IX.—EUROPEAN AUTHORITIES ON THE SUBJECT OF REGULATING THE FISHERIES BY LAW.

ON THE FISHERIES OF THE GULF OF NAPLES.

BY ACHILLE COSTA.*

CONSIDERATIONS ON THE SYSTEMS OF FISHING.

Among the inhabitants of the sea the spinous-rayed fishes (to which almost all the best kinds of eatable fishes belong) are without doubt immensely prolific, more so than animals of any other class, and this fact is in harmony with a general law observed throughout nature, namely, that fruitfulness is in direct ratio to the means of destruction that animals meet with in nature, which destruction fishes find in the sea and within the sphere of their own class; the carnivorous devouring not the vegetable-feeders alone, but also those of their own kind which are smaller than themselves. If to these natural causes of destruction we add the artificial modes invented by man for his own use, we can readily appreciate the nature of the drain to which the families of fishes are subjected, and the necessity of an enormous fertility to maintain the supply at a given average.

Indeed, in spite of such fecundity, it has been observed in numerous localities that marine productions are on the decrease. In regard to the Gulf of Naples, no exact statistics are on record by which to determine the precise amount of this decrease; but, taking into consideration the local conditions of the sea, it is easy to prove that the product of fishing is very inferior to what it should be. This fact is accounted for by the avidity of fishermen, who, valuing present utility only, make no account of the injury done to the future, and who, thus ignoring their own interest, instead of being the jealous preservers of the source from which they derive their constant industry, are its destroyers, and invent new means of destruction instead of preservation. As this is a subject which regards the public welfare, owing to the loss arising therefrom to consumers, the attention of the governments of different nations has been called to it, in order that every precaution may be taken to protect this highly-important branch of industry by every means dictated by science and experience. A royal council, to which we have the honor of belonging, is already engaged in investigating all that relates to the subject in question in our country, and a law on fishing throughout Italy is in course of preparation. We do not deem it necessary here to expound in advance all the special views which we consider a subject of discussion for the council

* Atti del reale istituto d'incorraggiamento alle scienze naturali economiche e tecnologiche di Napoli. 2do serie. Tomo VII. 1870. P. 89.

itself; nevertheless we deem advisable not to overlook any of the general considerations which are the result of direct and experimental observations made on the systems of fishing in the Gulf of Naples. If, on one side, we view these considerations as only partial regulations relating to local facts, on the other side we find them placed among the general facts which furnish the elements of the law itself.

In order to judge of the fitness of the systems of fishing, we must consider them under three aspects: the means to be employed, the proper seasons, and the proper places; three things that are so united that one cannot be separated from the others, and means which in themselves might be harmless if employed in proper seasons and places, become very injurious to marine productions when used out of season and place.

The general rules which a wise regulation for fishing must prescribe, are:

1st. Fishes should not be molested during the time of spawning.

2d. The eggs should be left to rest where they were deposited, so as not to be disturbed during their development.

3d. The young must not be destroyed till they have reached a certain size.

4th. Fishes must not be destroyed in mass, by means of poisoning.

From these incontestable principles it follows, as an evident deduction, that a regulation for fishing must prescribe:

1. That fishing must not be carried on in times and places when and where fishes meet for the deposition of eggs or spawn.

2. Dragging-nets must not be used in seasons and places in which eggs are in process of hatching, or embryos undergoing development.

3. Nets with too close meshes must not be used, because they gather the very small fishes, and thus prevent them from developing sufficiently to become useful to consumers.

4. No substance must be used which, when thrown in the sea, produces such changes in the water as to cause the death of all the fishes therein.

The third and fourth of the above rules find their application equally in every country, but the first two require for their application an exact knowledge of the instincts of fishes in regard to their spawning, and of the nature of the bottom of the sea.

The general rule, that fishing must be carried on in such a manner as not to affect the continued production, contains certainly, in itself, all that can be required. It often happens, however, that general rules are easier in theory than in practice.

