tration of lectures—that most important change of emphasis which came to pass in the method of scientific education. Professor Cross has won high place, which he will hold, whether or not in retirement.—*Boston Evening Transcript.*

SCIENTIFIC BOOKS

The Birds of Britain, their Distribution and Habits. By A. H. EVANS, M.A., F.Z.S., M.B.O.U., Cambridge, 1916. 8vo, pp. xii + 275, numerous halftone text-figures.

This concise and rather informal work is stated to be "primarily intended for schools," but is designed also to serve as a "short handbook which includes the results of the most recent observations, and is adapted to modern nomenclature." While this intention may be justified by the character of the main text, the introductory chapter, treating of "The Class Aves, or Birds in General," might have been written a generation ago, and does not include "the results of the most recent observations," as regards especially the subject of migration. Reference is made only to the creditable work of local observers in Britain, which has accumulated interesting facts regarding the movements of birds in England and Wales without furnishing generalized results, while the important work carried on elsewhere is passed without mention, including the researches of the late W. W. Cooke which have so greatly extended our knowledge of this subject.

In the main text, under the general heading "Classification," with subheadings for the higher groups from orders to subfamilies, a paragraph, without special heading, is devoted usually to each species of regular occurrence in Britain, with a nominal list at the end of nearly 200 "occasional visitors" not formally mentioned in the preceding pages. The author manages to give in the half-page notices of the species of regular occurrence a comprehensive statement of their leading traits, distribution and diagnostic features, in a clear and direct way that should render his "little book" attractive and useful to many readers. The nomenclature is strictly modern, being "almost exactly" that of the British Ornithologist's Union's revised Check-list. The illustrations, though said to be "from photographs taken for the most part from nature," are in many cases obviously not from life but from stuffed specimens or from museum groups, and are thus not up to the standard of the text.

J. A. A.

SPECIAL ARTICLES

FACTORS IN THE GROWTH AND STERILITY OF THE MAMMALIAN OVARY

1. THE growth and, to some extent, the structure of the mammalian ovary depend essentially on the development of the ovarian follicles. The maturation of some follicles and the subsequent rupture leads to the formation of the corpus luteum; the retrogression (atresia) of follicles before they have reached maturity and ruptured leads in certain species to the formation of the so-called interstitial gland and in others to the accumulation of atretic follicles in which the theca interna is relatively prominent, without, however, the formation of an interstitial gland.

As we shall see presently, it is possible to inhibit the full development of the follicles experimentally. Under these conditions we find that the atretic follicles with relatively large thecæ internæ, are especially numerous and constitute perhaps the greater part of the ovary. We may therefore conclude that it is the pressure exerted by the developing, expanding follicles which leads to the shrinking and ultimate complete disappearance of the atretic follicles, and that if this pressure is diminished these atretic follicles become relatively prominent. This explains their relative preponderance in the guinea pig during the period following ovulation, when no large follicles are present in the ovaries.

2. Former observations of the writer showed that under certain conditions mitoses in the granulosa cells of the follicles were especially frequent around the ovum. This suggested the possibility that the stimulus for the growth of the granulosa cells which ultimately determines the growth of the whole follicles, depends upon a substance given off by the ovum. Dr. L. S. N. Walsh in our laboratory