

THE INHERITANCE OF SONG IN PASSERINE BIRDS.  
REMARKS AND OBSERVATIONS ON THE SONG  
OF HAND-REARED BOBOLINKS AND RED-  
WINGED BLACKBIRDS (DOLICHONYX  
ORYZIVORUS AND AGELAIUS  
PHŒNICEUS).

DURING the past spring (1903) I secured a brood of bobolinks and two broods of red-winged blackbirds. These young nestlings were carefully reared, and, while allowed to hear many other kinds of birds sing, were not placed where it was believed that they could hear the songs of their own species. The results about to be described have been based on continuous observation, in the case of the blackbirds for six weeks, and for the bobolinks three weeks. Care has been taken to have competent judges, well acquainted with the song of both species, listen to the song of these birds without seeing the singers. In no instance was the song recognized; one listener ascribed the song of two red-winged blackbirds to the brown thrasher (*Toxostoma rufum*), and was wholly unable to form an opinion as to what birds were singing when listening to the performance of two bobolinks. It should be stated that there were but two males of each of the species in question from the broods that had been reared.

The song of the bobolinks is loud and brilliant as well as sustained; that of the red-winged blackbirds is even of greater volume and may be best described as continuous.

A word seems essential as to the call-notes of the two kinds of birds in question. I have failed to distinguish anything that resembles the call-note of the bobolink in its wild state, nor any sound that emanates from the two representatives of this species that are under observation which could be referred to bobolinks in a wild state. The interval of the notes and the duration of the song seem, however, not unlike those of wild bobolinks. One of the young birds, moreover, has been noticed both by myself and other observers attempting with a marked degree of success to sing the continuous rolling warble with its rising and falling inflection that characterizes the Hartz Mountain roller canary.

The call-note of the red-wing blackbird is

clearly distinguishable in the two red-wing blackbirds under observation, but is the only sound that might be referred to that species. The song of these two birds seems to be made up of a composite jumble wherein robin and thrush-like notes of great clearness and volume predominate. The duration of the song is not marked by any particular break, the performance generally lasting from five to ten minutes. The clear robin and thrush-like notes are connected by fainter warbles and lisps, the whole being continuous.

The blackbirds were taken during the first weeks in June and were probably about a week old. They began to sing early in September, and the only interruption was an interval of four or five days when they changed from the liberty of a room where they could fly about to two large room cages.

The bobolinks were taken on the twelfth day of June and were much younger than the blackbirds, being not more than four days old. They have been kept all the time together in a large cage, and have not known the freedom of a flying room. They began to sing about the first of November, and in a few days could be heard in song at almost any time during daylight.

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THE U. S. NAVAL OBSERVATORY.\*

THE astronomical force has been gradually diminished year by year, first by the detachment of a number of line officers who were formerly assigned positions as observers, and more recently by the detachment of several professors of mathematics for duty at the Naval Academy. This not only left the observatory short-handed, but made frequent rearrangements of the personnel necessary. Each new assignment to astronomical duty retards the work, breaks up its continuity, and diminishes the output. It is such changes as these among subordinate officers who have special work to do that pro-

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