

sponge or cloth will moisten it enough to make the necessary amount of arsenic adhere and to keep the skin pliable until stuffed.

Fine sawdust or cornmeal may be used by taking care to stir while heating, but plaster of Paris gives the best results, as it can be heated to a much higher temperature than anything organic, and with no trouble. On birds of dark colored plumage, however, plaster must be applied in such a manner as not to come in contact with the feathers, as it will usually stick to them enough to lighten the shade.—JOSEPH MAILLIARD, *San Geronimo, Marin Co., Cal.*

RECENT LITERATURE.

Barrington's 'The Migration of Birds at Irish Light Stations.'¹—In this volume of nearly 1000 pages we have the results of observations, continuously and systematically carried on, at the Irish light-stations from 1881 to 1897, or for a period of eighteen years. Observations appear to have been made at some fifty lighthouses and lightships, the returns embracing about a thousand schedules and "about thirty thousand separate observations," and over two thousand specimens. The elaboration of this enormous amount of information involved years of labor, and Mr. Barrington makes acknowledgment to Mr. C. B. Moffat for important aid in its analysis. A list of the light stations is given as part of the introductory matter, which is immediately followed by 'Analysis of the Irish Migration Reports, 1881-1897' (pp. 1-262), the reports being summarized for each of the species observed, these summaries sometimes occupying several pages for a single species, including comment on the various facts reported.

The species number about 170, and are treated in systematic sequence. Following this is a statement of 'Some of the Principal Points of

¹ The | Migration of Birds | as observed at | Irish Lighthouses and Lightships | including | the Original Reports | from 1888-97, now published for the first time, and | an Analysis | of these and of the previously published Reports from 1881-87. | Together with | an Appendix | giving the measurements | of about 1600 wings. | By | Richard M. Barrington, M. A., L. L. B., F. L. S., | Member of the British Ornithologist's Union, and of the British Association | Committee for obtaining Observations on the Migration of | Birds at Light-houses and Lightships. | London: | R. H. Porter, 7 Princes Street, Cavendish Square, W. | Dublin: | Edward Ponsonby, 116 Grafton Street. [1900.]—Svo, pp. i-xxv. + 1-285 + 1-667, map and text cuts. Only 350 copies printed.

Interest,' 'Some General Remarks,' and 'Various Tables,' the latter referring to a great variety of facts bearing on the subject of migration. The 'Reports on the Migration of Birds as observed at Lighthouses and Lightships on the Irish Coast, 1888-1897 inclusive' occupy over six hundred pages (pp. 1-619), and are followed by an 'Appendix' (pp. 621-660), giving 'Measurements of Wings of Birds obtained at Irish Light-Station,' the birds having been killed by striking the lanterns and sent in for identification.

It is needless to say that we have here an enormous amount of information on the migration of birds along the Irish coasts, which is clearly presented in much detail. While of great interest in a local sense, it is perhaps not to be expected that it will by itself have a very important bearing upon the larger questions involved in the general problem of migration. The measurement of wings has shown that the longer-winged examples of a species are the first to arrive in spring, and in some cases also in autumn; but "neither the wings nor the statistics afford any sufficient clue to enable one to determine positively in any given species whether the young birds precede the old ones or not. . . . There is one point in favor of the supposition that the old birds are in the van of the advancing army in autumn — viz., that in the majority of cases the longer-winged birds come first" (p. 264). Some evidence is presented to show that different species of birds follow different migration lines in their journey across Ireland, some having a wide migration route and others a more restricted one; while the line of direction also varies in different species.

Ornithologists are certainly indebted to Mr. Barrington for his long and arduous labor in collecting such a mass of observations, and to him and his friend Mr. Moffat for their reduction to such a state of order as to be available for study by other workers in the same field. The cost of this work, including its publication in a neat and convenient form, must be, as the author intimates, largely a labor of love, the edition being limited to 350 copies.—J. A. A.

Gätke's 'Helgoland,' Second German Edition.¹—The second German edition of this well-known work, issued in 16 parts during 1899 and 1900, has been completed, and forms a volume of much the same size and appearance as the first edition. It is brought out, as before, under the editorship of Dr. R. Blasius of Braunschweig, who states in his preface that the original text has not been changed, and that all interpolations are enclosed in brackets or take the form of footnotes signed by the editor. The for-

¹ Die | Vogelwarte Helgoland. | Von | Heinrich Gätke, | weiland | . . .
[=5 lines of titles] Herausgegeben | von | Professor Dr. Rudolf Blasius. |
Zweite vermehrte Auflage. | [Cut] Grün ist das Land, Roth ist die Kant', |
Weiss ist der Sand, Das sind die Farben von Helgoland. | Braunschweig 1900.
| Druck und Verlag von Joh. Heinr. Meyer. Roy. 8vo, pp. i-xvi + 1-654.
Frontispiece, portrait of Gätke, and various text illustrations.