As regards the apparatus of fishing, the greatest care has been deemed necessary, from remote times, in the use of trawl-nets, which, raking over the bottom of the sea so as to gather up the mud in seasons in which the eggs are deposited, destroy everything, thus causing much damage to the reproduction of the species. Hence the permanent prohibition of the use of such nets from April till October, which is found in the fishing regulation in the old Neapolitan provinces. The fact of the damage which is caused to marine productions by the use of trawl-nets in the seasons above mentioned is so evident to us that it seems useless to attempt to argue the question, especially as we would only be repeating what has already been demonstrated so learnedly by others. We think, however, that in examining such arguments we must not confine ourselves to the trawl-net, but must take into consideration the whole category of meshed nets. We must undoubtedly make a distinction between those which drag heavily the bottom of the sea, thereby

gathering up all they meet with, including mud itself, as the trawl drags it, and the other nets which rest lightly on the bottom of the sea, like the seines in their modifications, &c. If, however, the former are the most injurious, the latter are none the less hurtful in certain seasons, for, while the former destroy the eggs and the embryos, the latter gather up the young when scarcely able to swim. In fact, the seines and hand-trawls, and similar nets, are precisely the kind that take enormous quantities of young of various kinds of fishes, which are brought to market by the ton, under the name of *fravaglie*, and which are the young of anchovies, mullets, gurnards, &c. While this immense quantity of fishes brings but a very scant profit, it subtracts from the sea the elements which, in the following seasons, would prove a source of sustenance to the people and profit to fishermen. It is owing to this principal reason, as we have stated before, that, while the Gulf of Naples furnishes the most favorable conditions to the prosperity and increase of its inhabitants, the fact is, that the fishes sent to market are not sufficient for the wants of the people, so that, in spite of the considerable quantities derived from the gulf, if we except a few rare cases of a small variety, the prices are such that the masses cannot afford to procure them. Another effect of this excessive fishing is, that in the Gulf of Naples (with few exceptions) the species never attain any considerable size; hence, for example, flounders and many other kind never attain half the size of those in the Adriatic. It is necessary, therefore, to forbid the use of nets which injure the inhabitants of the sea, of whatever kind.

ON THE POSSIBILITY OF EXHAUSTING THE SEA-FISHERIES.*

BY JAMES G BERTRAM.

The idea of a slowly but surely diminishing supply of fish is no doubt alarming, for the public have hitherto believed so devoutly in the frequently-quoted proverb of "more fish in the sea than ever came out of it," that it has never, except by a discerning few, been thought possible to overfish; and, consequently, while endeavoring to supply the constantly-increasing demand, it has never sufficiently been brought home to the public mind that it is possible to reduce the breeding stock of our best kinds of sea-fish to such an extent as may render it difficult to re-populate those exhausted ocean colonies which in years gone by yielded, as we have been often told, such miraculous draughts. It is worthy of being noticed that most of our public writers who venture to treat the subject of the fisheries, proceed at once to argue that the supply of fish is unlimited, and that the sea is a gigantic fish-preserve, into which man requires but to dip his net to obtain at all times an enormous amount of wholesome and nutritious food.

This style of writing on the fisheries comes largely into use whenever there is a project of a joint-stock fishing company placed before the public. When that is the case, obscure little villages are pointed to as the future seats of enormous prosperity, just because they happen to be thought of by some enterprising speculator as the nucleus of a

* Extracted from "The Harvest of the Sea, a contribution to the natural and economic history of the British food-fishes. London. John Murray, 1865."

fishing town; and we are straightway told that Buckhorn, or Kirksalt, or some equally obscure place, could be made to rival those towns in Holland, whose wealth and prosperity originated in even smaller beginnings. We are likewise informed, on the occasions of giving publicity to such speculations, that "the sea is a liquid mine of boundless wealth, and that thousands of pounds might be earned by simply stretching forth our hands and pulling out the fish that have scarcely room to live in the teeming waters of Great Britain," &c. I would be glad to believe in these general statements regarding our food-fisheries, were I not convinced, from personal inquiry, that they are a mere coinage of the brain.

