

THE MIGRATION OF BIRDS

CHAPTER I

MIGRATION OF BIRDS

MIGRATION is the act of changing an abode or resting place, the wandering or movement from one place to another, but technically the word is applied to the passage or movement of birds, fishes, insects and a few mammals between the localities inhabited at different periods of the year. The wandering of a nomadic tribe of men is migration; the mollusc, wandering from feeding ground to feeding ground in the bed of the ocean, migrates; the caterpillar migrates from branch to branch, even from leaf to leaf; the rat leaves the ship in which it has travelled and migrates to the granary; we pack our goods, hire a removing van and migrate to a new abode. The word migration thus applied may be literally correct but it fails to convey the generally accepted meaning, and the expression Bird Migration suggests periodical and regular movement, the passage as a rule between one country and another.

The popular application of a term does not do

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away with the need of definition, especially as there are many complicated phases of migration. The migration of birds is as a rule between the breeding area or home and the winter quarters, but there are many migrants which never reach breeding quarters in spring, and many others which leave the regular breeding quarters or the place of residence in winter to perform a very real migration under peculiar stress of circumstances. Again the spasmodic movements of certain gregarious species, which at irregular intervals change their location in large numbers to take up their abode in another part of the range, is really migration, though it is now usually described as irruption, incursion or invasion.

Newton says (38) that bird migration is “most strangely and unaccountably confounded by many writers with the subject of Distribution,” but the very act of the bird which extends its range, the first step in distribution, is migration. The histories of present-day distribution and migration are irrevocably interwoven; as Mr P. A. Taverner remarks (51), “migration is a dispersal, and conversely, this dispersal, as it manifests itself, is migration,” whilst distribution is the outcome of dispersal.

Broadly speaking, all birds migrate, though the length of the journey varies in different species,

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and in some cases in individuals of the same or closely allied species, from the merest change of elevation to a voyage almost as wide as the world itself. The sedentary red grouse nests on the moors, often less than 1000 feet above the sea, but "when snow-bright the moor expands" it feeds and resides in the cultivated valley, and as shown by the committee appointed to study grouse disease, not infrequently migrates from range to range across wide valleys. Many tropical birds, usually considered non-migratory, are subject to short movements, the origin and purpose of which is search for food and safe nesting places.

The knot breeds in countless numbers in Arctic Asia, Greenland and America, though only a few ornithologists have traced its home; it migrates to the Cape, New Zealand and Patagonia. The Arctic tern has a northern breeding range extending perhaps as far north as that of any bird, and it has been taken far to the south of South America in the Antarctic regions; if the thesis that the further north the bird goes in summer the further south it travels in winter is correct, as it can be proved to be with some species, some of these terns must annually travel about 22,000 miles (21). Between these extremes are an endless variety of distances travelled and methods of migration,

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with striking differences in the performances of individuals of the same species. Take one instance, a song thrush reared in a nest in our own garden. We may see and recognise this bird up to the middle of July, but what trained ornithologist can, yet, say with certainty where that bird will be by the end of the month or in three to four months time? We know that all through the winter there are some song thrushes near the house, and that they are the birds which not only begin to sing early but actually nest with us; we know too that before there is any marked immigration of northern thrushes there is a recorded emigration from our southern coasts, presumably of thrushes which have nested with us, beginning towards the end of July; further we know that there is an autumn immigration of Scandinavian or other northern song thrushes, sub-specifically distinct to the expert eye, and some, small and dark, whose origin is by no means proved, as well as later emigrations of birds to the Continent or Ireland, both regular and occasioned by exceptional weather. Will our young July thrush remain in England or will it join one of these streams, and if so which? We do not know yet. I repeat "yet," for the study of races, sub-species or local variations is commanding more and more attention; the patient work of the "splitters," scorned by the old school of

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“lumpers,” will eventually solve many of the problems of to-day.

The ancients—a usefully ambiguous term—realised that birds migrated; our immediate forefathers of two or three centuries ago realised that certain birds vanished in winter and wondered how; and within modern times the phenomena of migration, the “mystery of mysteries,” has been the subject of much study, speculation, and literary exposition. Indeed a full bibliography of migration would be a considerable volume. Even workers within the last few years have declared that certain phenomena were beyond human understanding, only to be explained by instinct, a word capable of most varied interpretation. In truth there is much to learn, much to which we must still answer—we do not know; but the speculative theory of yesterday is now either myth or fact, and the theory of to-day may be proved true and add something to the data of which knowledge is built. The wildest speculations, based on slender locally ascertained facts or on no foundation whatever except the fertility of the brain, have been offered as solutions of the mysteries; the literature of migration is a jumble of contradictions. John Legg, in 1780, said “In relating so many instances of unparalleled credulity, I confess I cannot suppress the irascible passion” (33), and Herr Otto Herman, only a

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few years ago, pointing out the ingenious dogmas “void of every firm foundation,” says that “really it is a field in which every thinking ornithologist may create new theses to any extent and more or less incredible” (31).

