

1925

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Recommended Citation

Travis, Lee Edward (1925) "Muscular Fixation in Voice Production of the Stutterer under Emotion," *Proceedings of the Iowa Academy of Science*, 32(1), 401-401.

Available at: <https://scholarworks.uni.edu/pias/vol32/iss1/103>

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MUSCULAR FIXATION IN VOICE PRODUCTION OF
THE STUTTERER UNDER EMOTION

LEE EDWARD TRAVIS

(*ABSTRACT*)

This study compared the changes produced in the voice of the stutterer under emotional conditions with the changes produced in the voice of the non-stutterer under like circumstances. These changes in voice were detected and studied by means of the photographic method of recording speech. Nineteen stutterers and eighteen non-stutterers were studied under identical circumstances.

The unemotional condition was as free from anything conducive to emotional arousal as possible. The observer was placed at ease by an explanation of the mechanics of the photographing apparatus, conversing about current topics, asking questions relative to athletic and scholastic interests and other quieting talk. When the observer seemed to be completely at ease, he was required to sing a sustained "ah" into the photographing apparatus and a picture of this sound was taken. Immediately following the obtaining of this photograph the observer was emotionally upset, first by questions and suggestions, second by the firing of a pistol, and third by electrical shock. He was now asked to produce a tone as nearly like the one before as possible and a picture of this tone was taken.

The pictures of the voice were studied from the standpoint of fluctuation in wave length or pitch and measured with adequate precision. It was found that the stutterer has far less variability in pitch after emotional shock than he does before while a non-stutterer has much more fluctuation in pitch after emotional shock than before. Thus instead of the emotional upheaval producing a muscular lability in the case of a stutterer it produced a muscular fixation, wherein the muscular balance that was taken to produce the "ah" was rigidly maintained.

Whether this muscular fixation in the case of a stutterer extends to muscles other than those controlling voice production, this study did not answer. Neither did it answer the question of what is responsible for the muscular fixation of the stutterer after emotional shock. These two points are being investigated at the present time.

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