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MIGRATORY BIRDS.

The Book of Migratory Birds, met with on Holy Island and the Northumbrian Coast, to which is added descriptive Accounts of Wild Fowling on the Mud Flats, with Notes on the General Natural History of this District. By W. Halliday. Pp. 258. (London: J. Ouseley, Ltd., n.d.) Price 5s. net.

THE obtrusive title of a work should, we think, be more closely descriptive of its contents than that of the volume now before us. "The Book of Migratory Birds"—the title conspicuously appearing on its cover—excites hopes in the ornithologist of a comprehensive contribution to a branch of his science of unquestioned interest. His momentary disappointment, on discovering from the continuation of the title inside, the restriction of its scope to the Northumbrian coast, may perhaps be relieved on his recalling the fact that the district, with its offshore islands and lighthouses, forms a migration-observatory from which a keen and persistent watcher might be expected to make valuable contributions to the question. His annoyance, however, will be acute when, on dipping into its pages, he finds the volume to be only a *mélange* of articles, strung together in the most casual way, and evidently originally contributed to some newspaper or journal in which either science was not a strong point or the editorial supervision was far from exacting.

The first part consists of a score of essays, not one without need of vigorous revision by a competent zoologist, while the second describes a certain number of the species of the Northumbrian coast individually; the book, however, makes no serious contribution to migration data, nor adds anything new to the history of the species observed. The first thirty-seven pages are alone specially devoted to the bird-life of Lindisfarne and the Farne islands, but the short and desultory notes on the species mentioned will hardly repay the reader for his time. The succeeding three essays deal with "wild-fowling" as far removed from Holy Island as North Kent; with "a few comments on sport," and "how I became a naturalist," this last filling eight pages, of which five contributed by another pen, have no connection in the world with the autobiography. With the following two, on "bird migration" and "bird migration from America to Europe," hope rises that at last some new ideas on the subject giving its dominating title to the book are to be disclosed. We are not disappointed by the author.

"Whatever theory is advanced [on this absorbingly interesting question] the idea," writes Mr. Halliday, "baffles the most devoted student of natural history. Yet the query as to the causes of the northern or spring exodus has prompted me to make an effort to explain . . . those laws. . . . Almost without exception . . . scientists are agreed that previous to

the period termed the Glacial or Ice age, climates were non-zonal—that is, that they were of the same general temperature everywhere from pole to pole. First, that there was an epoch of torrid heat followed by one of tropical heat, and succeeded by one of temperate heat, which gradually passed into one of excessive cold, during which period the higher lands were snow-covered. . . . Since this age the climates have become zonal—a condition which seems to us most natural, because man remembers naught to the contrary.[!] The geological record shows us, however, that everywhere from pole to pole the same life existed during all the periods before the latter part of the temperate Tertiary epoch. Aside from these differences of temperature resulting from elevation . . . there were in the nature of things few reasons for migrations of either fauna or flora . . . when finally the gradual transition from earth-heat control to sun-heat control had taken place, and the Ice age began, these wanderings to and fro become systematic and periodical. The stronger and more active individuals pushed further on than their fellows, as they climbed up further on mountain sides, thereby forming a class apart. They mated and founded new varieties. . . . So here we have, in its earliest and simplest form, the origin of the migratory movements of animals which have developed to such an extent in this day under the present zonal distribution of climates. Thus we may conclude," adds the author, "that, beginning with the first modifications of climate, perhaps at the commencement of the Pleistocene era, the various forms of life being suited to a uniform environment sought in their wanderings to and fro, the continuance of these conditions."

So here at last we have the final word on phenomena which have puzzled generations of ornithologists and others!

After such epoch-making discourses as these, a dozen other essays—evident reprints—follow on a variety of matters unconnected with the subject of the book, yet containing many entertaining observations not to be found in more recent ornithological histories!

The second part of the book describes individually forty-two species only out of the ninety listed on p. 22 as the more or less complete avifauna of Holy Island and region. They are not arranged in any classificatory order, nor, in many cases, do they appear under the generic and specific names which are usually given them by the rules of nomenclature. Fuller and more accurate accounts of these species are to be found in a score of well-known histories of British birds. We are staggered to find in this catalogue of Northumbrian birds the names of the cassowary and the ostrich, sandwiched between the quail and the merlin. We live and learn, however! Of the two final essays, both of which appear under the headline of "The Book of Migratory Birds," the one on North Sea seals may be legitimately included in a work on Northumbrian natural history; but it is a far cry from longshoring on Lindisfarne to "seal-hunting in Greenland," which is the title of the other. The author, however, makes his own apologies in these words:—

"If the able and experienced chroniclers of the migrants in the past have written craving the indulgence of the reader, I feel I am infinitely more in need of such indulgence, and as a man is but mortal . . . his best work is oft-times a sorry attempt."