

by the presence of late years of the Cottontail Rabbit, Quail, Towhee, Indigo Bird, Yellow Warbler, Thrasher, Chat, etc."—J. A. A.

Cooke's 'Further Notes on the Birds of Colorado.'¹—This is a 'Second Appendix' to Prof. Cooke's 'The Birds of Colorado,' published in 1897, this, and the 'First Appendix,' published in 1898, being paged continuously with the original catalogue. Several species are here added to the list of Colorado birds, making the number 387, of which 243 are known to breed. This is an addition of about 25 species during the three years since the publication of the original list. Many notes are also added respecting the distribution and breeding ranges of other species. Much space is given to notes based on the study of the collection of Colorado birds made by the late Edwin Carter, representing "the work of Mr. Carter for more than thirty years. Much of the material was gathered in the immediate vicinity of Breckenridge, and the rest in Middle Park and South Park," at altitudes of 7500 to 9500 feet. The 'Bibliography of Colorado Ornithology' is continued to date.

As showing the progress made in the study of Colorado birds, Prof. Cooke remarks (p. 220): "There are twenty-five Warblers given in the last edition of the A. O. U. Check-List whose range is said to be 'Eastern United States,' or 'Eastern United States to the Plains,' thus not including Colorado in their habitat," of which eleven have now been found in Colorado, and Prof. Cooke expects that the other fourteen will yet be found in that State. This large appendix of nearly 60 pages is provided with an index, and merits the high praise we gave the original catalogue (*cf.* Auk, XIV, 1897, pp. 331, 332).—J. A. A.

Economic Ornithology.—In the last number of this Journal (XIII, pp. 314, 315) attention was called to Dr. T. S. Palmer's important contribution to the subject of Bird Protection, forming Bulletin No. 12 of the U. S. Department of Agriculture, Division of the Biological Survey. This was promptly followed by Circular No. 28 of the Division of the Biological Survey, also by Dr. Palmer, consisting of a 'Directory of State Officials and Organizations concerned with the Protection of Birds and Game,' giving a list of the Fish and Game Commissioners of each State, and of each of the Provinces of Canada; also a list of National and State Organizations interested in this work, including their officers and wardens, with their addresses; and also a list of the Audubon Societies, organized especially for the study and protection of birds, with the addresses of their Secretaries.

¹ Further Notes on the Birds of Colorado. By W. W. Cooke. Bulletin 56 (Technical Series No. 5), Agricultural Experiment Station of the Agricultural College of Colorado, May, 1900, pp. 181-239.

This was immediately followed by the Biological Survey Circular No. 29, issued over the signature of the Hon. James Wilson, Secretary of the Department of Agriculture, which deals with the Lacey Act. The Circular is entitled 'Protection and Importation of Birds under Act of Congress approved May 25, 1900.' It gives the text of the act, and explains in detail its various provisions, as relating to (1) Propagation and Distribution of Birds; (2) Importation of Foreign Animals and Birds; (3) Transportation of Prohibited Species; (4) Interstate Traffic in Animals or Birds killed or shipped in violation of State Laws; (5) Preservation and Importation of Birds in Charge of the Biological Survey. "The object," it is stated, "of placing this work in charge of an Executive Department of the Federal Government was merely to supplement and not to hamper or replace the work hitherto done by State commissions and organizations; in other words, to coordinate and direct individual efforts, and thus insure more uniform and more satisfactory results than could otherwise be obtained. Greater uniformity in State legislation and better enforcement of existing laws can be secured only by the most complete cooperation between the forces now at work in the cause of bird protection."

The importation of the English or European House Sparrow and the Starling is absolutely prohibited, as is also their "deliberate shipment" from one State to another.

By this special order of the Secretary of Agriculture, "the Division of the Biological Survey is hereby placed in charge of all matters relating to the preservation and importation of animals and birds under this Act, and until further notice the Assistant Chief of that Division [who fortunately is Dr. T. S. Palmer] will have immediate charge of the issue of permits for the importation of animals and birds from foreign countries. All inquiries regarding bird protection and all requests for publications on the uses or preservation of birds should be addressed to the Chief of the Biological Survey."

Another publication requiring notice in the present connection is Dr. Palmer's 'A Review of Economic Ornithology in the United States,' published in the 'Yearbook' of the U. S. Department of Agriculture for 1899 (pp. 259, 292). In this important paper the scope and purpose of 'economic ornithology' is defined, followed by a brief historic sketch of the 'development of American ornithology,' and comments on the following topics: 'Investigations as to the Value of Birds'; the 'Commencement of Investigations along Modern Lines,' 1858 to 1880; and 'A Period of Notable Advance in Investigations,' covering the period from 1880 to the present time, exclusive of the work of the Biological Survey, begun in 1885. He says, in summing up the principal results due to the work of individual investigators: "The important researches thus briefly noticed include four investigations on the Robin, an examination of 630 Nebraska birds [by Prof. Samuel Aughey in 1878], about 1,600 Wisconsin birds [by Prof. F. H. King in 1882], and an investigation of 2,084 birds of

prey, Grackles and other species in Pennsylvania [by Dr. B. H. Warren in 1886], comprising in all more than 5,000 stomachs."

