tuted current nomenclature for the old, and has added numerous foot-notes, always over his own initials, amplifying or correcting statements made in the body of the work, which has been allowed to stand essentially as in the original edition. Mr. Brewster has also added an appendix comprising additions to Minot's list and containing an abstract of the results of his study of the gyrfalcons—a most perplexing group. He agrees with Ridgway in the number and nomenclature of the forms, and records the authentic New England specimens of each.

It is a great compliment to the worth of Minot's book that one of the most eminent of American ornithologists, and one who could ill spare the time from his own important work, was willing to edit it.

C. H. M.

The Central Nervous System of Desmognathus fusca. By Pierre A. Fish. Reprinted from Journal of Morphology, x, 1, 1895.

Mr. Fish has made an important contribution to our knowledge of the brain of salamaders. His preliminary remarks embrace two statements of interest: (1) That the adult *Desmognathus fusca* lives equally well in the open air or wholly under water, even where no trace of lungs exists; and (2) that the mouth cavity and esophagus are lined with ciliated columnar epithelium. During arial respiration the floor of the mouth is alternately raised and lowered very rapidly, while when the animal was kept under water it was raised and held in that position a long time; the inference being that the blood is oxygenated by means of the epithelium of the mouth.

The simplicity of the amphibian brain renders it, as the author states, "a most admirable object for the study of morphological relations; its general absence of flexure, its successive segmental arrangement and the degree of exposure and differentiation of these segments, give it a great advantage over most other generalized forms." It was found to be remarkable for the large number of 'embryological' features preserved.

About 40 pages are devoted to the brain and cranial nerves, and the paper is accompanied by a bibliography and four plates. C. H. M.

Introduction to Botany. By Volney M. Spalding, Professor of Botany in the University of Michigan. Boston, D. C. Heath & Co. 1895. Pp. 287.

Professor Spalding has added to his valuable book that which was needed to make it complete, namely, a full glossary, an index, a brief chapter on the organs of flowerless plants, and a chapter on fungi. These added chapters are in keeping with the general plan of the book. The material required is briefly indicated and directions given for its care. Laboratory directions, brief notes directing the student's attention to prominent features, follow. These are extremely good, and it is hoped this feature of Spalding's method of studying plants, corresponding, as it does, with Dodge's method in biology, will be pursued by future makers of text-books, and that we have seen the last of full accounts of what is to be seen, requiring on the part of the student very little thought, and only the attention necessary for the verification of the statements. It is remarkable, when one stops to think of it, how little the inductive method is used in the study of biology. After the directions, comes a little review or summary, giving information not likely to be attained from laboratory practice. This is a very marked feature of the volume and is especially valuable because the information given is so up to date. A very slight examination of the foot-notes will reveal the fact that the very latest research work has been consulted in the preparation of this text-book.

Since the book is only a year old, and since its title is rather misleading, it may not be out of place here to give a short account of it. Its strong point is that along with the study of the morphology of the seed, the root, the stem, the leaf, the flower, the fruit, there is an excellent course of physiological work indicated. Indeed, the whole subject is discussed on the life side, and, although in spite of its title, it is a book adapted to the needs of rather advanced students, yet such a student could easily adapt it to work even in primary schools, according to the most modern pedagogical ideas.

After the general discussion of the life history of the plant, follows a similar work with each of the natural group of flowering plants, the Algæ, Fungi, Mosses, Ferns, Equiseta, and the Club mosses, conducted on the same genaral plan. Then follow the Pines, the Monocotyledons and the Dicotyledons, a special point being made of the relationship of the orders to each other. In this, as in the physiology, a thorough knowledge of the latest thought on the subject is shown, and more than this, the knowledge is given to the student often in a much more logical and understandable way than by consulting the original sources.

Altogether it is the best of the modern text-books on the subject, both in matter and method, and is admirably adapted for use in colleges, either as a basis for advanced work or to give the undergraduate a good general knowledge of the subject.

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NOTES AND NEWS.

FOSSIL VERTEBRATES OF ARGENTINA.

WE have recently received Part II. of the *Paleontología Argentina*, forming a continuation of the *Anales del Museo de la Plata*, published under the direction of Francisco P. Moreno, Director of the Museum. This sumptuous Memoir in royal quarto size consists of '*Contributions to a Knowledge of the Fossil Vertebrates of Argentina*, by R. Lydekker, in three parts covering the Dinosaurs and Cetacea of Patagonia and the Ungulates of the Argentine. The text is in English and Spanish in parallel columns, and is accompanied by thirty-two large plates which give us some conception of the superb collection of fossils in this Museum. In the first section the author describes the Dinosaurs from Patagonia belonging to Marsh's division of Sauropoda, which have not hitherto been described from South America. The agreement of some of these animals with the North American Dinosaurs seems to be strikingly close, so far as can be judged from Mr. Lydekker's description. The remains, however, are not well preserved. There are several plates principally illustrating the family Titanosauridæ. The Cetacea come from a marine deposit in the Territory of Chubet, and embrace especially three skulls which are far more complete than any of their European congeners and represent the Physodontidæ, Squalodontidæ, Argyrocetidæ and Platanistidæ. The most important section of the Memoir, however, is that relating to the extinct ungulates which are described from the superb collection in the La Plata Museum, belonging to the aberrant Toxodontia and Litopterna, besides the typical Artiodactyla and Perissodactyla. The author gives a clear and concise description of the principal characters of each family and of each genus, and has shown considerable skill and great clearness in matters of priority, for the confusion in South American palæontological literature and reduplication of terms is second only to that which prevails in our own country, and has arisen from the simultaneous and independent publications of Ameghino, Moreno and Mercerat. The author has not gone into the labyrinthine problems of specific priority, but has en-