

## ON THE ORGANS OF VOICE IN BIRDS.

From the monotonous scream of the eagle, to the rich and varied modulations of the nightingale, the feathered race possesses an almost infinite variety of tones and qualities of voice, each species being distinguished by a note peculiar to itself. All birds are by no means musical; it is only to certain tribes that the voice of melody is given; a voice capable of rapid inflexions, and full of harmony, is not given to the rapacious tyrants of the air, that pounce upon their trembling quarry; it is not given to the birds that scream, and play, and dive among the billows of the ocean; nor to the wild swan and the host of water-birds that make the marsh or the dark morass their home; nor yet to the gallinaceous birds, which are valuable to man for their flesh; but to a multitude of smaller birds, the tenants of woodlands and groves, where a thousand voices in mingled harmony swell nature's hymn of praise. The thrush, the blackbird, the woodlark, the skylark, the nightingale, the linnet, and many more belonging to two great families, the *silvadeæ* and the *fringiliadeæ*, form our chorus of feathered warblers.

Each of these songsters, however, possesses its own peculiar music, a scale of notes, and a character of modulation peculiar to itself; and it will not be devoid of interest to inquire into the stricture of the organ or apparatus by which sounds and intonations so dissimilar are produced. This organ we shall find characterized by the utmost simplicity, inasmuch that we are surprised at the results of a contrivance apparently so little calculated to produce the variations and powers of voice with which we are familiar. But, indeed the same may be observed respecting the human voice, of which the organ simply in the extreme produces the most extraordinary variety and richness of tones (capable too of progressive improvement), by slight variations of muscular action, apparently too trivial to exercise that degree of influence which we know they do.

Both in mammalia and in birds we look to the trachea or windpipe, as the organ of voice. In man, and the mammalia generally, the different intonations are produced by the tension or relaxation of two chords, termed *chordæ vocales* stretched across the superior or laryngeal aperture called *rima glottidis*. In birds there are no *chordæ vocales*, and the intonations are produced by the lengthening or shortening of the laryngeal tube itself, through which the air vibrates. Hence in man the organs of voice have been said to bear an analogy to an æolian harp, in birds to a wind instrument, such as the French horn, where the notes upon a low key are produced by the affixture of additional circles of tube; and the extent of the aperture is regulated by the hand, in the production of various tones.

M.

## CREATION WORTHY OF OUR STUDY.

CREATION was Adam's library; God bade him read the interesting volumes of his works, which were designed to make known the Divine character. To gratify curiosity only, in the study of the creatures, is to lose sight of their end in relation to man. I would have my dear children see God in every thing. It is not merely a transitory emotion I wish to raise in their minds, but a habit of referring, in all they see, to their Maker with delight and reverence. I will never consent to shut God out of his own universe, or to divorce science and religion, which he has joined together, to dwell with each other in unity and love—*Legh Richmond*.