

x samples representing immature fat-herrings from northern Norway in the years 1907-1910,¹ the frequency of each annual class being given in percentages of the total sample for each year:—

	Annual Classes.						
	1	2	3	4	5	6	7
1907 . .	11.5	36.8	51.3	0.4
1908 . .	0.4	51.4	10.3	37.8
1909 . .	3.1	61.0	13.3	5.0	16.9	0.7	0.2
1910 . .	0.2	50.7	42.0	0.9	1.7	4.5	0.1

This table shows that the fat-herrings in 1907 consisted mainly of fish two and three years old, in 1908 they were mainly two and four years old, and in 1910 again the majority were two and three years old. This apparent irregularity has an enhanced interest when we remember that the herrings, which in 1907 were three years old, in 1908 were four years old, and so on. The annual classes born in 1904 and in 1907 are printed in heavy type, and the table shows a decided regularity in the abundance of certain annual classes. The same regularity appeared when older herrings were studied. When four years old the fat-herrings begin to "migrate" away from the shoals of immature herrings, and mingle with the "spring-herring" shoals (the spawners). In such spawning shoals from western Norway the year class born in 1904 proved to have the occurrence shown in the following table in percentages of the total sample analysed each year, comprising sixteen annual classes:—

	Year.			
	1908.	1909.	1910.	1911.
Percentage of total samples born in 1904	34.8	43.7	77.3	70.0

Among the great number of annual classes composing the

¹ J. Hjort and E. Lea, "Some Results of the International Herring Investigations, 1907-1911," *Publ. de Circonstance*, No. 61, Copenhagen, 1911.