

the geographical distribution, horizontal as well as vertical, of the most important species of fish, especially during the spawning period, when many of them are most sought after, and when each species may be supposed to congregate at localities where the natural conditions, such as depth, salinity, and temperature, are especially favourable and characteristic. These breeding places have been discovered partly by searching for the spawning fish, and partly by charting the distribution of the newly-spawned eggs, which float immediately above the shoals of spawning fish.

The development and growth of the fish, and the geographical distribution of the different stages, formed another important subject for our scientific studies. By various means it is now possible to ascertain the age of the different individuals in a shoal of fish, and we are in consequence able to study the growth of fishes in different areas.

Some of our fishing experiments have had an immediate influence on the development of the fishing industry, and have led to fish being found on hitherto unutilised banks, which have since turned out to be profitable fishing grounds. The study of the natural history of fishes may be said to have as its main object the widening of our knowledge regarding all the physical and biological phenomena on which depend the life of the fishes and the fishing industry.

The Atlantic
cruise of 1910.

During the winter of 1909-10 a great deal of time was spent in preparing the "Michael Sars" for an extended cruise in the North Atlantic, in selecting the route to be followed, and in preparing instruments and apparatus of the latest and most approved patterns.

Depth of the
North
Atlantic.

A glance at the depth map is sufficient to make it clear that the greater part of the North Atlantic is deeper than 2000 fathoms. The coast plateaus off Africa, Spain, and the United States are very limited, and the continental slope is, as in the Norwegian Sea, very steep. The bathymetrical curves for 500 and 1000 fathoms lie in close proximity to one another. Only off Newfoundland and from the Bay of Biscay northwards along the western shores of Ireland and Great Britain do we find the continental shelf or coast banks widening out into tolerably broad plateaus. From the coast banks round Iceland a low ridge extends in a south-westerly direction, known as the Reykjanes Ridge. This is continued southwards as the Dolphin Rise, with deeper water on either side. From this low ridge