Both the scales represented belong to herrings six winters old and represent true averages of growth, which has obviously been very different in the two types.

While studying the growth of Gadidae, Damas conceived the idea that by examining the growth-history of single individuals, as depicted in their scales, one should be able to determine the localities, or at least the conditions, in which the individuals had grown up, in other words that this study should afford a key to the migrations of the fishes; thus he considers it probable that a certain saithe captured on the west coast of Norway may be recognised as having spent its infancy on the north coast of Norway. Similar ideas have

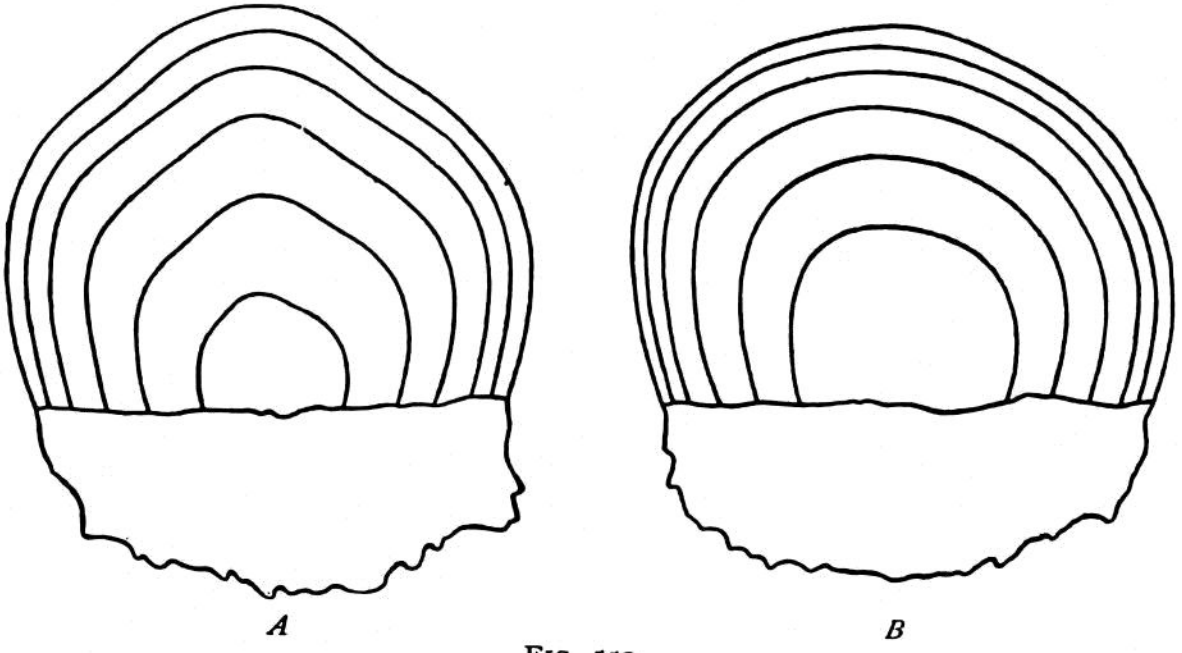

FIG. 559.
Diagram of herring scales of average growth. *A*, from the north-eastern part of the North Sea; *B*, from the Kattegat.

been expressed by Lea after studying the scales of herring. He discovered that among the fat-herrings of northern Norway the ones born in 1904 could be seen to have had an exceedingly poor growth during their third year, the summer-belt in the scales being strikingly small in that year (see Fig. 560). This peculiar feature was in that year limited to a certain part of the coast. The individuals thus "marked" were, however, in subsequent years when increasing in age found to have a much wider distribution, extending to the west coast of Norway and other localities. He considers this as significant of migration, and even attempts to calculate the percentage of the herrings taken on the west coast that had spent their infancy in northern Norway.