

THE VOICE AND ITS INFLUENCE.*

By WALTER B. SWIFT, M.D.,
Boston, Massachusetts.

The training of the nurse in the medical care of patients lies for the most part in methods and tasks that change from patient to patient, but I wish to present a few ideas that can be used in every case and at all times. I shall not attempt to present the old material of the nurse's training in novel garb, but to offer something new which can be employed on all occasions with equal profit and success.

In a splendid school for nurses which I have had the privilege of watching minutely for one year, there was never a word of instruction upon the important subject of the nurse's voice. The same is true of many other schools with which I have had a more distant connection; yet my subject is of great importance to the nurse, and has not been mentioned only because it has been unknown.

A brief review of brain physiology will be helpful as an introduction to my more immediate subject. In the middle of the left hemisphere of the brain, as you know, lies the important fissure of Rolando. The convolutions just in front of and behind this fissure are very important. The one in front is the motor area, where the cells regulating muscular motions are located. Behind the fissure of Rolando lies the sensory area, which registers sensations received from the body. Now, the motor region controls the larger motions, such as grasping, reaching, holding, but not the much more delicate and complex motions, like writing. These are controlled by nerve cells near the motor area, but outside it. This specialized function and control by a higher center is found also in the sensory area. Just back of the arm area in the sensory field is an area where the cells interpret sensations sent up to the great sensory arm area, guiding arm sensations over into conclusions, interpreting nerve sensations, acting as a seat of final judgment as to what things are. This function of recognizing external objects is called stereognosis. We know of the existence of these higher controlling centers because when they are destroyed these functions no longer exist. Destruction of the higher refined motor area causes loss of the writing faculty known as agraphia. This construction of higher centers for control and interpretation of lower centers is a favourite method with the architect of the

cortex. To give one more example out of many, visual sensations pass to a part of the cortex known as the cuneus and are registered there as gross sensations, but outside that area is a higher center which, when human beings are seen, classes them as acquaintances or strangers, or, when letters are seen, puts them together into words. Pathologic lesions may destroy these functions also, and lead to psychic blindness and word blindness.

We see, then, that it is the rule for sensations reaching the brain to branch out into correlated centers for interpretation, and for motor impulses passing from main centers to be guided by more refined, discriminating, and highly specialized parts.

With these higher interpreting centers in mind, let us turn to the voice, and see whether there is anything analogous in its perception and production. For our purpose, no centers need be named or located. If, in the mere outward expression of voice we find clear evidence of the control of higher, more discriminating centers, then we may safely conclude, upon the analogy with the action of the arm and eye centers, that corresponding anatomical divisions, ranging in size from a cell to nuclei and larger areas, do actually exist. If I can show that the voice is capable of making fine and delicate discrimination analogous to those of the hand in writing or of the eye in recognizing a friend, then I may safely assume that there is a higher center of voice control like those in the arm and eye areas. Wherever there is a function, there must be an organ to perform that function.

Let us consider first the voice as heard—that is, the sensory side. A neighbour says to me: "At nine o'clock this morning I saw Mrs. Jones enter her car with her dog. The dog went first and sat on the seat. Then Mrs. Jones followed, and the chauffeur took his seat and drove away." The whole meaning of these words is in their denotation. No more is meant than what the words themselves, in their simplest sense, convey. There is nothing suggested by them, nothing insinuated or connoted, nothing logically implied.

But let us take another case. A friend tells me about a patient who is known to exaggerate her symptoms. "Your patient is complaining severely," I reply; "I should worry." The connotation of these words of mine is the exact opposite of their denotation. Or suppose a man tells me he has accomplished a feat which seems to me impossible. I say to him, "Yes you did!" It is clear that my reply is only a politer way of saying, "You did not. I don't believe

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