There are, doubtless, plenty of fish still in the sea, but the trouble of capturing them increases daily, and the instruments of capture have to be yearly augmented, indicating but too clearly to all who have studied the subject, that we are beginning to overfish. We already know, in the case of the salmon, that the greed of man, when thoroughly excited, can extirpate, for mere immediate gain, any animal, however prolific it may be. Some of the British game-birds have so narrowly escaped destruction that their existence, in anything like quantity, when set against the armies of sportsmen who seek their annihilation, is wonderful.

As has been mentioned in a previous chapter of this volume, the supply of haddocks and other *Gadidæ* was once so plentiful around the British coasts that a short line, with perhaps a score of hooks, frequently replenished with bait, would be quite sufficient to capture a few thousand fish. The number of hooks was gradually extended, till now they are counted by the thousand, the fishermen having to multiply the means of capture as the fish become less plentiful. About forty years ago the percentage of fish to each line was very considerable. Eight hundred hooks would take about 750 fish; but now, with a line studded with 4,000 hooks, the fishermen sometimes do not take 100 fish.

It was recently stated by a correspondent of the John O'Groat Journal, a newspaper published in the fishing-town of Wick, that a fish-curer there contracted some years ago with the boats for haddocks at 3*s.* 6*d.* per hundred, and that, at that low price, the fishing yielded the men from £20 to £40 each season, but that now, although he has offered the fishermen 12*s.* a hundred, he cannot procure anything like an adequate supply. As the British sea-fisheries afford remunerative employment to a large body of the population, and offer a favorable investment, it is surely time that we should know authoritatively whether or not there be truth in the falling-off in our supplies of herring and other white fish. At one of the Glasgow fish-merchants' annual soirees, held a year or two ago, it was distinctly stated that all kinds of fish were less abundant now than in former years, and that in proportion to the means of capture, the result was less. Mr. Methuen reiterated such opinions again and again. "I reckon our fisheries," said this enterprising fish-merchant on one occasion, "if fostered and properly fished, a national source of wealth of more importance and value than the gold-mines of Australia, because the gold-mines are exhaustible; but the living, propagating, self-cultivating gift of God is inexhaustible, if rightly fished by man, to whom they are given for food. It is evident anything God gives is ripe and fit for food. 'Have dominion,' not destruction, was the command. Any farmer cutting his ripe clover grass would not only be reckoned mad, but would, in fact, be so, were he to tear up the roots along with the clover, under the idea that he was thus obtaining more food for his cattle, and then wondering why he had no

second crop to cut. His cattle would starve, himself and family be beggared, and turned out of their farm as improvident and destructive, who not only beggared themselves, but, to the extent of their power, impoverished the people by destroying the resources of their country. The farmer who thus destroys the hopes of a rising crop by injudicious farming, is not only his own enemy, but the enemy of his country as well."

Such evidence could be multiplied to any extent if it were necessary, but I feel that quite enough has been said to prove the point. It is a point I have no doubt upon whatever, and persons who have studied the question are alarmed, and say it is no use blinking the matter any longer—that the demand for fish as an article of food is not only beginning to exceed the supply, but that the supply obtained, combined with waste of spawn and other causes, is beginning to exceed the breeding-power of the fish. In the olden times, when people only caught to supply individual wants, fish were plentiful, in the sense that no scarcity was ever experienced, and the shoals of sea-fish, it was thought at one time, would never diminish; but since the traffic became a commercial speculation, the question has assumed a totally different aspect, and a sufficient quantity cannot now be obtained. Who ever hears now of monster turbot being taken by the trawlers? Where are the miraculous hauls of mackerel that used to gladden the eyes of the fishermen? Where are now the wagon-loads of herring to use as manure, as in the golden age of the fisheries? I do not require to pause for the reply—echo would only mock my question by repeating it. Exhausted shoals and inferior fish tell us too plainly that there *is* reason for alarm, and that we have, in all probability, broken at last upon our capital stock.

