketches, the herring-fishing was already carried on on a great scale in the "fiords" of the Scandinavian

¹ Mitchell on *The Herring*, p. 129.

Peninsula. Thus in the time of Harold *Greyfell*, whose death is variously dated in A.D. 965, 969, and 975, we read of herrings being fished with "large nets" along the whole Norwegian coast, while in the reign of Hakon Jarl (965-95), so many herrings were caught that the whole country bordering on the sea was "filled with them." A little later on, about the beginning of the eleventh century, Sigurd Syr, stepfather of the famous St. Olav, gave his thralls an opportunity of purchasing their freedom by lending them what was necessary for the fishing of herrings.¹ Sundry other passing allusions of a like nature are to be met with; but we pass on to the tale of a French traveller, who wrote a book in 1382 in which he asserted that on the sea between Denmark and Norway, there were 40,000 vessels engaged in the herring-fishing during the months of September and October, each with at least six persons on board, besides 500 vessels for gutting and packing, and that in all "there were more than 300,000 persons who did nothing but fish herrings." There is here a margin for exaggeration, but we may take it that the herring fishing was at that period prosecuted in the Skager Rack and among the southern fiords on a scale of no little magnitude and importance.²

Before this time the herring had become a subject of diplomatic proceedings between the Courts of England and Norway, leading, in 1294-5, to the conclusion of a treaty whereby King Edward and King Eric bound themselves to allow each other's subjects to fish for herrings on each other's coasts. This arrangement lasted for more than a century; but in 1415, another King Eric having made some complaint to the English monarch, a proclamation was issued to the inhabitants of the various maritime towns from Yarmouth to Berwick, forbidding them thenceforth to repair to the coasts of Norway in search of fish. The herrings had probably taken one of their capricious fits, and ceased to appear in their old quarters, and the disappointed Norwegians had attributed the failure to the foreign poachers on the Norwegian preserves.

A famous man in the history of the herring is William Benkels or Benkelszoon, the Dutchman, who, among other valuable legacies, left to posterity the word "pickle," which is said to be derived from his patronymic, and the art of pickling, which is of still greater importance. Benkels' legacies are still disputed. It is maintained that he had nothing to do with the name, and that the thing existed long before his time. Let us compromise the dispute by taking for granted that he at least improved the art of curing herrings, and had much to do with the development of the Dutch fishery, and that he fully

¹ *Saga of St. Olav.* See Laing's *Norway*, p. 370; Mitchell, p. 131.

² Mitchell, p. 133.

deserved the monument that Charles the Fifth erected to his memory. In the picturesque language of M. Alphonse Esquiros, the herring, "by being placed in barrels," became to the Netherlands an element of greatness and prosperity, "changing the destinies of Holland, and with them those of the world in the sixteenth and seventeenth centuries."¹

To other nations as well as to the Netherlands the herring has been a source of greatness and prosperity. Our concern is at present with Norway and Sweden, and the next fact bearing on the relation of these countries to the fish is more curious than important, and belongs quite as much to the history of superstition as to the history of the herring. Two mysterious-looking herrings were caught on the Norwegian coast in November 1587—the summer and autumn fishery seems to have been that chiefly prosecuted in those times. They bore strange marks that looked like words in Gothic characters inscribed. The learned were puzzled; the unlettered were awe-struck. The two strange fishes were conveyed to Copenhagen, where they terrified the King. His Majesty thought they predicted his own death. He took counsel with the most learned men about his Court, and was told that the cabalistic inscription appeared to mean that "you will not fish for herrings in future so well as other nations." Still the monarch was dissatisfied, and he submitted the problem to still more learned men of Rostock, and even to German Professors, but they all failed to clear it up; and it may be doubted whether the French mathematician who wrote a book on the subject, or the other interpreter who saw in the mystical signs a prophecy of the subversion of Europe, got any nearer the true solution than the rest.²

By the seventeenth century the records of the fisheries begin to assume a character of definiteness and authenticity, and the most striking feature of the records is the evidence they afford of those great variations in the movements of the herring-shoals that have ever since continued to be exhibited. In no country of Europe is there anything like the same length of coast-line in proportion to population as is possessed by Norway. The physical configuration of the country marks out its people as a race of sea-faring men. As far back as history takes us, much of their business was connected with the sea. For centuries they were the sea-robbers of Northern Europe and the spoilers of distant lands. But at last there came a time when the game of piracy and rapine could be no longer played, and when the Norse who remained in Norway, as well as those who colonised distant lands, were obliged to betake themselves to more honest pursuits. Their sheltered fiords

¹ *The Dutch at Home*, i. 210.

