

The duplex effect, where we hear a speech signal but simultaneously a non-speech signal, has been taken as evidence that speech processing is carried out in a distinct phonetic module rather than with generalised auditory processing (Liberman, A. M., & I. G. Mattingly. (1985). The motor theory of speech perception revised. *Cognition*, 21, 1-36.). If this was the case one might expect to see differences in the topography (lateralisation) or time course of EEG data when listeners attend to either the speech or the non-speech component in the signals.

We presented listeners with /em/ or /en/ syllables where the presence of a frequency modulated tone (chirp) at the formant transition between vowel and nasal leads to a change in perceived phonetic category as well as to a distinct perceptual non-speech stream (the chirp). Listeners were asked to identify the direction of the chirp (up or down) in one set of experimental blocks and had to identify the phonetic category of the speech signal (/em/ vs. /en/) in the other blocks.

The scalp potentials were recorded using a 129 channel EGI high density EEG system and analysed to test whether attention to the speech and chirp signal modulates the EEG signals. We found no evidence for different topographies or time courses in the 250ms after stimulus onset.

We also find no evidence for lateralisation of the response in the left hemisphere which might have been expected for language related tasks.

The results suggest that the phoneme categorisation task does not selectively invoke early lateralised components that might be consistent with a special speech module.