What, then, if this be so, will be the future of the British fisheries? I have already, and more than once, in preceding pages, hinted my doubts of the existence of the enormous fish-supplies of former days; in my opinion, the supposed plentifulness of all kinds of fish must in a large degree have been a myth, or at least but relative, founded, in all probability, on the fluctuating demand and the irregular supply. Were there not an active but unseen demolition of the fish-shoals, and were these shoals as gigantic as people imagine them to be, the sea would speedily become like stirabout, so that in time ships would not be able to sail from port to port. Imagine a few billions of herrings, each pair multiplying at the rate of thirty thousand per annum! picture the codfish, with its million ratio of increase; and then add, by way of enhancing the bargain, a million or two of the flat-fish family throwing in their annual quota to the total, and figures would be arrived at far too vast for human comprehension. In fact, without some compensating balance, the waters on the globe would not contain a couple of years' increase! If fish have that tendency to multiply which is said, how comes it that in former years, when there was not a tithe of the present demand, when the population was but scant, and the means of inland carriage to the larger seats of population rude and uncertain, the ocean did not overflow and leave its inhabitants on its shores? Were we better acquainted with the natural history of fish, it would be easy to regulate the fisheries. The everlasting demand for sea-produce has caused the sea-fishing, like the salmon-fishing, to be prosecuted at improper seasons, and fish have been, indeed, are daily, to a large extent, sold in a state that renders them quite improper for human food. Another cause of the constantly-lessening supplies may be also mentioned. Up till a recent period, it was thought

all fish were migratory, and the reason usually assigned for unsuccessful fishing was that the fish had removed to some other place. Thus the fact of a particular colony having been fished up was in some degree hidden, chiefly from ignorance of the habits of the animal. This migratory instinct, so far as our principal sea-fish are concerned, is purely mythical. The rediscovery of the Rockall-cod-bank must tend to dissipate these old-fashioned suppositions of our naturalists. All fish are local, from the salmon to the sprat, and each kind has its own abiding-place. The salmon keeps unfailingly to its own stream; the oyster to its own bank; the lobster to its particular rock; and the herring to its own bay. Fishermen are beginning now to understand this, and can tell the locality to which a particular fish belongs, from the marks upon it. A Tay salmon differs from a Tweed one, and Norway lobsters can be readily distinguished from those brought from The Orkneys. Then, again, the fine haddocks caught in the bay of Dublin differ much from those taken in the Frith of Forth, while Lochfyne herrings and Caithness herrings have each distinct peculiarities.

Our great farm, the sea, is free to all—too free; there is no seed or manure to provide, and no rent to pay. Every adventurer who can procure a boat may go out and spoliate the shoals; he has no care for the growth or preservation of animals which he has been taught to think inexhaustible. In one sense it is of no consequence to a fisherman that he catches codlings instead of cod; whatever size his fish may be, they yield him what he fishes for—money. What if all the herrings he captures be crowded with spawn? What if they be virgin fish, that have never added a quota to the general stock? That is all as nothing to the fisherman as long as they bring him money. It is the same in all fisheries. Our free, unregulated fisheries are, in my humble opinion, a thorough mistake. If a fisherman, say with a capital of £500 in boats, nets, &c., had invested the same amount of money in a breeding-farm, how would he act? Would he not earn his living and increase his capital by allowing his animals to breed? and he would certainly never cut down oats or wheat in a green state.

EXTRACT FROM THE LONDON FIELD, 1871.

