

the spring migration, but reversed. The shortage in food, however, is not caused, except indirectly, when the first migration encroach upon those below them, by the increase of population, but by the direct failure of the food supply. It is perfectly evident that certain species must return south again, or stay and surely starve. The total population, however, of any area, cannot permanently remain greater than the number that can be sustained through the season of least food supply. During the height of the breeding season, there are many more birds than can be carried through the winter in the restricted southern stations, and if they are to return there again, the excess must be got rid of. Many of them are killed off at a very tender age — probably the great majority of them fail to survive the fledgling stage. Many more, young and inexperienced, must perish when first they leave the protecting influence of the parent's care. Others are battered about by the storms and destroyed by the perils incident to the fall migration. The few surplus that remain are subjected to a stricter and stricter process of selection as they reach more congested areas; and, in the end, the total population fits into its place in the winter quarters, to the extreme limit of the supporting powers of the land.

These migrations, in their earliest stages, must then have originated in a conscious seeking for food — not special food, but any food that would support them. Accidental wanderings taught them where to find it, and experience suggested their return there on the first approach of a stringency in the food supplies. In course of time, the movement became habitual, and generations of repetition rendered it instinctive. Instinct, having the same relation to judgment as automatic machinery has to ordinary mechanism, would be favored through natural selection; and as the birds acquired the peculiar powers necessary, migrations assumed all the varied phenomena that they exhibit to-day.