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Basic Differences in Pitch, Intensity, and Time Between Good and Poor Voices During Speech

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BASIC DIFFERENCES IN PITCH, INTENSITY, AND TIME BETWEEN GOOD AND POOR VOICES DURING SPEECH

ELWOOD MURRAY AND JOSEPH TIFFIN

This investigation involves the photography of pitch, intensity, and duration changes in about 80 poor speaking voices and 60 good speaking voices to ascertain basic differences that will indicate procedures for remedial purposes. The voices studied were the best and the poorest among 970 freshmen at the University of Iowa as rated and described by speech pathologists of the university staff. By means of a procedure worked out by Tiffin and others, a synonymous intensity, a pitch, and duration record of each syllable is photographed on a single strip of sensitized paper six inches wide.

The results indicate that the good voices have a larger total pitch range for both men and women; the pitch range within syllables is also greater for the good voices; there is little difference in the average pitch level; the proportion of voiced time to entire speech time is about 10 per cent greater for the good voices; generally, there appears to be relatively greater changes of intensity between syllables, a larger number of fluctuations of intensity within syllables, of slightly greater extent and duration, for the good voices. Analysis of the poor voices is now proceeding with indications of further differences becoming apparent.

STATE UNIVERSITY OF IOWA,
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A NEW SCIENTIFIC MUSICAL STAFF

CARL E. SEASHORE

The psychological laboratory in the University of Iowa is conducting a number of studies in the psychology of music, laying scientific foundations for the theory and practice of the art. To make these scientific findings in the interpretation of vocal and instrumental music as actually rendered, it has been necessary to design a scientific type of musical score. This has been built as closely as possible in musical terminology but is so designed as to show in great detail how the notes are actually sung and played. For example, instead of indicating the note "C" by the usual musical notation, a graph is substituted showing exactly how the