The Americans, like ourselves, have begun to find that fisheries will die out if the fish are hindered from spawning, and are taken at all times and of all sizes. Incited thereto, perhaps, by our example, and by the movement which has taken place in Canada in respect to the fisheries, the Americans have begun to look rather sharply into the condition of their own rivers. We have received various reports from the United States of the proceedings which have been and are being taken in reference to their fisheries. Last year an inquiry was held respecting those of Massachusetts, at the instance of certain petitioners; but the inquiry failed, as it was stated by the committee that there was no sufficient cause shown for enacting any special measures. When a failure of this kind happens with us, we generally know on whose shoulders to put it; the opposition has been too strong, and the perpetrators of the mischief, whatever it may be, have made sufficient interest to keep things *in statu quo*. We do not say that this is the case over in Massachusetts. Fortunately, however, the example set by that State has not been followed, for Connecticut has come to a different conclusion, and

has ordered that fixed engines shall be done away with on the southern coast of the State after the 1st of January, 1871; while now we have a report from Rhode Island, forwarded to us by Mr. Spencer F. Baird, in which it seems the committee have arrived at a similar opinion. The report will not bear much dissecting, as it consists chiefly of a series of questions answered by a number of different persons. From their evidence it seems to be clearly proved that the methods of fishing by means of traps, pounds, gill-nets, &c., are too severe for the fish, and that few of them can now reach their spawning places, while every year the total falls off; that whereas formerly scup, tautog, and other fish were very abundant, they are now (particularly scup) growing very scarce; and therefore the committee recommend the State to pass a very stringent act, prohibiting the setting of such traps and contrivances, under penalty of a fine of not less than $50 nor more than $300 for the first offense, and not less than $500 nor more than $1,000, with imprisonment for not less than a month nor more than a year, for every other. These are something like penalties, and prove that when our cousins mean to prohibit a thing they are in earnest.

EXTRACTS FROM THE REPORT OF THE COMMISSIONERS APPOINTED TO INQUIRE INTO THE SEA-FISHERIES OF THE UNITED KINGDOM; PRESENTED TO BOTH HOUSES OF PARLIAMENT BY COMMAND OF HER MAJESTY. LONDON, 1861.*

To the Queen's Most Excellent Majesty:

We, the undersigned commissioners, appointed by Your Majesty to inquire into the condition of the sea-fisheries of the United Kingdom of Great Britain and Ireland, and especially instructed by the terms of Your Majesty's commission to ascertain, firstly, whether the supply of fish is increasing, stationary, or diminishing; secondly, whether any modes of fishing which are practiced are wasteful or otherwise injurious to the

*This commission, composed of James Caird, Professor T. H. Huxley, and George Shaw Lefevre, was appointed in 1863 by the Queen, to inquire into the following points:

1st. Whether the supply of fish from the sea-fisheries is increasing, stationary, or diminishing.

2d. Whether any of the methods of catching fish in use in such fisheries involve a wasteful destruction of fish or spawn; and, if so, whether it is probable that any legislative restriction upon such method of fishing would result in an increase of the supply of fish.

3d. Whether any existing legislative restrictions operate injuriously upon any of such fisheries.

The conclusions to which the commissioners arrived have been vigorously assailed by many writers, both in this country and in Europe; chief among the latter is a French author, Rimbaud, whose protest is referred to in the report of the Massachusetts commissioners of fisheries for 1869, p. 60, and by Mr. G. H. Palmer, (p. 94,) of the present report. It is upon the conclusion of Professor Huxley and his associates that Captain Atwood mainly relies for his argument in favor of free fishing, without any restrictions. As has been shown by the first-mentioned writers, and in my own report, a distinction is to be drawn between the shore and the outside or deep-sea fisheries, and while the arguments of the British commissioners apply essentially to the latter, the questions in connection with the fisheries of the south side of New England are related almost exclusively to the former.

S. F. B.

supply of fish; and, thirdly, whether the said fisheries are injuriously affected by any legislative restrictions, humbly submit the following report of our proceedings to Your Majesty:

We first proceed to state the results of our inquiries into the matters to which Your Majesty's commission especially directs our attention. And, first, whether the supply of fish from the sea-fisheries is increasing, stationary, or diminishing.