² Mitchell, p. 152.

were visited by great shoals of fish, and the capture of these brought wealth without the dangers that now attended the career of the corsair and freebooter. Accordingly, as we have just seen, the Norwegian fisheries began early to assume a magnitude in some degree commensurate with the unequalled opportunities that were afforded by a long stretch of coast, sheltered by outlying islands, and indented by numerous arms of the sea. In those early times the fishery was for the most part directed against the great masses of herrings that periodically visited the fiords, for the cod had not as yet become an object of much attention. The periodical visits were interrupted then as now by disastrous breaks. In the earlier half of the seventeenth century the magnificent herring-harvests of the past were a tradition with which there was little to correspond in the present. There would be success in some districts and in others the fishery would be an utter blank. A considerable export trade had gradually risen, but its vicissitudes brought harassing cares as often as exceptional gains. In 1650 and the next four years the annual export averaged no more than 8000 barrels, but from that time onward a marked improvement set in. The fish visited the coast and entered the fiords in at least moderate abundance, and the record once more assumes a tone of comparative cheerfulness. This state of matters continued without serious interruption through the greater part of the eighteenth century. Every spring the whole coast from the north of Bergen down to the Skager Rack, or say from the latitude of Shetland to that of Aberdeenshire, was frequented by the shoals of spawning herring. There were as usual considerable variations in particular places from year to year. During part of the time—from 1736 to 1756—there were successful fisheries about Romsdal, in a latitude slightly to the north of that of the Farøe Islands; but then came a period of failure. The fish deserted the more northerly parts and concentrated in more compact masses towards the south. About Bergen, and especially in the whole region to the north of that town, the "catch" fell off from about 1756, and the fishing became every year more and more precarious. The great centre of the industry was now about Stavanger, where the coast begins to trend south-eastward towards the Skager Rack; and from thence an active commerce in herrings was carried on with the Baltic sea-ports. This continued till 1785, when the shoals, which had gradually been passing farther and farther south, disappeared from the neighbourhood of Stavanger as completely as they had disappeared from the Romsdal district nearly twenty years before.¹

¹ See Consular Reports (Commercial) 1875: Report by Mr. Crowe.

When this great southward movement was in progress the Skager Rack and the Cattogat became important seats of the fishery, and Sweden was added to the list of herring-exporting countries. The year 1752 is assigned as the date of the commencement of the fishery "to any great extent" in the neighbourhood of Gothenburg;¹ but, once begun, it rapidly developed into a great industry, so that during the seven years 1775-81 there was an average export from Sweden of no less than 122,000 barrels of cured herrings per annum.² This average, however, is by no means the culmination. In 1787 there were cured on the Swedish coast 400,000 barrels by the ordinary method of salting, 4000 barrels by the process of smoking, and 4000 by that of compression. In addition to these large quantities of cured fish, there was the supply to the Swedish population, which with the portion of the catch exported in a slightly salted condition, must have made up a very large total. So enormous, indeed, was the supply of herrings about that period on the eastern side of the Cattogat that it gave rise to a considerable oil-boiling industry. According to Von Wright, a Swedish official of high position, who drew up a most important report on the Scandinavian Herring Fisheries about forty years ago—a report from which many of the foregoing facts are derived—herring oil was produced in one establishment alone to the extent of 2000 barrels a year. The fishery in the Cattogat was prosecuted during the summer and autumn, considerably later than on the Norwegian coast. The fish are reported to have been large and well-conditioned, though not so large as some of the herrings visiting the northern fiords.

