## REV. MOSES HARVEY ON

method fish could be multiplied to an unlimited extent. To Jacobi then must be awarded the honour of first discovery.

There is little doubt too, that in 1887, John Shaw, of Drumlanrig, Scotland, a forester of the Duke of Buccleuch, independently rediscovered the process. He had undertaken to prove that parrs were the young of salmon, and conducted a long series of experiments with this view, in the course of which he fecundated and hatched the eggs of salmon. He did not, however, go farther than to establish scientifically the principle involved, while Jacobi and Remy turned it to practical economic account. Shaw's experiments, however, were completed and reported to the Royal Society of Scotland before Remy's discovery.

To France, however, must be accorded the honour of erecting at Huningue the first fish-breeding establishment in which the art was turned to practical economic account, and its usefulness to the general interests fully established. The advantages of the artificial method, in the rapid multiplication of fish, and in the preservation of the ova and young fry from the destruction inevitable in the natural process, became speedily apparent. The Government of France speedily took the new discovery under its fostering care, and immediate and substantial success followed. The rivers and lakes of France were soon extensively cultivated, and fish ponds of considerable extent were constructed. The system quickly spread over the whole continent of Europe, and everywhere aqui-culture began to yield highly profitable returns.

About 1850 the fine breeding establishment of Stormontfield, on the river Tay, near Perth, commenced operations and was conducted with admirable skill and marked success. In the same year Norway embarked in the enterprise under government patronage. Three years later (1853) the United States entered on the work, and developed it with characteristic energy and on a scale previously unknown. In 1863, Cunada commenced public fish-culture, and can now boast of possessing a thoroughly organized system, skilfully conducted on scientific principles, fully abreast of the age and yielding most satisfactory results.

The evolution of fish-culture has thus been a very slow process. Though almost coeval with civilization in its inception, it made no marked progress till Jacobi's discovery, in 1748; and afterwards it required a century before it attracted the attention of the world and received any general acceptance. Even now it encounters much opposition, and in many civilized countries is still regarded with such doubt and distrust that it makes little progress. This, however, is the fate of all new ideas which have to do battle with apathy, ignorance and self-interests, and the innate indisposition of men to leave the beaten paths. As a rule, mankind know not their benefactors, and regard all innovators as disguised enemies or open destructionists.

At first fish-culture was generally carried on ss a private enterprise for individual profit. Gradually, however, its importance was discerned, and its promotion and control were, in some countries, assumed by the State for the benefit of the whole community. If lakes and rivers which were open to the public, and in which no one could claim the right of property, were to be stocked artificially, the work must be done, not by private enterprise which was inadequate, but by governments, out of the public funds to which all contribute. Thus fish-culture on an extensive scale, with costly apparatus and a staff of officials and employees, became, in time, to be regarded as a function of the State.

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