

We are informed at some length of the advances that have been made in the methods used in such economic studies, and, as before remarked, there seems but little doubt that the author and other present day workers in the same field, use much more exact methods than were formerly in vogue. Also there is much said for and against methods used by different workers at the present day. These arguments would be much more impressive if it were not for the fact that the various different schools all seem to arrive at approximately the same results! Thus it is fair to say, that, giving Mr. Bryant all possible credit for working out and making known all manner of interesting details in regard to the Meadowlark, almost any intelligent observer and collector of birds would, from his own general observations, have arrived at approximately the same result, namely, that the bird does some little harm, more good, is an attractive feature of the region, and should not be sentenced to destruction. We do not mean at all to decry such studies as the one under consideration; but, to draw a simile from another field, in getting average dimensions of birds or mammals, it matters little whether one hundred or two hundred pertinent specimens be measured, the results will be about the same. Similarly, while such exhaustive studies as this one of Mr. Bryant's may yield many interesting facts, it is safe to say that the final decision thus reached will not be markedly at variance from what could be learned from a somewhat more cursory consideration of the subject. For immediate, practical use by a Commission seeking to apply the acquired information in the furtherance of legislation, it would seem that substantially the same results could be secured with a lesser expenditure of resources and energy. This, of course, in no sense militates against the excellence and desirability of Mr. Bryant's work, as here presented.

Another possible suggestion is that in some respects the paper might have benefited by being more rigidly confined to the limits indicated in the title. There are various discussions of greater or less length, of questions not particularly germane to the subject, containing some rather sweeping assertions which the author naturally can not here stop to discuss at any length, and which can not be considered as established facts. Thus, among other things, we are casually informed that birds from the northwestern coast region of California are appreciably darker in color than those from the southeastern part of the state (p. 478), and also that the number of young success-

fully raised is less than with most other birds (p. 404), statements which do not carry conviction, and which might well have been omitted. A possible weak place in the weighing of evidence is afforded in the tendency shown towards taking "rancher's verdicts" at face value when such are favorable to the birds, while antagonistic views are commented upon as though likely to have been based upon evidence that was "circumstantial" and "probably exaggerated".

These criticisms are all of relatively unimportant points, of course, which do not affect the general excellence of the paper. This is thoroughly deserving of all praise. A difficult and complicated problem is treated in a most competent and convincing manner. The tedious drudgery of stomach examination, and the patient care of field observation, are alike gone through with most accurately and painstakingly; while the resulting facts are weighed and assigned their due relative importance in a manner beyond criticism.

It is greatly to be regretted that circumstances did not permit the further pursuance of this work by the California State Fish and Game Commission, under the direction of Mr. Bryant, who has shown himself so well fitted for this line of investigation. In appearance, arrangement, etc., this paper leaves nothing to be desired, while the several excellent plates and text figures are well chosen and instructive.—H. S. SWARTH.

THE GANNET | a Bird with a History | by | J. H. GURNEY, F. Z. S. | Author of [two lines] | Illustrated with Numerous Photographs, Maps and | Drawings, and One Coloured Plate by Joseph Wolf | Witherby & Co. | 326 High Holborn, London | 1913 (our copy received November 25); frontispiece (colored distribution map), pp. li-567, 136 illustrations, unnumbered and chiefly in text, two colored. Publisher's price, 27/6 net.

The present tendency in ornithological study and literature towards concentrated attention upon single species cannot fail to gratify a very large proportion of our general scientific readers. It is not for a moment to be justly inferred that systematic, faunistic or morphologic lines of work are on the decline in importance, but that more nearly a balance of attention is being reached whereby the one-time threatened monopoly of the ornithological field by systematists and their literature is averted.

Of the several monographic treatises upon single bird species, which have appeared,

none has shown such exhaustive research along so many lines as the present. The Gannet, a conspicuous element in the pelagic avifauna of the North Atlantic, is herein dealt with by the eminent British ornithologist, J. H. Gurney. Many years of painstaking observation and bibliographic research are evidenced, and the result is rendered of the utmost interest as well as scientific value by an ingratiating literary style.

