

Further proof against the ability of the birds' sight being sensitive to objects far distant is given in the mathematical fact that the curvature of the earth would necessitate a bird ascending nearly a mile in the air to reach rays from a lighthouse 150 feet high and 100 miles distant, granting the absence of haze which is almost always present.

It has moreover, been proven that vision in the chick is much less acute than in man and Dr. Watson shows that neither the chick nor the pigeon are sensitive to infra-luminous rays.

In the terns he also proves that there is no special tactual or olfactory mechanism in the nasal cavity which could aid homing. The facts presented are admittedly negative but Dr. Watson says, "the task of explaining distant orientation is an experimental one, which must yield positive results as soon as proper methods are at hand." While the difficulty of explaining it by current theories is admittedly great he does not suggest "the assumption of some new and mysterious sense."

He suggests work on the sensory equipment of homing pigeons saying that "it is just possible that these animals possess on certain parts of the body (eyelids, ear covering, oral cavity, etc.), sensitive tactual and thermal mechanisms which may assist them in reacting to slight differences in pressure, temperature, and humidity of air columns."

This contribution contains also a review of the various theories that have been advanced to explain homing, as well as a wealth of detailed investigation that cannot be dealt with here. Much reliable information with regard to homing pigeons and their flights gathered from practical fliers is likewise presented—data which have been in much demand. Ornithologists would do well to read the paper in its entirety as it is a good example of the methods of the student of behavior in eliminating complicating factors and avoiding the unwarranted conclusions into which the untrained investigator rushes blindly. While the 'mystery of mysteries' still remains unsolved, Dr. Watson has made great advances in showing us what factors are *not* involved in its explanation, and in disposing of a host of theories which tended only to obscure the problem, thus leaving it clearly defined for future investigators.—W. S.

Thorburn's 'British Birds.'¹—It might be supposed that there was not room for another work on a subject that has received as much attention as the birds of Great Britain; but anyone who examines Mr. Thorburn's work, even casually, will we think concede that he has proved the error of this assumption.

With the wealth of data which is available any competent writer may

¹ British Birds | written and illustrated by | A. Thorburn, F. Z. S. | with eighty plates in colour, showing over | four hundred species | In four volumes | Vol. 1 | Longmans, Green and Co. | 39 Paternoster Row, London | Fourth Avenue & 30th Street, New York | Bombay, Calcutta, and Madras | 1915. Large 4°. pp. i-viii + 1-143, pls. 1-20. \$40 for the set of four volumes, or payable on delivery at \$10 each. No volumes sold separately.

compile a good history of the birds of the British Isles, many are also able to write entertainingly of their habits, while others can produce creditable pictures of the various species.

No matter how many works may have been produced along these lines, however, there is always room for such a series of portraits as Mr. Thorburn has given us. Only an artist of great talent and one thoroughly acquainted with his subjects could paint such bird pictures as these.

We are told in the preface that the majority of the figures are based upon life studies which the artist has been making for many years past, but it is not the beauty and accuracy of the individual figures alone that attract us. While it was necessary, as in most such works, to represent a number of species on each plate, the figures in Mr. Thorburn's plates are strikingly in harmony; a judicious arrangement of the several backgrounds, and the introduction of a spray of blossoms to emphasize a desired contrast make each plate a work of art in itself, not simply a collection of several small paintings on one page. And yet where birds of quite different habits are represented on one plate the characteristic surroundings of each are well maintained. It is we think this note of harmony in almost every plate, and the masterly handling of the backgrounds which emphasize the beauty of the bird portraits and give the charm to these paintings of Mr. Thorburn.

The plates are printed on cardboard with a neutral gray background which brings out the white portions of the birds' plumage with striking brilliancy. Both of these features help to make the plates unique among bird illustrations.

We have spoken only of the plates and indeed the author says that his first intention was that the book should be "simply a sketch book of British Birds." He was later induced, however, to add a short letterpress with descriptions of the species and notes on their distribution, nests, eggs, food, songs, etc. While this is admittedly largely a compilation from the leading authorities on British birds it is a very satisfactory accompaniment to the beautiful plates, presenting clearly and concisely the facts that the general reader will desire. The publishers have done their part well, the printing of the "three-color half-tone" plates being remarkably well done.

Mr. Thorburn's work will appeal to a host of people beyond the ranks of the ornithologists or even of nature students in general, for plates such as he has produced attract the attention and admiration of lovers both of art and of beautiful books.

Volume I covers all of the Passerine species except the Larks and part of the Corvidæ, Volume II¹ treats of these as well as the Picarian families, Birds of Prey, Steganopodes and Herons. The work will be completed in four volumes, the remaining two being promised in the spring and autumn of 1916.—W. S.

¹ pp. 1-72, pl. 21-40.