The Swedish herring fishery ceased in 1808. From that year the shoals no longer appeared in the Cattogat, on the old scale; and although a languid fishery has been prosecuted among the islets and creeks during the last seventy years, the results appear not to have been more than very moderate. In December 1877 there was again a great appearance of shoals in that region. Mr. Duff, the British Consul at Gothenburg, in a communication to the Board of Trade, reported at the time that great shoals of herrings "of the large kind that disappeared from this coast in the year 1809" had again arrived to the north of Gothenburg, and that great preparations were being made to take advantage of the bounty of the sea.³ The hopes thus created were to a certain extent realised, and in his preliminary Report for 1880, Mr. Duff stated that—"The coast fishing in the north-west part of the district has been very remunerative, and what is called a herring period may now

¹ Mitchell, p. 76.

² *Ibid.*

³ Commercial Papers, 1878 (C.—1955).

safely be looked forward to." "The herring caught this season," Mr. Duff went on to say, "is reported to be superior to any of the two foregoing winters, wherefore curing on the spot has again taken place. Large quantities in the fresh or slightly salted state have been forwarded into the interior of Sweden, Denmark, and Germany. As an article of commerce in the smoked state, these fish occupy a place of considerable importance." The prospect of greater success in the fishery induced the Swedish Government to appoint a Commission of scientific and practical men to inquire into the methods of capture and other circumstances connected with the Herring Fisheries on the British and other coasts. The latest reports as to the abundance of fish in the Cattegat are, however, rather less encouraging.

The abundant fishery in the Cattegat, as we have seen, followed the diminution, and was contemporaneous with the almost entire cessation, of the supply of fish in the fiords and inshore fishing-grounds of Norway. When, again, the Swedish fishery failed, that on the Norwegian coast was resumed in something like its old proportions. The last good year in the Cattegat was 1808; the first comparatively good year on the coast of Norway, after the collapse in 1785, was 1809.

Three principal Norwegian herring fisheries are distinguished. One is, or rather was, carried on in the northerly latitudes between Christiansund and Loffoden during the months of December and January. A second—and by far the most productive of the three—was about Bergen and along the whole south-west of Norway, in the latter part of January, and throughout the months of February and March. It was in this fishery that the great failure of last century occurred. Since 1809 it has continued on the whole in a high state of prosperity, until within the last ten years, but has now again very seriously fallen off. Lastly, there is the summer fishery, for fat herrings, which is at present the mainstay of the Norwegian herring-trade. The fat or "mattie" herrings are found in great abundance along the whole coast, often as far north as the Arctic Circle, during the summer and early autumn.

The statistics of the Norwegian herring fishery have not been collected with the method and regularity exemplified in Scotland; but some not unimportant data exist.

The following table presents a comparative view of the Scotch and Norwegian herring imports at Stettin, the principal emporium of the trade, since 1815. I give the figures for periods of five years, as better showing the general course of the trade than the annual returns, which are more influenced by temporary causes and exceptional fluctuations:—

Five Years	Norwegian. <i>Barrels.</i>	Scotch. <i>Barrels.</i>	Excess of Norwegian. <i>Barrels.</i>	Excess of Scotch. <i>Barrels.</i>
1815-19.	123,470	96,738	26,732	...
1820-24.	64,212	97,714	...	33,502
1825-29.	68,123	68,864	...	741
1830-34.	240,912	129,552	111,360	...
1835-39.	262,317	155,076	107,241	...
1840-44.	320,074	435,572	...	115,498
1845-49.	192,771	548,489	...	355,718
1850-54.	114,584	588,308	...	473,724
1855-59.	151,473	596,178	...	444,705
1860-64.	327,612	645,787	...	318,175
1865-69.	561,833	735,931	...	174,098
1870-74.	630,062	1,073,557	...	443,495
1875-79.	594,155	1,036,108	...	441,953

The fluctuations of the Norwegian supply at Stettin, as between different years, may next be exhibited. Prior to 1865 the highest importation from Norway was in 1844, when 100,000 barrels were received. From that point there was a rapid decline to 13,200 in 1850. During the period from 1832 to 1844 the supply was never under 40,000 barrels, and generally very much higher.

