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DEMONSTRATION OF THE VARIABLE CHARACTER
OF THE VOWEL E.

G. W. STEWART

Professor D. C. Miller's analysis of the sustained vowel \bar{e} as in *meet* indicates two important resonance regions surrounding the frequencies 308 and 3100 d. v. That the vowel did not have the same character throughout was evident from his curves. The present demonstration is to exhibit to an audience the fact of the changing character and something as to its nature. Syllables containing the vowel are spoken through an acoustic filter cutting off above 3000 d. v. and then above 2400 d. v. The vowel in *eat* can not be recognized in either case, whereas the vowel in *meet* can be recognized in both cases, in the former better than in the latter. This recognition depends upon the frequencies existing when passing from the consonant to the sustained vowel. The frequency region less than 3000 d. v. must be prominent in this transition state. The explanation of the changing character may be explained by the enlargement of the orifice into the mouth cavity and the consequent raising in pitch of the resonance frequencies. The demonstration suggests analagous considerations in regard to all vowel sounds and calls attention to the importance of the nature of the preceding consonant in the recognition of vowel sounds. It points out the need for a complete investigation of vowel sounds.

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