The student of North American birds finds the present book to approach much nearer his own field of interest than most volumes published abroad. For the Gannet ranges in summer, though rather restrictedly, along the northeastern shores of North America. The life history data in the present volume, however, although including practically everything known in regard to the bird in America, is chiefly based on its occurrence and history around the British Islands.

The reader will get an idea of the range of treatment from the following subjects suggested in chapter headings: names of the gannet; distribution; estimated number of gannets; nidification and incubation; the nestling; food and fishing; flight; mortality; gannets as food; plumage; osteology; parasites; historic and pre-historic. There is thus a great deal of matter pertaining to subjects of general interest outside of the bird under special consideration.

Mr. Gurney estimates the total number of Gannets (*Sula bassana*) now existing, at 101,000. Incidentally, the most abundant sea-bird of the North Atlantic is considered by him to be the Puffin (*Fratercula arctica*) which is to be numbered by the million—for instance, three million on St. Kilda alone; also 235,000 Puffins were annually gathered on the Faeroes up to the time when these birds became less esteemed for food. Yet only one egg is laid.

As furnishing further basis for estimating bird populations, some data is quoted as to numbers of birds marketed in various European cities. For example, 404,000 Skylarks were brought into Leipzig in one month. In Paris, alone, 1,419,891 Skylarks were sold in 1898; in 1909 the number had dropped to 355,000. The marvel in all these cases is as to the wonderful productivity of birds where conditions of food and climate are favorable, so that the enormous drafts upon their numbers by man are, for long periods, nearly or quite offset.

The Gannet, a bird of slowest breeding rate, was levied upon for hundreds of years by people living adjacent to their colonies.

As many as 28,300 annually, nine-tenths of them young, were formerly so appropriated around Great Britain. Small colonies of the birds have disappeared, but the more favorably situated nesting places held their own to a remarkable degree. With decreasing value of the young birds for food and feathers, and with governmental protection afforded against wanton destruction, the Gannet is now on the increase. The problems confronting the game conservationist here in California would doubtless be greatly aided in solution by a study of the history of the Gannet.

To Mr. Gurney we owe much for adding to our literature this most valuable and fascinatingly readable bird book.—J. GRINNELL.

FOUR NEW BIRDS FROM NEWFOUNDLAND. BY HARRY C. OBERHOLSER. (Proceedings of the Biological Society of Washington, vol. xxvii, March 20, 1914, pp. 43-54.)

The forms here named and characterized are *Dryobates pubescens microleucus*, *Bubo virginianus neochorus*, *Perisoreus canadensis sanfordi*, and *Pinicola enucleator eschatosus*, the first confined to the island of Newfoundland, the others occurring also on nearby parts of the North American mainland. From Mr. Oberholser's study of the collection containing these birds, as well as from other work recently done in the same region, it would seem that Newfoundland is possessed of a fairly distinctive endemic fauna, and one containing certain points of decided interest. The Hairy and Downy woodpeckers of the island are both shown to have developed characters markedly at variance from those possessed by the related forms of the adjacent mainland, giving them a superficial resemblance to certain races from remote parts of western North America. The Newfoundland Pine Grosbeak is described as having assumed characters similar to those distinguishing the recently described Newfoundland Crossbill, *Loxia curvirostra percna* Bent, an interesting instance of parallel development. Altogether, from the preliminary and rather disconnected studies so far made, it would seem that Newfoundland offers a most promising field for careful, systematic research, such as has not yet been accorded it.

Mr. Oberholser's treatment of the forms described in the present paper is gratifying alike in the explicitness and attention to detail shown by the characterizations, and in the pertinence and suggestiveness of his general remarks; statements, however, that can as truthfully be made of nearly all his systematic work.—H. S. SWARTH.