I think, without great loss; but the loss with haddock, and, still more, with herring, would probably be large. I do not think the experiment could be intrusted to the engineers, but would require the constant supervision of a skilled assistant, as its success depends on strict attention to numerous small details. With regard to (2), the eggs of all except the herring are floating, and the mechanical difficulties of dealing with them would be very great. The eggs of the herring might be taken under proper conditions. With regard to (3), the hatching of the eggs could, I think, be retarded sufficiently long to insure their arriving in the colony. With regard to (4), it is not probable that the fishes would resist a temperature of 32° Fahr. throughout the voyage, and a temperature considerably higher would be necessary. Eggs, however, would require a low temperature—about 32° Fahr.—and they can resist it.

On the general question, I may be permitted to make a few observations, such as I have made quite recently to Mr. George Thomson, the Superintendent of the hatchery in New Zealand, who wrote to me on the subject. I do not favour the attempt to introduce the fish in the egg-state if they can be introduced as fish. Apart from difficulties in dealing with them, an enormous supply would be required to render success probable, for the eggs or the newly hatched fry would have to be at once put into the sea, and under ordinary circumstances one could not expect more than an extremely small proportion to survive to reproductive size—not more, perhaps, in the case of the turbot or the cod, than two or three per million eggs. It is different with fresh-water fishes—as the trout or salmon—where the number of eggs related to the survival of one individual is small, and where the eggs and the young fish can be kept under observation. In the case of the herring, however, it may be found best to deal with the eggs.

At least as important in any such experiment as the arrangements for carrying out the fish are the arrangements for dealing with the fish when they arrive; and I presume this would be carefully attended to. The plan ought to be to take out small fishes of the kinds described and to keep them, it may be for a few years, in tanks or otherwise until they reach maturity and spawn. Their eggs could then be hatched in the hatching apparatus and the fry turned out in suitable places, and the process repeated each year.

Before anything is done or expense incurred, I would recommend that the Government of New South Wales should be fully consulted. A few years ago the Agent-General, the late Mr. Copeland, came to Aberdeen with reference to indroducing European fishes to the colony. The experiment was made by Mr. H. Dannevig, now the Superintendent of Fish-culture at Sydney, and he ought to be able to give more valuable information on the subject than anybody else.

I am, &c.,
T. Wemyss Fulton.

Walter Kennaway, Esq., Secretary to the High Commissioner for New Zealand, Westminster Chambers, London, S.W.

Sir,— Wellington, 6th April, 1906.

I have the honour to report that in accordance with your instructions while in America I made inquiry with regard to the possibility of introducing some new food-fishes from that country, special inquiry being made with regard to the striped bass.

On this matter I consulted with Commissioner Bowers, Drs. Smith and Everman, and Mr. Tibcomb, of the United States Bureau of Fisheries, Washington; Dr. Townsend, Director of the New York Aquarium; Dr. Sherwood, Ichthyologist for the Museum of Natural History, New York; Professor Prince, Commissioner of Fisheries for Canada; and Professor Jordan, of California.

The general opinion of these gentlemen was that the striped bass was one of the very best fishes to try to introduce into New Zealand waters, while at the same time it should be one of the easiest to transport. The North Atlantic cod and shad were also mentioned as desirable fishes, but it was considered that their transportation would be a very difficult matter.

Owing to the character of the eggs of the striped bass, it is not considered possible to transport them any great distance; but it is thought that the young fish can be safely sent to New Zealand. The young fish are said to be remarkably hardy, and stand confinement well. The American experts recommend taking the fish as young as they can be caught, and that they should be confined in suitable tanks for a few weeks before being shipped. By treating the fish in this way they are hardened and used to confinement and artificial food, and the weaker fish are weeded out before being put on board ship.

Dr. Townsend, who has had a large experience in holding these fish in confinement in his aquarium-tanks, says that, being anadromous in their habits, they can be kept in either fresh or salt water for a long time. Most of the specimens in the New York Aquarium have been there over two years.

Dr. Jordan says that while he considers them to be one of America's best food-fishes, they also afford excellent sport for the angler in the bays around the coast and in the tideways of rivers. They are taken with rod and line, ground and spinning bait being used. They enter the rivers for the purpose of spawning, and, like the salmon, do not feed in fresh water. This fish is indigenous to the Atlantic Coast of America, its range being from about lat. 50° to 30°, or from New Brunswick to the Escambia River, on the coast of Florida. About the year 1876 a number of young fish were transported to the Pacific coast and liberated near the mouth of the Sacramento River. In 1880 Dr. Jordan reported that several specimens had been caught along the coast, and at the present time they are one of the most plentiful and favourite fish in the San Francisco market. In the market they usually run from about 3 lb. to 25 lb. in weight, but specimens running up to 50 lb. and 60 lb. are frequently caught. I think this is a fish that should do remarkably well in the coastal waters of the colony, and would recommend that it should be introduced.

The expert authorities mentioned in this report commended the New Zealand Government for trying to acclimatise the quinnat and sockeye salmons and whitefish, and strongly recommend persevering with these fish.

I have, &c.,
L. F. Ayson,
Chief Inspector of Fisheries.

The Secretary, Marine Department, Wellington.