

RESEARCH DIRECTIONS

It's All Tones to Me

Dr Connie So from the MARCS Auditory Laboratories is exploring how native language affects people's perception of unfamiliar tones in foreign languages through a three-year ARC Discovery Project.

'This study addresses a mystery', says Dr So. 'Namely, how do some properties of one's mother-tongue (e.g., word (lexical) tone, intonation, melody and rhythm, also known as prosody) affect our perception of tones in other languages? Studies on cross-language speech perception have generally found that adults have great difficulty perceiving speech sounds that don't occur in their native language, which can affect how well they learn a second language. It has been suggested that influences from one's mother-tongue create this perceptual problem.

This study will be the first to investigate the influences of a speaker's native language prosodic system on their perception of foreign tones, and will expand a current speech perception model, Perceptual Assimilation Model, to cover word tones.

Mandarin, a tone language that uses the same word sound segments in different tones to convey different meanings, will be used as the test language. Dr So will conduct experiments with non-Mandarin speakers to examine how their native prosodic systems influences their perceptions and identification of lexical tone elements. Using an electroglottalgraph - an instrument that records vocal cord movements and displays the movements as a graph - Dr So will make recordings of participant's attempts to imitate Mandarin tones to compare what they think they hear against the



sounds they are able to produce.

This project will increase our understanding of second language acquisition, contributing to advances in how second languages are taught, and facilitating computer assisted language learning for adults. The findings may also be useful to clinical speech and hearing practitioners and will assist hearing impaired people to acquire spoken language.

Project Title: Unveiling the mystery of tone perception: How does language prosody affect adults' perception of foreign tones?

Funding has been set at: \$297,296

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January 2008