In recounting the work of the Biological Survey he gives an account of the establishment of the Division, its first publications, its functions from the standpoint of economic ornithology, and the results of its investigations, (1) regarding supposed injurious birds, (2) regarding beneficial birds, and (3) a summary of the results of its fourteen years' work.

He then takes up the subject of the 'Commercial Uses of Birds,' and under the subheadings 'Game,' 'Eggs,' 'Feathers,' and 'Guano,' gives some very startling statistics respecting the slaughter for the market of such birds as the Prairie Chicken and Passenger Pigeon, and the enormous destruction of the eggs of Gulls and Terns, Murres, Guillemots and Albatrosses, for commercial purposes, and of Terns and Herons for their plumage. The trade in Guano is not necessarily destructive to the birds to which its deposition in such vast quantities is due; but the statistics here given are of great interest, both from a commercial and an ornithological point of view. A map showing the principal Guano Islands in the Pacific Ocean "bonded under Act of 1856" for citizens of the United States, illustrates this portion of Dr. Palmer's article. "During the thirty years from 1869 to 1898, 283,871 tons of guano, valued at \$3, 229,832, were brought from islands appertaining to the United States."

The paper concludes with a consideration of 'Measures for the destruction, Preservation, and Introduction of Birds.' Under this head are given the history and results of 'bounty laws,' 'game laws,' 'criticism of game laws,' 'efforts at uniformity in game laws,' 'special restrictions,' and 'prospect for enforcement of game laws.' Also a brief summary is given of the introduction of foreign birds and its results.

In concluding this notice of Dr. Palmer's excellent paper it may interest many readers of 'The Auk' to know what led to the establishing of the Division of the U. S. Department of Agriculture known at present as the Biological Survey—a branch of the official work of the Government now so far-reaching in its relations, not only in respect to economic ornithology, but to scientific ornithology and mammalogy. Dr. Palmer says: "One of the most important results of the organization of the American Ornithologists' Union was the impetus given to the study of economic ornithology. Committees on the English Sparrow, bird migration, and geographical distribution were appointed at the first meeting, and elaborate investigations were at once begun. The work, however, had been planned on such a large scale that it soon outgrew the resources of the committees, and at the second annual meeting of the union it was determined to present a memorial to Congress to secure an appropriation for continuing it. . . . In recognition of the importance of the work, Congress granted an appropriation of \$5,000, to be expended under the division of Entomology of the Department of Agriculture, and on July 1, 1885, established a section of economic ornithology. Under the direction of Dr. C. Hart Merriam investigations were outlined on a broad scale, to

include the 'food habits, distribution, and migrations of North American birds and mammals in relation to agriculture, horticulture, and forestry.' A year later the section became an independent division, and in 1896 its name was changed by Congress to the broader title of Division of Biological Survey."—J. A. A.

Meyer and Wiglesworth's 'Birds of Celebes.'¹—We take great pleasure in bringing to the notice of the readers of 'The Auk' this excellent monograph of the 'Birds of Celebes,' in two large quarto volumes of over 1100 pages, beautifully illustrated with nearly 50 colored plates. It embodies the results of many years of work by experts in this particular field, the senior author, Dr. A. B. Meyer, the eminent Director of the Dresden Museum, having spent several years (1870-73) in Celebes collecting the materials for this long-contemplated work. He has thus not only the advantage of thoroughly knowing the physical conditions of the region, but of having made the personal acquaintance of many of the species in life. His valuable 'Field Notes on the Birds of Celebes' appeared in 'The Ibis' for 1879, and were followed by a long series of special papers on the birds of the East Indian Archipelago.

The region here included as the 'Celebesian area' embraces "The Talaut Islands in the north, the Sulu Islands in the east, and the Djampea Group in the south. . . . The boundary so chosen adjoins to the north the southern limit of the Philippines, as defined by Tweeddale, Worcester and Bourns, and others; to the east it coincides with Salvadori's western border, as drawn in his 'Ornitologia della Papuasie e delle Molluchi, and by other writers: to the south it takes in all the islands between Celebes and the Lesser Sundas. The book may thus be said to fill up an ornithological gap, and the bounds as chosen appear also to be the most natural, except possibly in the case of the Djampea Group." The number of species included is 393, with about 150 additional subspecies, each being treated fully as regards its bibliography, its plumages and relationships, its geographical distribution and life-history, so far as the details are known. The numerous colored plates give for the first time adequate illustrations of the 70 species here figured.

The 'Introduction,' occupying 130 pages, treats subjects of general interest, as the 'Travel and Literature' of the region (pp. 2-16); the 'Seasons and Winds in the East Indian Archipelago' (pp. 17-37); 'Migration in the East Indian Archipelago' (pp. 38-52); 'Variation,' in its five phases of (1) individual variation, (2) geographical variation, (3)

¹ The | Birds of Celebes | and | the Neighboring Islands. | By | A. B. Meyer and L. W. Wiglesworth. | — | With 45 Plates (42 coloured) and 7 coloured Maps. | — | Berlin: | R. Friedländer & Sohn. | 1898. — 2 vols. 4to. Vol. 1, pp. i-xxxii + 1-130 + 1-392, pll. 17 (14 col.) and 7 col. maps; Vol. II, 2 ll., pp. 393-962, pll. vol. 28.