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## SOME RECENT ECONOMIC AND SCIENTIFIC QUESTIONS IN ORNITHOLOGY.\*

BY R. W. SHUFELDT, M. D., WASHINGTON, D. C.

ORNITHOLOGY has attained to a status to-day never before reached by that science at any time within the recollection of man, or as shown by its literature.

In this country its cultivation not only interests thousands of amateurs, but its pursuit is followed by a host of eager experts, while its economic value has not altogether been overlooked by the government, which annually makes an appropriation in support of a department dealing with ornithological questions as related to agriculture. Regarded as the science is, then, from so many varied standpoints, it is not at all surprising that we find the collecting of birds actively undertaken for a great variety of purposes. Some of these are perfectly justifiable and fall strictly within the demands of the science and are essential to its progress, while others lie more or less without the pale of any such need, and consequently are deserving of our most energetic condemnation or prosecution. Thousands of birds are destroyed every year as a mere matter of sport, and either no use made of them whatever, or none worthy of mention. In this category, of course, I do not include the killing of game-birds for the table, a privilege that can be properly restricted legally, although it is very frequently more than abused. Many native birds are annually trapped for cages, and a large proportion of them perish. Quantities are destroyed by "feather-hunters" to supply the demands of fashion. Numbers are killed by ignorant farm-hands, who labor under the impression that they do humanity a direct benefit every time they take the life of a king-bird, a martin, or a marsh-hawk.

Then there are a few taxidermists who habitually destroy birds as a business, to preserve their skins and mount them for sale. As a rule, however, taxidermists are engaged only in the preservation of such birds as are brought to them, or else pursue their profession in scientific educational institutions or elsewhere.

Next we meet with every grade of amateur and scientific collector of bird-skins, who claim each year a certain proportion of specimens for scientific or semi-scientific purposes. In nature, also, some species prey upon others and thousands are thus annually destroyed, while every season the lives of millions of others are claimed by

storms, high winds and downpours of heavy rain. Certain predatory mammals capture others, or reptiles devour their young. No doubt, finally, that diseases, injuries and accidents take away their annual quota, but the proportion thus destroyed must, in comparison with other causes of mortality, be exceedingly small.

Now for a number of years past it has been widely noticed that in the suburban districts of many cities all over the United States, there has been a more or less marked decrease in numbers of many of our native birds, as, for example, orioles, robins, blue-birds and many other species. Frequently such reports are only too well founded in fact, while in other cases they have been over-rated. Certain it is, nevertheless, that within the last twenty years birds in the most of such localities have been becoming more and more scarce, while in some places where certain species were formerly abundant, those very species are practically now almost extinct. Numerous inquiries, scientific and otherwise, have been made with the view of finding out, if possible, the cause or causes which are accountable for bringing about this very undesirable state of things. After more or less mature deliberation some attributed it to one cause, some to another, and some to a combination of causes. Many were disposed to believe that the introduction of the English sparrow lay at the bottom of the whole trouble; in the eyes of some the "feather-venders" had all to do with it, while from other quarters the blame was attached entirely to the taxidermists and the bird collectors. As far as the writer has seen or heard not much importance has ever been attached to any other cause as a means of destruction of bird life, with perhaps the exception of the introduction of large lighting apparatuses in many places, where no doubt thousands of birds at night are yearly destroyed.

For more reasons than one the introduction of the English sparrow into this country was an expensive blunder, but that they are chiefly responsible for the disappearance of many of our native species of birds in the localities we have mentioned, I never have in that view been a firm believer, and my faith is not increased as time goes by. In the first place, it directly militates against every personal observation I have ever made in the premises, and I have faithfully studied the species for many years. Many of our native birds whip the English sparrow in each and all contests where they come in contact, and drive them out of the nesting places. They almost invariably give way before robins, cat-birds, wrens, martins and many others. Blue-birds appear to be more timid and gentle, and they simply keep out of the sparrow's way and make no attempt to oppose him, while on three or four occasions last spring I have seen the common house wren deliberately hustle sparrows out of a bird-box, where they had bred the season before, and re-occupy it themselves.

That the indiscriminate slaughter of small birds for millinery purposes, by conscience-ridden dealers, was for a long time a prime cause has been proven beyond cavil, and such people should simply be prosecuted by all the rigor of the law, and made to desist quite as promptly as that party who would commit any act that threatened the agricultural interests of the country, for no one will question for a moment but what the removal of our insectivorous birds does that very thing. Were all the birds in the country destroyed there is no power known to man that could check the enormous increase in insect life or the destruction of plant-life that would follow as a consequence. Such a wholesale disturbance of Nature's balance will not occur; while on the other hand I am not prepared to say whether the recent known decrease in our birds in certain localities has been followed by a cor-

\*Read at the World's Congress Auxiliary of the World's Columbian Exposition:—Division of Ornithology. October 18-27, 1893.