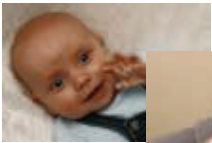


Research Directions

Office of Research Services



The How and Why of Speech Perception

Professor Denis Burnham, Director of MARCS Auditory Laboratories, is working with Dr Kimiko Tsukada at MARCS, and Professor Kaoru Sekiyama at Future University in Japan, on research to investigate and compare the perception of speech by infants whose mother tongue is English and those whose mother tongue is Japanese. This ARC Discovery project will explore the variations in the way speech is conveyed by speakers of both languages through differing voice and visual information patterns.

When we talk to babies certain aspects of our voice and face are exaggerated compared with when we talk to adults. Our faces convey important perceptual information about both speech and emotion, but interestingly, previous studies show that this visual information is used more by English speakers/listeners than Japanese language speakers/listeners (the so-called "Japanese McGurk effect").

'We want to know more about how these differences come about' explained Professor Burnham. 'We will study English and Japanese speaking infants and children, employing techniques that have been developed to research the perception of sound, visual, speech and affect. This will allow us to investigate how the Japanese McGurk effect emerges and learn more about the development of auditory-visual speech perception.'

The team hopes this study will allow them to explain the relationship between the auditory and the visual, as well as between the speaking and affective components, of how infants perceive speech. It will provide powerful insights into how auditory-visual speech perception works and why.

Funding has been set at: \$150,000.

Team members: Professor Denis Burnham, Professor Kaoru Sekiyama, Dr Kimiko Tsukada.

Project Title: *The How and Why of Auditory-Visual Speech Perception: Affective and Articulatory Factors in Japanese and English Language Infants and Children.*

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