

These have often solid centres like those in his Fig. 5, plate 1; the bands also resemble the irregular septa in his *Atikokania*. Without any traces of spicules it seems to me very doubtful indeed that these bodies have any organic origin, especially as it seems clear that changes in rocks after deposition lead sometimes to the formation of tubes. If my conclusions are correct, this in the Fulwell coralloids is certainly a very common development in the almost universal rod formation there. The change appears to be the result of the adherence of small circular groups of rods around a central canal; with so much of such material—there are at least two square miles of it some 130 ft. thick—the cause, whatever it may be, seems unconnected with either erosion, hydration, dolomitisation, metasomatism, or organic remains.

I have also seen tubes of this kind in a few other calcareous rocks, but the most common banded formation (probably allied to the septæ in Dr. Walcott's specimens) is seen in weathered mortar found in the shady parts of old buildings, especially those situated near the coast.

GEORGE ABBOTT.

2 Rusthall Park, Tunbridge Wells, November 18.

WHEN your letter of November 23, 1914, enclosing a note by Mr. George Abbott on the silicified structures described in Memoir No. 28 of the Geological Survey of Canada as *Atikokania lawsoni*, reached me on December 8, I had on my table a copy of NATURE of January 29, 1914, containing the note on "Zonal Structure in Colloids," by Mr. Abbott. Prior to meeting with this article, I did not know of the remarkable structure of the Sunderland Magnesian Limestone, or I should have certainly directed attention to it.

During the past summer I made large collections of supposed algal remains from the pre-Cambrian rocks in the Rocky Mountains of Montana. Some of these appear to be of undoubted organic origin. Others appear to be a combination of algal deposits in connection with concretionary consolidation.

The subject is now under investigation, and in this connection I shall take up the forms that I called *Atikokania*. With present information I should *not* be inclined to refer the latter to the sponges or to the *Archæocyathinæ*.

CHARLES D. WALCOTT.

Smithsonian Institution, Washington, U.S.A.,

December 9.

A HISTORY OF BRITISH BIRDS.¹

WE have already noticed the first four parts of this comprehensive publication, and the general scope of the work and the plan on which it is carried out need not be more than briefly referred to here. We now welcome the twelfth and concluding section of the work and the last of its attractive and fascinating pages.

The book claims to be the only existing work which gives an adequate account of the habits of all our species of birds, except those so rare that they cannot be said to have, as British birds, any habits worth describing. These latter are treated shortly at the end of the last volume. It claims also that it brings together from every source, British and foreign, the whole available information on the subject, and presents it in a

¹ "The British Bird Book." Edited by F. B. Kirkman. Sections V—XII. (London and Edinburgh: T. C. and E. C. Jack, n.d.) Price 10s. 6d. net, per section.

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form interesting alike to the specialist and the general reader. In showing what is known and what has yet to be found out about the habits of our birds, and in laying stress on the scientific problems which underlie the facts, the work stands alone in giving to the serious student of bird-life starting-points for further research. Though not professing to do more than supply summaries of the geographical distribution of all the species, the work claims to give recent information under this head which is not to be found in any other book on British birds.

It would be unjust to the contributors to these volumes if the impression arose that they had been merely content to compile the observations of others. For while it is true that in more than one case contributors to this book have found

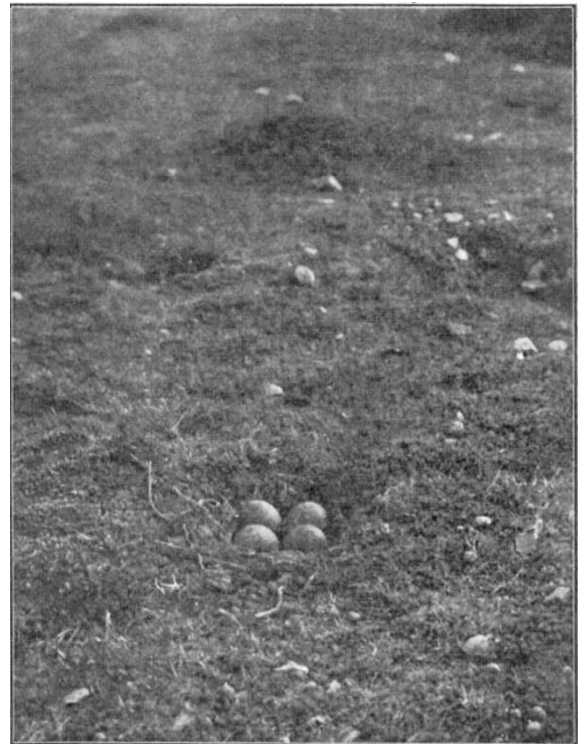


Photo.]

