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‘Instinct or Intelligence?’

In a recent volume of essays by Mr. A. R. Wallace, one of the ablest of English naturalists, we find an article in which he takes ground against the almost universal belief that birds sing and build their nests by instinct—that is that they exhibit some special faculty by which they are enabled to perform their work without teaching or experience. Mr. Wallace says:

“It is objected that birds do not learn to make their nests as man does to build, for all birds will make exactly the same nest as the rest of their species, even if they have never seen one, and it is instinct alone that can enable them to do this. No doubt this would be instinct if it were true, and I simply ask for proof of the fact. This point, although so important to the question at issue, is always assumed without proof, and even against proof, for what facts there are, are opposed to it. Birds brought up from the egg in cages do not make the characteristic nest of their species, even though the proper materials are supplied them, and often make no nest at all, but rudely heap together a quantity of materials; and the experiment has never been fairly tried of turning out a pair of birds so brought up into an enclosure covered with netting, and watching the result of their untaught attempts at nest-making. With regard to the song of birds, however, which is thought to be equally instinctive the experiment has been tried, and it is found that young birds never have the song peculiar to their species if they have not heard it, whereas they acquire very easily the song of almost any other bird with which they are associated.”

In proof that birds sing by imitation rather than by instinct, Mr. Wallace quotes from the Hon. Daines Barrington, who says: “I have educated nestling linnets under the three best singing larks—the skylark, woodlark, and titlark, every one of which, instead of the linnet’s song, adhered entirely to that of their respective instructors. When the note of the titlark linnet was thoroughly fixed, I hung the bird in a room with two common linnets for a quarter of a year, which were full of song; the titlark linnet, however, did not borrow any passage from the linnet’s song, but adhered steadfastly to that of the titlark.” He then goes on to say that birds taken from the nest at two or three weeks old have already learnt the call-note of their species. To prevent this the birds must be taken from the nest when a day or two old, and he gives an account of a goldfinch which he saw which sang exactly like a wren. This bird had been taken from the nest at two or three days old, and had been hung at a window opposite a garden, where it had acquired the notes of the wren without having had any opportunity of learning even the call of the goldfinch.

These facts, and many others, might be quoted to render it certain that the peculiar notes of birds are acquired by imitation, as surely as a child learns English or French not by instinct, but by hearing the language spoken by its parents.

We have seen that in the first four or five days the young birds obtain some knowledge of the parent notes. This shows that they can both hear and remember; and it would be very curious if they could live for days and weeks in a nest and know nothing of its materials and the manner of its construction. When they come to build their own nest, therefore, they would naturally make one like that which they have seen. It would indeed be remarkable if they should go out of their way to get materials quite different from those used in the parent nest, and arrange them in a way they had seen no example of.

Mr. Wallace further states that if the nests of the same species of birds be examined, it will be found that some are constructed more carefully and elegantly than others, and he thinks that the best nests are generally built by the older birds,—showing thus a growth in skill similar to what we might reasonably expect, if his views on the subject are correct.

We recently published a statement relative to the nests of the swallows in Germany, which also bears upon this subject. It is alleged that the swallows have altered the style of their nests within a few centuries, and that they are now quite an improved habitation, the oval which they have adopted affording more room and more light than the former circular nest.

The following from a letter written by Dr. Buchanan to the Rev. Mr. Brown, of Calcutta, in 1806—as the account from which we quote says—is interesting in this connection:—

“I write this at the bottom of the lofty mountain called Cape Comorin, whose rocky head seems to overhang its base. The birds which build the pendulous nests are very numerous. At night, each of their little habitations is lighted up, as if to see company. The sagacious bird fastens a bit of clay to the top of the nest, and then picks up a fire-fly and sticks it upon the clay, to illuminate the dwelling, which consists of two rooms. Sometimes there are three or four flies, and the blaze of light in the little cell dazzles the eyes of the bats, which often kill the young of these birds.”

One curious change in the habits of birds we have noticed within the last few years at Germantown. Three or four years ago, the Wood Thrush was one of our rarest birds—its delicious note being heard only in the still depths of the distant woods. But now these birds throng our shaded gardens. You hear them in every direction. And they are the least timid of our feathered visitants, making their nests so low that it is evident they have no fear of man, and showing the same pleasing confidence in other respects. It would seem evident that they have found that man is to be looked upon as a protector, not as an enemy; and as they are more valued than any other bird we have, so they, in turn, trust more implicitly in our friendship. Now if this change be not the result of intelligence, working in birds precisely as in human beings, we are not able to see the difference between intelligence and instinct. An apparently timid bird has become one of the most fearless—and our homes have gained in proportion. Early in these summer mornings, and frequently through the day, our gardens are vocal with the beautiful song of this once unfamiliar visitant.

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The Alfred Russel Wallace Page, Charles H. Smith, 2015.