Though there has been much conflicting evidence on this point, we have had no difficulty in coming to the conclusion that, on the coasts of Great Britain, the supply of fish is increasing, and that it admits of progressive increase.

It fluctuates according to the locality and the season of the year. In the autumn of 1863 the northeast coast of England yielded a meagre inshore fishing, while, in the following year, we found on the east coast of Scotland the haddock fishing had been one of the best ever known. And at the time that the inshore fishing was unproductive in 1863, that carried on by the decked vessels farther to sea was yielding an abundant supply.

The evidence where strongest in favor of a gradual decline in the yield of fish was nearly always accompanied by statements showing a progressive increase in the number of men and boats engaged in the fishing. And not only have these numbers uniformly increased, but there has also been an increase in the length of each fishing-line and the number of hooks upon it, in the length and depth of the nets, and in the size and sea-going qualities of the boats. The machinery for fishing has been increased in efficiency, while, in proportion to that efficiency, the cost of working it is actually diminished. There is likewise abundant proof of the continued productiveness of the nearest and most frequented fishing-grounds. The principal London salesmen concurred in their testimony to that effect. Not only are the fishing-vessels constantly being increased in number, but the take of each vessel is increasing, and, from the speedier means of transport, the quality of the fish is improving. On the western part of the Dogger bank it is not uncommon for a single trawl vessel to take, in a three hours' trawl, from two to three tons' weight of fish; and a smack-owner mentioned a recent case in which five of his vessels caught 17 tons of fish in one night. Similar testimony is borne to the prolific character of the fishing-banks of Scarborough, Flamborough Head, Grimsby, and the coast of Norfolk. In the English Channel, the famous fishing-ground of Rye Bay, which has for a long period of years been constantly trawled over by both English and French fishermen, was stated to have yielded more fish in 1863 than in any previous year. In some of the bays on the south coast signs of over-fishing have been alleged to exist, but in the deep sea the well-known trawling-grounds are constantly fished over with daily returning success.

The second question submitted to us is, whether any of the methods of catching fish in use in the sea-fisheries involves a wasteful destruction of fish and spawn; and, if so, whether it is probable that any legislative restriction upon such methods of fishing would result in an increase of the supply of fish?

Of the many methods of taking sea-fish described in the appendix, (No. 1,) very few have escaped complaint from one source or another; and our minutes of evidence would have been far less voluminous had we not considered it our duty to encourage the complainants to state their views fully, and to sift out, by careful and varied questioning, the amount of truth contained in their multitudinous allegations.

As these complaints have usually been brought against one class of fishermen by others, who, rightly or wrongly, conceived themselves to be unjustly injured in their most important interests; and as they have been rebutted by persons whose means of living, largely or wholly, depend upon their power to continue the alleged wrongful practices, it will not be a matter of astonishment that the evidence, so far as it records merely personal convictions, and assertions that can be neither proved or disproved, is of the most conflicting character.

In making this remark, we have no wish to reflect in the slightest degree upon the veracity of either side. On the contrary, we desire particularly to acknowledge the frankness with which the fishermen generally gave their evidence, and the intelligent manner in which they stated their views. But fishermen, as a class, are exceedingly unobservant of anything about fish which is not absolutely forced upon them by their daily avocations; and they are, consequently, not only prone to adopt every belief, however ill-founded, which seems to tell in their own favor, but they are disposed to depreciate the present in comparison with the past. Nor, in certain localities, do they lack the additional temptation to make the worst of the present, offered by the hope that strong statements may lead the state to interfere in their favor, with dangerous competitors.

