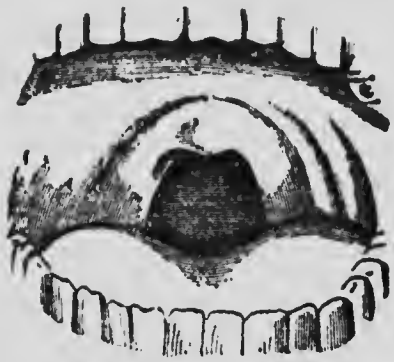
pharynx should be expanded, so that the passage-way there should be free and unobstructed. Any constriction in the pharynx is fatal to the beauty of the voice.

The mouth passage also affects the voice, imparting to it "vowel quality," and changes in the shape of the mouth-passage, produced by the action of the tongue and lips, occasion changes of vowel quality. In singing different vowel sounds the voice may have the same pitch and loudness, and yet each vowel remains distinct to the ear. Vowel differences, therefore, are differences in the quality or timbre of the voice; and vowels themselves are in reality *qualities of voice* to which we have given specific names, and which we employ as elements of speech.

I do not propose to-day to enter into any detailed description of the positions assumed by the tongue and lips, during the production of vowel sounds, as most of you, I know, are familiar with the



(Cut C).*

subject. I shall rather attempt to show you why it is that changes in the shape of the cavities of the mouth, pharynx, etc., occasion changes in the quality of the voice.

When we prolong a vowel sound without varying the pitch of the voice, the effect produced upon the ear is not simply that of a single musical sound, but of a chord containing a number of musical tones of different pitch. One of these tones is so much louder than the others that it determines the apparent pitch of the whole combination. The other tones are so feebly produced, that it takes a skilled ear to recognize them as musical effects at all; and the untrained ear simply perceives them as the quality or timbre of the sound. When a number of vowels are sung successively without varying the pitch of the voice, a trained ear readily perceives that

* This cut is reproduced from "Voice, Song, and Speech."