abound along the whole coast, increasing towards the north (Nordland and Tromso). Study of the scales proves that the large and spawning herring are four to eight years old, some being even sixteen to eighteen years old, while the "fat" herring, as Professor G. O. Sars long ago opined, are two to four years old, some being one year, while others are six to seven years old. To determine the age-composition of the whole herring tribe along the Norse coasts, the proportions of small, of fat, of large and of spring herring would require to be ascertained, but science has found a far more ready and easy way. Dr. Hjort stated that 15,000 examples of herring had been carefully examined in one year (1910), and it was found that in successive years, the fish of one year predominated. Thus the herring hatched, in 1904, exceeded other year-classes, in 1907 (as three-year olds), in 1908 (as four-year-olds): but in 1909 and 1910, they formed a less predominant portion of the "fat" herring schools: because they had joined the large and spring herring schools and could still be identified by their scales. Indeed in 1911, they formed, as seven-year-olds, 70% of the large herring schools. 1904 must have been a more favourable year, for the herring spawning and hatching, than the years before and after. The 1899 year class, being eight-year-olds, in 1907, were traced through 1907, 1908 and 1909 among both the large herring and the spring herring, and were far more abundant than the older and younger year-classes in the same schools.

These researches have shown that it is possible to ascertain how numerous the year classes are in relation to each other in successive years, if the specimens be sufficiently numerous to be representative. The schools live under such diverse conditions in the waters from 58° to 71° North Latitude, that the rate of growth locally differs. The growth each year being shown by the rings upon the scales, a broad ring means rapid, favourable growth, a narrow ring means less favourable growth, and local races are recognized by special year rings, either broad or narrow. 1904 herring taken in 1909 show five rings, the first, second and third year rings being fairly equal: but the fourth and fifth are very narrow in some samples: but in others, the third-year ring is narrow. Thus these two types (representing local schools) of the same year can be recognized with facility. The latter are of "Nordland" origin, and migrated south to join the southern 1904 schools, of which they formed 26%. Results of a similar character are shown by the study of the cod, the age and local origin being shown by the study of the scales, and a key is thus afforded to the growth, migration and distribution of valuable food fish.