[W. Farren.

FIG. 1.—Lapwing's nest. From "The British Bird Book."

themselves in the very unsatisfactory position of having to write about species of which they had little personal knowledge, there is much information in the book that is the result of direct personal observation, and much, again, of this information could have been supplied only by the contributors and by no one else. Among them we have only to name the Rev. F. C. R. Jourdain, who, in search of eggs, has travelled over so much of Europe and the adjacent countries, and Mr. William Farren, to show how much valuable original observation the editor has had to draw upon among his various contributors. As the editor points out, too, though the bird-man who has concentrated his attention on a few species

—the specialist in field ornithology—cannot afford to ignore the experience of others in his own field, and must to some extent be a compiler if he is to be thorough, it is obvious that he has a great advantage over the non-specialist in that his knowledge enables him to value and select the evidence with a confidence that cannot be felt by one who is dealing with the relatively unfamiliar.

These conditions and circumstances, and what naturally follows from them, doubtless account for the somewhat uneven quality of the various accounts of the different families or groups of birds which go to make up this very readable work. It is pointed out that in a work to which there are several contributors, it becomes necessary to bring into harmony the claim of the individual writer to express himself in the way he thinks best, and the claim of the editor to subordinate individual treatment to the general plan. To strike the just balance between the two is far from easy—perhaps impossible. The tendency in the present work has favoured the individual. The gain has been a vigour and freshness of treatment that are not always conspicuous in works of this kind; the loss a certain weakening of methodical arrangement which is more particularly apparent in the earlier part of the work, owing partly, however, to circumstances that were neither contemplated nor desired, nor, at the time, capable of remedy. The loss, it is hoped, will be practically made good by the completeness of the index. Be this as it may, although some of the articles may be somewhat weak, and perhaps in parts fanciful, we have here, on the whole, a series of excellent life-histories of our birds; many of them written by experienced and accurate naturalists from their personal and recent experience and observations. There are statements to be found with which we do not agree; and it would not be difficult to criticise parts of the book.

But it is a great and a novel work; and, if anything, it improved as it went on.

The coloured illustrations have been drawn from life, not from stuffed specimens; in many cases long special journeys have been made to distant localities to study little-known birds for the purpose of this book. Photographs of nests, nesting sites, etc. (two of which are reproduced here), as well as a series of coloured plates of eggs of British birds, are given.

If the scheme of the work is new, that of the larger illustrations is in keeping with it. The coloured plates are not merely figures of the birds, but they also tell part of their life-history. We may instance those of the sand grouse, crested

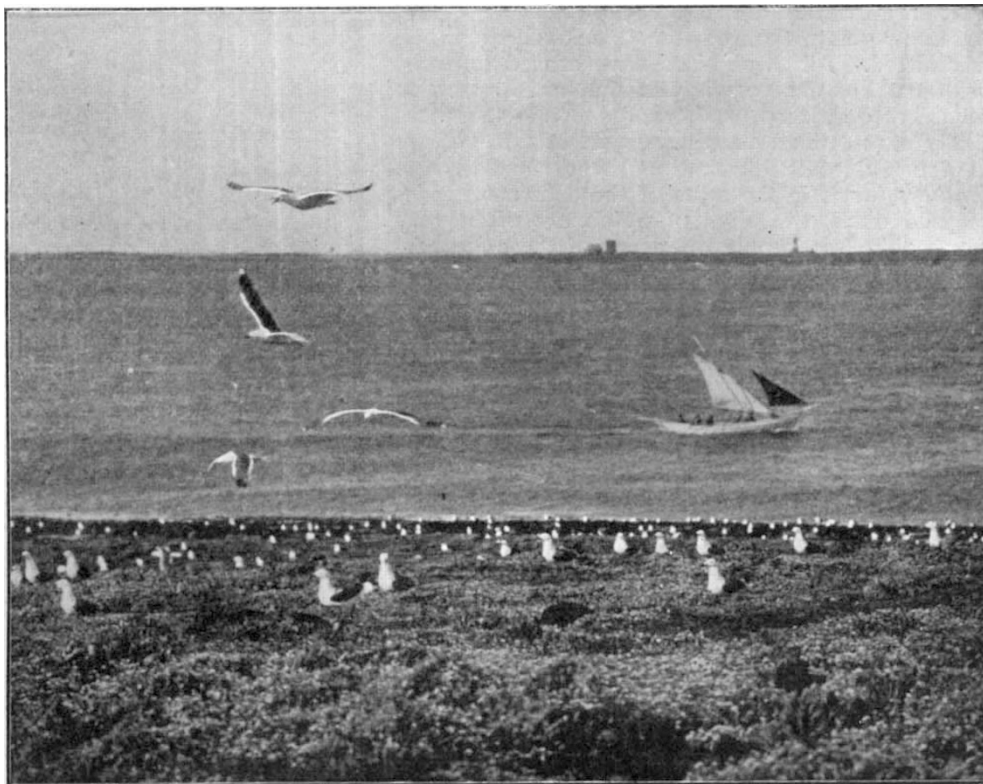


Photo.]

