

Department of Psychology

Simone Norman

Mentor: Robert Remez

The Effect of Spectral Blur on the Resolution of Phonetic Detail Between Talkers

The individual identity of the voice is canonically attributed to the unique acoustic products of vocalization that distinguish each person. Yet individuals might exhibit sufficient consistency in their phonetic expression of linguistically governed contrast that these features of speech, as much as qualitative attributes of the voice, are personally distinctive, and available for perceptual identification. This study appraised the claims by imposing identical vocal quality on the speech samples of ten talkers and titrating the amount of phonetic detail available in each utterance. Our analysis of identification performance of naïve listeners sought to estimate the contribution of phonetic detail by manipulating spectral blur through digital synthesis, using misidentification as implicit measures of perceptual similarity. The tests compared several different levels of blur under high or low uncertainty. Implications for a theory of perceptual identification of individuals will be discussed.