

SEGMENTALS AND SUPRASEGMENTALS IN SPEECH PERCEPTION

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Suprasegmentals (intonation, stress, etc.) are generally less directly associated with differentiation of meaning than are segmentals (vowels and consonants). Yet, in Chinese and a number of other languages there exist such apparently indisputable suprasegmentals as tones which are no less important for differentiation of meaning than are vowels or consonants. Our experiments aim at investigating the comparative role played by segmentals and suprasegmentals in Chinese speech perception.

The 1st experiment deals with perception of speech under white-noise masking (signal/noise ratio 0 dB). The intelligibility scores for disyllabic words drawn from arbitrarily chosen sentences show 92.7% recognition for tones and 54.3% for segmentals.

The 2nd experiment studies perception of Chinese speech deprived of its pitch modulations by means of vocoder techniques. Such 'monotonized' sentences presented randomly are found to be 52.6% intelligible.

On the one hand, tones are highly resistant to the effects of white-noise distortion while segmentals are readily confused. This separates the two and affiliates tones with typical suprasegmental behaviour.

On the other hand, the suppression of tones by means of the 'monotonizing' technique is as detrimental to speech recognition as is the 'suppression' of segmentals. This testifies to a functionally common nature of tones and segmentals.

Tones thus appear to be essentially suprasegmental, their function at the same time being non-trivial, sharing much with that of segmentals.