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The Song of Birds

The characteristic modulated voice of birds is the outstanding example of natural “ song ” in the animal world. The essential requirements of a vocal organ, the pressure of vibratory mem­branes or chord, are found in the bird’s *syrinx* (see Bird), but how these membranes act in particular, and how their tension is modified by the often numerous syringeal muscles, we do not know. The voice of birds is produced entirely by the syrinx; the larynx no doubt modifies it, but the tongue seems to play no part in it. The “ loosening of the tongue ” by cutting its *frenum,* in order to assist a bird in talking &c., is an abso­lutely silly operation. The possession of the most elaborate syrinx is not enough to enable a bird to sing. In this respect they are like ourselves: special mental faculties are required to control the apparatus. Anatomically the raven has the same elaborate syrinx as the thrush or the nightingale, and yet the raven cannot "sing ” although it can modulate its voice and can even learn to talk. As a rule the faculty of singing is restricted to the males, although the females possess the same organs; moreover, birds vary individually. Some learn to sing marvellously well, while others remain tyros in spite of the best education. But given all the necessary mental faculties, birds sing only when they are in such a healthy condition that there is a surplus of energy. This, of course, is greatest during the time of propagation, when much of the surplus of the general metabolism comes out—to use. homely words—in unwonted functions, such as dancing, posing, spreading of feathers and giving voice. Every one of these muscular exertions is a spasm, releasing some energy, and—again in homely parlance— relieving the mind. In many cases these antics and other manifestations become rhythmical, and music consists of rhythmical sounds. Of course birds, like other creatures, are to a certain extent reflex machines, and they often sing because they cannot help it, just as male frogs continue to croak long after the pairing season, and not necessarily because they or their mates appreciate those sounds. But birds stand mentally on such a high level that we can scarcely doubt that in many cases they enjoy, and therefore sing their song. Many a tame bird, a canary, starling, magpie, will repay its keeper with its song, out of season, for any kindness shown to it, or for his mere presence.

If we regard any sound made by a bird under the all-powerful influence of love or lust as its “ song,” then probably every bird is possessed of this faculty, but in the ordinary acceptance of the term very few, besides the oscines, can sing, and even this group contains many which, like the ravens and the crows, are decidedly not songsters. On the other hand, it seems unfair not to call the charming series of notes of the dove its song.

D. Barrington in a very remarkable paper (“ Experiments and Observations on the Singing of Birds,” *Phil. Trans.*, 1773, pp. 249-291) defines a bird’s song “ to be a succession of three or more different notes, which are continued without interruption during the same interval with a musical bar of four crotchets in an adagio movement, or whilst a pendulum swings four seconds.” The late A. Newton *(Ency. Brit.,* 9th ed., iii. 771; see also *Did. Birds, s.υ. "*Song,” pp. 892-894), taking a much wider view of “ song,” proceeds as follows:—

"It seems impossible to draw any but an arbitrary line between the deep booming of the emeu, the harsh cry of the guillemot (which, when proceeding from a hundred or a thousand throats, strikes the distant ear in a confused murmur like the roar of a tumultuous crowd), the plaintive wail of the plover, the melo­dious whistle of the wigeon, 'the cock’s shrill clarion,’ the scream of the eagle, the hoot of the owl, the solemn chime of the bell bird, the whip-cracking of the manakin, the chaffinch’s joyous burst, or the hoarse croak of the raven, on the one hand, and the bleating of the snipe or the drumming of the ruffled grouse, on the other. Innumerable are the forms which such utterances take. In many birds the sounds are due to a com­bination of vocal and instrumental powers, or, as in the cases last mentioned, to the latter only. But, however produced— and of the machinery whereby they are accomplished there is not room here to speak—all have the same cause and the same. effect. The former has been already indicated, and the latter is its consummation. Almost coinstantaneously with the hatch­ing of the nightingale’s brood the song of the sire is hushed, and the notes to which we have for weeks hearkened with rapt admiration are changed to a guttural croak, expressive of alarm and anxiety, inspiring a sentiment of the most opposite character. No greater contrast can be imagined, and no instance can be cited which more completely points out the purpose which 'song' fulfils in the economy of the bird, for if the nightingale’s nest at this early time be destroyed or its contents removed, the cock speedily recovers his voice, and his favourite haunts again resound to his bewitching strains. For them his mate is content again to undergo the wearisome round of nest-building and incubation. But should some days elapse before disaster befalls their callow care, his constitution under­goes a change and no second attempt to rear a family is made. It would seem as though a mild temperature, and the abundance of food by which it is generally accompanied, prompt the phy­siological alteration which inspires the males of most birds to indulge in the 'song' peculiar to them. Thus after the annual moult is accomplished, and this is believed to be the most critical epoch in the life of any bird, cock thrushes, skylarks, and others begin to sing, not indeed with the jubilant voice of spring but in an uncertain cadence which is quickly silenced by the super­vention of cold weather. Yet some birds we have which, except during the season of moult, hard frost, and time of snow, sing almost all the year round. Of these the redbreast and the wren are familiar examples, and the chiffchaff repeats its two- noted cry, almost to weariness, during the whole period of its residence in this country.

"Akin to the 'song of birds,’ and undoubtedly proceeding from the same cause, are the peculiar gestures which the males of many perform under the influence of the approaching season of pairing, but these again are far too numerous here to describe with particularity. It must suffice to mention a few cases. The ruff on his hillock in a marsh holds a war-dance. The snipe and some of his allies mount aloft and wildly execute unlooked-for evolutions almost in the clouds. The woodcock and many of the goatsuckers beat evening after evening the same aerial path with its sudden and sharp turnings. The ring-dove rises above the neighbouring trees and then with motionless wings slides down to the leafy retreat they afford. The capercally and blackcock, perched on a commanding eminence, throw themselves into postures that defy the skill of the caricaturist—other species of the grouse-tribe assume