The average of the ten years, 1835-44, was 58,000 barrels per annum.

1850-59, " 27,000

Showing an average yearly diminution of 31,000 barrels.

A period of greatly enhanced trade between Norway and Stettin again arrived—

Between 1860 and 1869 inclusive, the yearly average was 89,000 barrels.

Between 1870 and 1879 " " 122,000 "

In the first of these periods, as will be seen by the above table, the Scotch herring trade with Stettin showed a moderate expansion, while in the second the expansion was very great.

A table appended to a memorial submitted to the Select Committee of the year 1881 on the Scotch Herring Brand gave the following statement of the foreign herring trade of the three principal exporting countries during the twelve years from 1869 to 1880 inclusive. The column relating to Scotland gives the official figures of the Fishery Board:—

Year.	Norway. <i>Barrels.</i>	Scotland. <i>Barrels.</i>	Holland. <i>Barrels.</i>
1869.	1,101,173	381,333 $\frac{3}{4}$	156,839
1870.	932,486	530,558	210,357
1871.	631,911	551,605 $\frac{1}{4}$	160,331
1872.	1,246,391	549,631	139,196
1873.	769,349	668,008	191,046
1874.	937,323	737,314 $\frac{3}{4}$	113,997
1875.	884,676	660,970 $\frac{1}{2}$	131,269
1876.	897,108	400,423	131,740
1877.	685,602	561,985 $\frac{3}{4}$	126,821
1878.	677,001	628,934	124,594
1879.	630,127	545,993 $\frac{1}{2}$	98,026
1880.	393,044*	1,009,811	279,530

* There was, however, an important fishery late in 1880, the results of which are not included in these figures.

Adopting these figures, and dividing the period to which they apply into two equal terms of six years each, the Committee, in their report to the House, called attention to the fact that the latter, as compared with the former, shows a decrease of 38·6 per cent. on Norwegian exports; a decrease of 12·2 per cent. on Dutch exports; but an increase of 9·2 per cent. on Scotch exports. The Scotch increase was in reality higher, the returns for 1880 used by the Committee being under those afterwards published by the Fishery Board. The corrected increase is 11·4 per cent.

A somewhat different series of figures, derived from official sources, is contained in the "Statistical Abstract for the Principal and Other Foreign Countries," issued by the British Board of Trade. The data, however, are incomplete. From 1870 to 1874 inclusive, only values are given, the statement of quantities beginning with 1875. In the "Abstract" the quantities are stated in hectolitres, and the values in kroner. The hectolitre, which is the quantity generally meant when a Norwegian barrel is spoken of, is about one-sixth less than the Scotch barrel (22 gallons as compared with 26 $\frac{2}{3}$ gallons imperial measure). Giving the value in terms of British currency (18 kroner to the £), the figures are as follows:—

		Quantity.	Value.
Herrings exported from Norway in 1870.		...	£911,200
Do.	Do. 1871.	...	631,600
Do.	Do. 1872.	...	986,100
Do.	Do. 1873.	...	868,100
Do.	Do. 1874.	...	979,500
<i>Hectol.</i>			
Do.	Do. 1875.	1,037,824	954,260
Do.	Do. 1876.	1,040,645	1,177,400
Do.	Do. 1877.	975,298	750,200
Do.	Do. 1878.	785,321	558,200
Do.	Do. 1879.	730,945	682,300
Do.	Do. 1880.	536,333	528,000

