

(quoted by Girard), the envelope contains a soluble ferment resembling diastase, which, during the raising process, at the same time converts starch into sugar and diminishes the elasticity of the gluten, thereby tending to make the bread heavy, while it also imparts a brown color to the bread. Bread made with baking-powder would naturally escape these effects to a large extent.

It is certain that wholesome, palatable bread can be made from whole wheat flour, and, for dietetic reasons, many may prefer it. From an economic point of view, however, it can hardly claim any great advantages, so long as nearly every one can command a mixed diet, and the bran can be profitably utilized as cattle food.

THE ENGLISH SPARROW.

THE question of the policy to be pursued toward this bird is fast becoming one of importance; and in many parts of the country stringent measures of extermination are urged by the indignant citizens. A committee of the American ornithologists' union recommended as the result of their inquiries,—

1°. That sheltering or otherwise fostering the sparrow by the public be discouraged, and that its introduction artificially into new localities, and its sale for such purposes, be forbidden by law.

2°. That all existing laws protecting the sparrow be repealed, and that bounties be offered for its destruction.

The states at present protecting this species are Maine, New Hampshire, Vermont, Rhode Island, New York, New Jersey, and Ohio. There are also protective laws in the District of Columbia and Canada. The Massachusetts law has been repealed and specially exempts the English sparrow from protection. The protective law has also been repealed in Michigan.

The earliest known date of importation of the bird is 1858, when Mr. Thomas A. Deblois liberated a few in Portland, Me. These disappeared shortly afterward, and were not successfully replaced until 1875. In 1858 sparrows were liberated at Peacedale, R.I., by Mr. Joseph P. Hazard. They were first introduced into Central park, New York city, in the year 1860. In 1864 twelve birds were turned loose in Madison square, New York city. In 1868 the species was first introduced into Boston common; in 1869, in the parks of Philadelphia; and a little later it became resident at Indianapolis, Ind. In a period of about ten years the sparrows spread through New England and the middle states, and many of the western states, without artificial assistance. In the southern and the western states, beyond the Mississippi River, the

bird has not been observed. In Canada it has become generally distributed over the southern sections of Quebec and Ontario, and in 1884 several flocks invaded New Brunswick.

The bird is evidently spreading itself with extreme rapidity, which should be expected from a bird that hatches from three to four broods of four each in a single season.

In regard to the food of the sparrow, little seems to be settled except that it prefers vegetable food to animal, but will eat insects if driven to it. It is capable of doing great injury to grain, and is a great pest to fruit-raisers. I have seen flocks of them in cherry-trees doing far more mischief than the robin, and I have seen them in early spring nip off the young buds of peach-trees without any apparent reason, other than a desire not to be idle. Seeing that they did not appear to eat the buds, I killed two to see their reason for this destruction. I found nothing in their stomachs except crumbs that had been fed them that morning.

The bird has little to recommend it, is noisy, dirty, and disagreeable both to man and to other birds; and there is every reason why we should do in this country as it has been found necessary to do in others,—enact laws looking to their extermination.

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THE EFFECT OF THE SETTLEMENT OF NORTH AMERICA UPON ITS WILD ANIMALS.¹

THE common deer was abundant from Florida to Canada, throughout the eastern half of the United States, when Europeans first settled in this part of North America. It is now restricted to the sparsely-settled forested portions of this area, and is rapidly decreasing in numbers. The 'elk,' or wapite, ranged throughout temperate North America as far east as the Blue Ridge. For many years it has been wholly extirpated east of the Great Plains and in the Rocky Mountains, and in the far west generally is rapidly approaching extinction. The moose and the caribou have been driven northward in New England and southern Canada to still unsettled forest regions; while the bison, formerly ranging in considerable herds eastward to the Alleghanies, and occupying the Great Plains in countless numbers, is now practically extirpated; a few small bands, remotely scattered, and numbering a few dozen individuals each, constituting the insignificant remnant of the millions that, less than twenty years ago, covered the Plains, from Texas to the Saskatchewan. The pronghorn and

¹ Condensed from an article by Ernest Ingersoll, in Bull. Amer. geogr. soc., 1885, No. 1.