Herr Herman’s system of “ornithophænology,” the accumulation of substantiated observations and facts, will not prove everything, but his work in Hungary, that of Dr Merriam and Mr Cooke in America, and of Mr W. Eagle Clarke in Britain, each aided by a numerous band of careful workers, are striking examples of what can be accomplished. Whatever errors future enlightenment may show in their conclusions their ascertained facts will remain positive knowledge; theirs is not what Herr Herman himself described as “pretended authority.”

In order to grasp the problems of migration it is necessary to get rid of the puerile and insular aspect of the subject, namely that migrants are merely those birds which come to us, like the swallow and cuckoo in the spring, and those, like the field-fare and brambling, which visit us in winter but are not with us in summer. The complication of the subject may be demonstrated by a rough classification of the migrants to be observed in the British Islands.

Arbitrary grouping of the members of an avifauna

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is only for general convenience ; many species are represented in more than one group.

1. Permanent Residents : birds which remain in Britain all the year round. These are comparatively few in number, and largely consist of insular races of birds which perform regular and often long migration journeys in other parts of their range. Most, if not all, perform short migrations, in some cases only seasonal changes of altitude, spending summer on the hills and winter in the lowlands ; examples, the red grouse and dipper. Others, like the tits and creepers are nomadic and more or less gregarious in the colder months. Few appear to remain in the same locality at all seasons, but possibly some of our British robins and song thrushes, both sub-species of migratory Continental forms, may be non-migratory.

2. Summer Residents : birds which nest in our islands, leaving in autumn for countries to the south, and return in spring. In addition to the regular summer visitors, which all leave in autumn, this group includes a number of wagtails, pipits, finches and other birds which are represented in winter in our islands by a proportion which remain.

3. Winter Residents : birds which nest to the north or east of our islands and arrive in Britain in autumn, leaving in spring for their breeding area. With birds like the fieldfare, brambling and jack

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snipe, which do not nest in Britain, must be included many (for example the robin, rook, song thrush and common snipe) which are also permanent residents.

4. *Birds of Passage or Spring and Autumn Migrants*: birds which neither nest with us nor normally remain for the winter, but merely use the British Islands as feeding and resting places on their journey between the northern breeding area and the southern or eastern winter quarters. This group is an especially difficult one, for in it must be included such birds as dunlins and curlews, which are represented as breeding species in Britain, and also a number of birds which apparently go no further south than our islands in winter, and others which, though not breeding, go no further north in summer. The actual status of these individual birds is uncertain. In this group too we have the Greenland wheatear, so closely allied to our familiar early migrant that, unless the bird can be measured, its identification is uncertain.

5. *Irregular Migrants*: birds which may be classed in other groups. Some of these are really winter residents, but their visits are so irregular that they may for convenience be classed with spasmodic or occasional invaders, such as Pallas's sand-grouse, which arrive at uncertain intervals in large numbers. Some of their number, during these irruptions, usually

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breed and thus the bird becomes an irregular summer resident or even, for the time, a permanent resident.

6. Stragglers or Wanderers : birds whose occurrence in our islands is more or less accidental, due apparently to their having lost their way or to their ordinary wandering habits having taken them far from the normal range of their species. Some of the rarer petrels and other oceanic birds certainly pertain to this group, but our knowledge of the migration routes of others is still so slender that it is unwise to declare dogmatically that they are lost. Some too of the so-called stragglers may have been artificially or accidentally introduced ; many " records " prove on investigation to be the aimless wandering of escaped captive birds, whilst others are known to have been aided in their journey and carried out of their usual course when resting on shipboard.

When Mr Eagle Clarke was on the Kentish Knock Lightship, off the mouth of the Thames, he found that in autumn there were continuing practically simultaneously the following streams of migration. Immigration from the Continent to England from east to west, and from south-east to north-west, and passage along both lines ; emigration from north to south-south-west, and from north-west to south-east, with passage from north to south-south-

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west. Birds of the same species actually crossed paths, travelling in contrary directions (16).

The above grouping applies to the British avifauna, but a somewhat similar arrangement might be made of the birds of any particular area, large or small. The grouping of birds for the study of Geographical Distribution is of little consequence in connection with migration, but the mapping of the world into various ornithological rather than zoogeographical regions is of considerable importance, both for convenience in tracing the ranges of migrants, and in the discussion of the history of migration, which almost certainly began in the form of short wanderings from the centres of distribution. It is of comparatively small importance what boundaries we take for the various regions; these depend largely upon the view of certain ornithologists as to which groups of birds shall be considered as typical of the regions in question. Slater's six regions are perhaps the most universally used. They are as follows:—

1. Palæarctic, embracing the whole of Europe and northern Asia.
2. Ethiopian—Africa, Arabia, Madagascar and roughly half of the Atlantic and Indian Oceans.
3. Indian, including India, Further India, Southern China, the western portion of the Malay Archipelago and the Chinese Seas.