It will be observed that though these figures relating to quantity differ considerably from those in the last table, there is also a certain similarity between the two sets: if they were to be illustrated diagrammatically the curves would not differ very widely. Exact statistics, such as the Scotch Fishery Board collects, are not to be had in Norway. An approximation is all that can be obtained, and in the assessment of values there is necessarily a great deal of guess-work. The Scotch statistics leave out of account the large and growing home consumption of fresh fish. In Norway, though it is without such markets as are afforded by the great cities of England and Scotland, there is a considerable home consumption—chiefly for food, but partly in the manufacture of "fish guano," which has

there been brought into a certain degree of prominence as a commercial commodity. Of this home consumption no proper account is kept. In another part of the "Statistical Abstract" an estimate is given of the produce of the several Norwegian fisheries, with the value of the "wet" fish as delivered by the fishermen. Reducing the value into terms of English money, as before, we find the gross raw produce, as it may be called, of the Norwegian herring fisheries to be stated thus:—

	<i>Hectol.</i>	<i>Value.</i>
1874.	1,215,000	£327,000
1875.	1,062,000	314,000
1876.	1,022,000	443,000
1877.	1,112,000	377,000
1878.	850,000	288,000

These estimates do not appear to err on the side of exaggeration, at all events, if those embodied in the preceding table are to be accepted as corresponding with the actuality. I think, however, they must be received with a certain amount of caution, except in so far as they serve in a general way to exhibit the magnitude of the Norwegian herring industry in moderately favourable years. For purposes of exact comparison, mere estimates are always of questionable value. The number of vessels and of men employed in the Norwegian herring-fishing during the three years 1876-78 was as follows:—

	<i>Vessels.</i>	<i>Men.</i>
1876.	12,463	48,831
1877.	7279	42,028
1878.	6001	31,459

The "vessels" seem to include all sorts of craft down to the smallest open boats. It may be stated parenthetically that the number of Scotch herring-boats in use is about 14,000, that they are manned by about 46,000 fishermen and boys, and that about as many persons more are employed on shore in connection with the curing operations.

The different fisheries contribute in very unequal proportions to the general result. Thus—

	1877.	1878.	1879.
	<i>Barrels.</i>	<i>Barrels.</i>	<i>Barrels.</i>
Spring herrings exported,	41,000	73,000	54,000
Fat Do.	694,000	612,000	453,000
Other Do.	50,000	46,000	70,000

The large "northern herring" was successfully fished for, late in the year, from 1860 till 1876 when it failed to make its appearance. In 1880 there was again a productive late fishery. The spring fishery used to produce about 800,000 barrels, and

showed on the whole a fair degree of regularity through the greater part of the century down to 1870. In 1871 it was again successful, but from that time onward the fish have continuously failed to enter the fiords. There has been often a considerable "appearance of fish" at some distance from the land, but for some reason or other they do not come inshore, but rather pass into the Skager Rack and the Cattegat, as they did a century ago. It seems a little remarkable that the failure of the spring fishery should have been accompanied by a vast extension of the summer fishery for fat or "immature" herrings. Probably this is not a mere coincidence, but has some connection with the change in the movement of the shoals at the other period of the year. According to a statement prepared for the Herring Brand Committee by Mr. F. W. Heidenreich of Stettin, the "catch" of Norwegian summer herring has since 1872 amounted on the average to over a million barrels, of which there have been exported to foreign countries the following quantities:—

	<i>Barrels.</i>		<i>Barrels.</i>
1872.	435,094	1876.	861,325
1873.	403,782	1877.	665,892
1874.	573,001	1878.	641,467
1875.	598,821	1879.	567,298

There is however great uncertainty in the fishery, and the success attending it is in considerable measure due to the use of the telegraph in conveying information of the whereabouts of shoals as soon as they make their appearance. During the last two or three years the catch of fat herrings has been large on the coast immediately to the north of Christiansund—and especially about the island of Hittern and Eidsfjorden, in Nordland. In 1880 there were also important fisheries outside Hangesund, in the south-west; but the general result was considerably under that for 1879. The discouraging results of the home fisheries led to the despatch in 1880 of a number of vessels from Stavanger and Aalesund to try their fortune on the coasts of Iceland. Regarding this fishery in Iceland, Mr. Crowe, the British Consul at Christiania, in his Report for 1880, observes that it is "carried on principally on the east coast, in the Seydesfiord and Eskefiord; also partly on the north coast. In the Seydesfiord alone, there were sixteen steamers and fifty sailing vessels from Norway. The total result to the Norwegian fishermen may be estimated at 100,000 barrels, for which 10 kroner per measured barrel was paid on the spot. These herrings found a market principally in Sweden and Russia, at 24 kroner per barrel. The prices fell later to 20 kroner, owing to the rich herring fishery on the

Scotch coast. The gross profits of those engaged in this particular fishery amounted to at least 1,000,000 kroner (£55,000). The Iceland herring is considerably larger than the Norwegian spring herring, and contains a larger quantity of roe."