FIG. 2.—Nesting ground of lesser blackbacked-gull (Farne Islands). From "The British Bird Book."

[F. B. Kirkman.

grebe, the arctic tern pursued (as is its wont) by a skua, and the red-legged partridge struck down by a peregrine. Where it is the habit of the bird to congregate, it is so represented, e.g. the gannet, of which twenty-seven individuals appear in the plate. Mr. Seaby's delightful coloured studies alone are enough to give everyone interested in our birds an overpowering desire to put these volumes on their book-shelves. Many of them will recall to the naturalist scenes which he has witnessed, but, alas! has not had the power to preserve except in memory. For in their illustration of bird-life no photograph will vie with the coloured drawing of the skilled artist who really knows his birds. Apart from the all-importance

of correct and delicate colour, the camera undoubtedly does not see things just as the human eye sees them. To name only one, Mr. Seaby's pied flycatchers, as an example of the sort of picture of bird-life we really desire. The female is about to feed the young, the male looking on. Here we have a bit of life-history shown in just the spot in the deeply shaded June woods where the nesting birds will be found—perfect in its facts and details. The birds are alive, the expression in their eyes quite wonderful.

The coloured plates of eggs (some by Mr. Grönvold), carefully prepared, cannot fail to be useful for identification purposes. Since the eggs of the great bustard and the avocet (not to mention the wood sandpiper, only once known to nest in Britain) are figured, we are at a loss to know why that of the black-tailed godwit is omitted. All three birds have ceased to breed with us, but the godwit was the last to survive as a breeding bird, and, moreover, is the most likely of the three to resume that status. There is a useful plate illustrating the down and *nest feathers* found in the nests of the different species of wild duck, the eggs of which are often very much alike. It is only by means of these feathers that the identity of ducks' eggs can be made sure of.

The final section of the work comprises classified notes on the rare British birds (including all species not described in the body of the book), extending to nearly a hundred pages. Chapters on structural characters; migratory movements, by Mr. T. A. Coward; the study of bird behaviour; and bird photography. Also a list of works consulted and a good and full index.

SUPERSTITION AND DISEASE.¹

THIS volume represents the Fitzpatrick lectures for 1912 delivered at the Royal College of Physicians. Dr. Crawford has treated his subject as much in its mental and moral aspects as in its physical, and the result is a wise and very interesting book. In a few chapters he gives us a vivid presentment of the long series of epidemics which devastated Europe and the Levant between the days of Moses in Egypt and those of Napoleon at Jaffa. Painting, sculpture, and architecture have all been pressed into the service, and the thirty-one plates in the book testify to the frequency with which the world's great artists have found inspiration in the terrible scenes of a plague-stricken city.

Many writers, too, from Thucydides to Pepys have been laid under contribution, and bear witness to the magnitude of the catastrophes. We read of Rome in the thirteenth century shaken by twelve visitations of plague, each one extending over several years. We read of the Black Death when one-fourth of the entire population of Europe perishes. Half England is wiped out in this pandemic, and towns and villages are stripped of inhabitants.

¹ "Plague and Pestilence in Literature and Art." By Dr. Raymond Crawford. Pp. viii+222. (Oxford: Clarendon Press, 1914.) Price 12s. 6d. net.

Sometimes the epidemic runs its course with appalling rapidity. The destruction by plague of Sennacherib's army in one night may be legendary, but there is no reason to doubt that in Byzantium during a four months' visitation the daily mortality often reached the total of ten thousand.

Dr. Crawford directs attention to the identity through the ages of the "portents" of plague. For example, the angel with drawn sword is seen to hover over London in 1665, as over Rome in 590, and over Jerusalem centuries before Christ.

From century to century, too, similar theories of its causation are rife. It is the work of malig-



Dress of a Marseilles doctor, 1720. From "Plague and Pestilence in Literature and Art."

nant demons; it is sent from heaven in punishment for sin; it is the result of evil magic exercised by man on man; it is engendered in the clouds; it is caused by earthquakes which liberate the poisons from the earth; by dust which irritates the skin; by impure air, or unsuitable food. Of all the speculations, the most mischievous because productive of such hideous cruelty is the surmise that it is caused by water which has been poisoned by our enemies, the Jews—or by our enemies, the Christians.

Dr. Crawford points out that the contagious