In the first and second chapters the author explains, in a very clear manner and in a non-technical language, the properties of wires carrying currents of electricity. The particular features treated are those which have a bearing on danger from fire and the proper proportioning of wires to avoid such danger. Chapter III. deals with the series, the multiple and the three-wire systems. There are excellent diagrams showing what these systems are, and the text explains how they are operated. Chapter IV. gives a brief account of methods of wiring, particular attention being given to the reasons which make the conduit system the most desirable for the better class of modern buildings. The remaining chapter gives the National code of rules for wiring as applied to Central Stations, High-Potential Systems, Low-Potential Systems, Alternating Systems, Electric Railways and Batteries. These rules are all quoted in full, and each rule is followed by a full explanation of the reasons for its adoption and the dangers which it is the object of the rule to avert. The rules contain many technical words which are explained. It is evident that this is the kind of information which will conduce to the more general carrying out of these rules in practice. The house owner will see that they are designed to protect this property, and not simply to annoy him by useless restrictions. The book is well written and contains information that no house owner can afford to ignore if he is called upon to deal with electric wiring.

Francis E. Nipher.

SCIENTIFIC JOURNALS.

THE AUK.

The *Auk* for April is a number of rather more than usual interest. The opening article, by William Palmer, 'On the Florida Ground Owl (*Speotyto floridana*),' treats in detail of the peculiar distribution and breeding habits of this hitherto little known species, and is illustrated by a colored plate of the bird, a diagram of one of its breeding sites, and a cut showing in section one of its burrows. Mr. F. A. Lucas writes of 'The Taxonomic Value of the Tongue in Birds,' illustrated with figures of the tongue in 12 species, showing the relation of its structure to the food habits in different groups of birds.

Miss Florence A. Merriam has interesting 'Notes on Some of the Birds of Southern California,' and the well-known artist, Abbott H. Thayer, has a very suggestive paper on 'The Law which Underlies Protective Coloration,' with cuts in the text and five full-page photographic illustrations. In short, Mr. Thayer's newly discovered law is to the effect that 'animals are painted by nature, darkest on those parts which tend to be most lighted by the sky's light, and *vice versa*.' This is illustrated by a series of ingenious experiments with the Ruffed Grouse and Woodcock, showing that when the darker 'protective' tints of the upper surface are artificially extended over the lighter lower parts the bird becomes 'completely unmasked.' The artificial extension of the top colors over the lower parts destroys the counter-gradation of colors imposed by nature and forces the bird's solidity to manifest itself.

Dr. Louis B. Bishop describes a new Song Sparrow and a new Horned Lark from North Dakota, and George K. Cherrie a new Nighthawk from Costa Rica. Witmer Stone publishes a revision of the North American Horned Owls, describing also a new species. Some sixteen pages are devoted to a critical examination, by J. A. Allen, of Gätke's 'Heligoland as an Ornithological Observatory, the Result of Fifty Years' Experience'—a book that has attracted wide attention and in general has received high praise. Mr. Allen, however, shows that its merits have been often greatly overrated, and its faults either wholly overlooked or very leniently mentioned. While 'Heligoland' is an important contribution to the literature of ornithology, "it contains much that is set forth as fact which proves on close examination to be mere conjecture." This is especially true of Chapter IV., on the 'Velocity of the Migration Flight,' where, on very slight evidence and in opposition to an abundance of rebutting testimony, it is claimed that most birds perform under normal conditions their migratory journeys in 'one uninterrupted nocturnal flight, * * accomplishing a distance of at least 1,600 geographical miles within the space of nine hours.' He even considers that the Red Spotted Blue-

throat (*Cyanecula suecica*) may make the journey from Northern Africa to the Scandinavian Peninsula—a distance of 2,000 to 2,400 geographical miles—during a single May night, giving a velocity of four miles a minnte, or 240 miles an hour! The American Golden Plover, he affirms, migrates in autumn from Labrador to Brazil—a distance of 3,000 miles—in a single uninterrupted flight, going at an average rate of '212 geographical miles per hour.' As he offers nothing but negative evidence and conjecture in proof of these statements, they are scarcely entitled to serious notice, so contrary are they to all of the known evidence bearing on the case. In Chapter VI., on the 'Order of Migration According to Age and Sex,' the evidence in support of his thoory that "the autumn migration is initiated by the young birds, from about six to eight weeks after leaving the nest," does not well bear close analysis. But the worst portion of his book is the fourteen pages relating to 'Changes in the Colour of the Plumage of Birds without Moulting,' in which he asserts that the breeding dress in many birds is acquired by a change in the color of the feathers themselves without any alteration or change in their texture, whereby pure white feathers change to dark brown or black; and not only this, but the worn jagged edges of the old feathers at the same time are restored to their former size and evenly rounded outline, so as to look in reality like new feathers. As a matter of fact, the very species he cites and describes in detail as undergoing this wonderful process are well known to acquire their breeding dress by a spring molt! In view of these and other misstatements the review closes with the following: "With all its imperfections 'Heligoland' is a book of great interest and value, Part III. being a particularly useful contribution to the literature of ornithology. It is also a work that is likely to do much harm, for it is its sensational and inaccurate parts especially that find their way into the current literature of the day, and particularly into magazines and books devoted to the popularization of natural history."

The department of 'Recent Literature' contains the usual complement of reviews of leading works and papers on ornithology, and the department of 'General Notes' some thirty brief notices of rare or little known species, relating mainly to their occurrence at unusual or entirely new localities. Under the heading 'Correspondence' some ten pages are devoted to the discussion of various questions of nomenclature, by Witmer Stone, H. C. Oberholser and the editor, the number concluding as usual with several pages of 'Notes and News.'

SOCIETIES AND ACADEMIES.

THE PHILOSOPHICAL SOCIETY OF WASHINGTON, MARCH 28.

MR. CHARLES RICHARD DODGE read a paper on some undeveloped American fibers. He stated that government experiments for the development of fiber industries in different countries date back nearly one hundred years. A necessity for such government aid is the importance of securing disinterested experts to prosecute the work, that the investigations and experiments may be conducted in a scientific manner. Such experiments relate to the testing of the strength of fibrous substances, the testing of new machines or new chemical processes for their preparation, and the cultivation of fiber plants when necessary to demonstrate their precise economic value.

In the United States 15 commercial fibers are recognized, only four of which are produced to any extent within our borders: cotton, hemp, palmetto and Spanish moss. The commercial forms not grown, but which might be produced in this country, are flax, jute, sisal hemp, New Zealand flax, cocoanut and possibly sunn hemp.

There are many other forms of plants, some of them classed as American weeds, which produce fibers known as jute or hemp substitutes, that it will not pay to cultivate while the standard fibers hold the market. These are chiefly bast fiber plants.

The flax industry is being reëstablished in this country, on the lines of an 'American practice' laid down by the Department of Agriculture, and gratifying progress has already been made in the new industry. Sisal hemp and some alleged forms of structural fiber plants will thrive in southern Florida. Ramie culture and the spinning and manufacture of the fiber are