Leaving out of consideration the comparatively few cases in which private rights of sea-fishery exist, it may be laid down as a broad principle that, apart from the restrictions prescribed by international law, or by special treaties, the produce of the sea is the property of the people in common, and that methods of fishing are fitting subjects for legislation only so far as such legislation can be shown to be necessary to secure the greatest possible advantage to the whole nation from the sea-fisheries, either by suppressing wasteful and uselessly destructive modes of fishing, or by removing legislative obstacles in the way of improved modes of fishing, or by preserving peace and order among fishermen.

Keeping these principles in view, all the tenable complaints against methods of fishing which have been brought before us may be classified under two heads:

I. Complaints that a given mode of fishing is wasteful, and tends to diminish the supply of fish permanently.

II. Complaints that a given mode of fishing interferes with the lawful occupations of fishermen of another class, or of other persons.

In discussing the first series of complaints, three distinct issues will have to be considered:

a. Does the alleged waste take place, and to what extent?

b. Can the waste which occurs be shown to have affected the supply of fish?

c. If waste have occurred to a sufficient extent to affect the supply of fish, how far is it desirable to interfere by direct legislation, and how far is it better to trust to natural checks?

And as regards the second series, we shall find it necessary to inquire—

a. Does the alleged interference occur, and to what extent?

b. If the interference occurs, does the public interest require the intervention of the state?

I. Complaints that a given mode of fishing is wasteful, and tends to diminish the supply of fish permanently.

The chief methods of fishery against which complaints of this kind have been brought are—

1. Beam-trawling in the open sea.

2. All kinds of sweep-net fishing, (beam-trawling, shrimping, seinings

circle-net fishing,) and fishing with small meshed nets and weirs in bays and estuaries.

Trawling is alleged to be a wasteful and destructive mode of fishing—

1. Because the whole, or the majority of the fish brought up in the trawl, are dead, and so much damaged as to be unwholesome or otherwise unfit for human food.

2. Because the beam and net, dragging along the sea-bottom, tear up or destroy the spawn of fish.

3. Because the net brings up a vast quantity of the fry of fish, or of fish so small as to be unsalable, which is all thrown back dead into the water.

4. Because, in consequence of the latter effects of trawling, all the grounds over which the trawlers work are becoming rapidly exhausted; so that not only are line-fishermen unable to obtain any fish there, but the trawlers themselves are obliged to seek other localities, and are in fact rapidly becoming ruined.

1. The assertion that trawled fish is always, or commonly, brought up not only dead, but so much damaged as to be unwholesome and unfit for human food, has been made and strongly persisted in by several witnesses; but we feel bound to express our conviction that the statement is incorrect, and, indeed, absurd.

2. The statement that the beam and the net of the trawl dragging along the ground tear up and destroy the spawn of fish, has not been justified by the evidence adduced. Many of the unhesitating assertions which have been made before us on this head, in fact, are only intelligible upon the supposition that the witnesses were ignorant of the real mode of working the trawl-net, and of the true nature of many of the substances brought up by it.

In conclusion, we are clearly of opinion—

1. That fishing by the use of the beam-trawl is the source of by far the greatest and most progressive supply of fish, other than herring, to the principal markets of this country; that certain descriptions of fish, such as soles and plaice, could not be largely supplied by any other mode of fishing; that it engages the largest capital, employs the most numerous body of hardy fishermen, is the least under the control of the weather, and obtains the greatest returns of fish for the labor and capital employed.

2. That there is no reason to believe that trawling in the open sea destroys the spawn of fish.

3. That trawling in the open sea involves the capture of a certain very variable proportion of small fish, which is wasted or not, according to circumstances.

4. That there is no evidence to show that trawling has permanently diminished the supply of fish from any trawling-ground, but that there is proof to the contrary.

5. That trawling in the open sea has not interfered with the supply of fish from line-fishermen; unless it be by catching, in a more expeditious and regular manner, fish which the line-fishermen might have taken.

6. That trawling in the open sea is not shown to be a wastefully-destructive mode of fishing, but the contrary.

7. That any legislative restriction upon trawling in the open sea would result in a very great decrease in the supply of fish.