There is reason to believe that the prosperity of the Norwegian herring-fisheries might be greatly enhanced, if a better system were introduced. The great abundance of herrings in past times has exercised a demoralising effect on the fishermen, who are too often content to wait until the fish enter a creek or fiord, and then to enclose and capture them with sean-nets. This is no doubt a convenient method. When the fish are accommodating enough to do their part in it, they can be entrapped and caught at leisure. But on the east coast of Scotland, the seat of the greatest herring-fishery in the world, there would be no fishery whatever on these easy terms. The Norwegian method is practised on the coast of Cornwall in the case of the pilchard-fishery, but is gradually being superseded. The Cornish fishermen, finding the sean-fishery for pilchards to be precarious and apt to fail, have provided themselves with drift-nets and gone out to sea, with the result that they have greatly mitigated the fluctuations of the fishery, and added to their own average earnings. The Norwegians are also being aroused to the necessity of adopting this policy. Their antiquated system has broken down, and they are at last in a fair way towards replacing it by a better. In the summer of 1880, the Fishery Association of Norway sent thirty-four fishermen to Peterhead to take part in the Scotch fishery, and, after a season's experience, they returned home with a first-class Scotch boat and full complement of nets, to try the effect of the Scotch method on their own side of the North Sea. The teaching of Scotch experience is very clearly to the effect that, if the Norwegians would leave their fiords, and go out to sea with well-equipped boats and ample netting, they would reach a standard of prosperity to which for many years they have been strangers. The spawning fish have not been approaching the coast, and only "matties" have been caught in anything like abundance. But the spawning fish are as plentiful as ever in the sea; it is only necessary to go where they are to be found, and to employ the proper machinery of capture.

One circumstance that militates against the prosperity of the Norwegian herring trade is the alleged inferiority of the fish. The large "northern" herring is rather coarse-grained, and "not so tender" as the fish of Scotch cure; and even the smaller fat herrings, which are now the staple of the Norwegian trade, have not a reputation at all equal to that of the "matties" from the Scottish west coast. The difference seems to be mainly

due to the cure. For one thing, the Norwegian barrels are made of fir staves, which impart an undesirable resinous flavour to the contents. More trouble is, however, taken by Norwegian than by Scotch curers in regard to the assorting of the fish, and this tends to greater uniformity of quality and cure. In a Norwegian barrel the herrings are all very nearly of one size, and this is so far an advantage; but so long as only "matties" are caught in large quantity on the Norwegian coast, it will be impossible for the Norwegians to compete on equal terms with the Scotch in the great German markets. The "matties" must be loosely packed, and they neither keep well nor bear long overland carriage or rough handling. A few years ago herrings could not be exported from Norway until the barrels containing them had received a brand or "brack" from an official inspector; but since the failure of the spring fishery, the branding system has fallen into abeyance, and the foreign trade is now carried on almost exclusively by means of samples after the fish have arrived at the market.

There is, then, considerable room for improvement in the method of capture pursued in Norway, and in the treatment of the fish after they are caught. The general use of the drift-net would bring about a great increase in the produce of the fishery. It is indeed from Norwegian competition in the foreign markets that the Scotch fishermen have most to apprehend. Hitherto the resources of the eastern side of the North Sea have, on the average, been taken advantage of to only a very moderate extent; but the introduction of the drift-fishery on a great scale, and at a distance from the shore, will establish a competition on more equal terms, and may not improbably lead to considerable changes in the course of the trade.