

## DIFFICULTIES, AND METHOD OF PRESENTATION.

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THE difficulties which one who attempts a description of the songs of the Warblers meets at the outset seem almost unsurmountable. First of all is the 'personal equation' of the describer as well as the 'personal equation' of the one for whom the description is attempted. This may be minimized by combining notes from many describers, thus securing a sort of Volapuk description, which will really be a generalized song possibly suggestive to most persons already familiar with the song, but practically useless to the novice. The writer's practice, where there is considerable difference in the descriptions, is to combine those that are alike into a type, and then illustrate each type. Where this is not done practical agreement may be assumed.

Another difficulty lies in the variability of individual birds composing the species. Without such variability there would be no progress of the species toward a more perfectly developed song. But the variation here is less of a hindrance to the intelligent understanding of a description than the difficulty stated above. Indeed, I am not sure but this difficulty is a blessing in disguise, for some one of the variations may fit the description for the learner, where an unvariable one would utterly fail.

The one great difficulty lies in the almost entire lack, among human signs and symbols, of anything to even approximately represent birds' voices. We can only suggest with the means at hand. Our systems of musical notation are wholly artificial and mechanical, theirs wholly natural and unhampered. Our ears have become so accustomed to certain fixed intervals in the chromatic scale that we are prone to regard them as absolute necessities to any sort of melody. But if that be not true, there yet remains the entire lack of characters with which to represent the avian music in terms of human music. The learner's first need, then, is to become accustomed to bird music experimentally. It is not necessary to know what species is singing:

that will follow in good time. Equipped with the knowledge of what bird music is, the student can go on to a study of the characters common to the members of some group, this in turn followed by study of the individual species. It is not at all necessary to know the songs of many species of a group before the group type is learned. The songs of a half dozen or less will be enough.

To appreciate the realness of these difficulties one need only scan the pages of a few books wherein bird songs are described. Taking each description at its face value we should be compelled to believe that there is no constancy to a song-type within the species. But these diverse descriptions are often descriptions of the same individual bird, sometimes written by different persons at the same time standing side by side. It simply illustrates the first mentioned difficulty: that we see things differently, hear sounds differently, call up the same impression differently, are differently impressed by the same thing; and, of course, represent the same thing differently.

In view of this it would be time and effort wasted to attempt a description of the melody in the song of each species. Rather let the effort go into a representation of the more mechanical production of the song. The melody can be hinted in word description, and more or less of it will appear if the attempt be made to reproduce the song from the description given.

#### THE METHOD.

There are objections to any system of representation, because each, and even all taken together, are wholly inadequate, but some method must be employed. The system most widely used is the system of syllables. The birds do not speak syllables, but our minds seem to need something of the sort to fix upon as a suggestion of the sort of sound produced. We seem to associate high pitched, shrill sounds with the vowel *e*, low whistling sounds with *o*, or *a* as in *ah*; terminal sounds not too high pitched become *u*. Short, high-pitched sounds are like *i* in it. The chief objection to this system probably lies in the great diversity of the vowel sounds, making uncertain what sound is intended. This may be obviated in large measure by agreeing what sound each vowel shall always represent.

In this paper *a*, *e*, *o* and *u* are long, but *i* as in it. Double vowels represent a prolongation of the note which the syllable represents. The consonants have the sounds which their position necessitates. In addition to syllables, a system of dots and dashes, which I have found valuable in field work, is given where greater clearness seems to be gained by its use. The chromatic scale has not been used enough in the printed descriptions, nor in my own field work, to make its use here practicable. It would no doubt prove of great value if used for every species, furnishing means for fairly exact comparisons, but when employed only here and there and for but a few species the gain over arbitrary characters would be slight.

The method employed for presenting the subject differs from that usually employed. Instead of treating the species separately and in systematic order, it has seemed better to largely disregard the systematic arrangement for the sake of grouping the songs according to similarities exhibited in method of delivery, expression, or what not. Assuming an evolution of song, the order within the group is, so far as practicable, from the most primitive to the most specialized. But where a type has been taken, the order is from the ones most similar to those most dissimilar to the type. This leads us to speak briefly of the probable origin of bird song.

Mr. Charles A. Witchell, in his book, "The Evolution of Bird Song,"\* says in substance, that voice probably grew out of grunts and hisses accidentally uttered during extreme fright or during combat. These became call notes by bringing to the aid of the one in distress those of his own kind as helpers. Call notes grew into call songs by the repetition of the simple call notes, modification naturally following to produce, in time, a song more or less different from the call note. And I may add, the call songs have grown into passion songs by a process of still further modification induced by an overflow of physical and perhaps mental vigor at certain seasons, no doubt emphasized by the migratory habit of the larger proportion of the class. We cannot stop to follow out the steps in the development of bird song here. Those who desire to do so should read the book above referred to.

\*THE EVOLUTION OF BIRD-SONG; | With | Observations on the Influence of | Heredity and Imitation. | By Charles A. Witchell. | London. | Adam and Charles Black. | 1896.