

Phonetics Colloquium
Wednesday, 6 March 2013
Building C7.2, Room 5.09

Do colourless green voices speak furiously?
Linkages between phonetic and visual perception in synaesthesia
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Synaesthesia is an unusual phenomenon, in which additional sensory perceptions are triggered by apparently unrelated sensory or conceptual stimuli. The main foci of this presentation lie in vowel sound - colour and voice-induced synaesthesia. While grapheme-colour synaesthesia has been intensively researched using various methodologies (neurological studies, extensive interviews, and behavioural experiments), few studies have approached types of synaesthesia based on vocal inducers with detailed acoustic-phonetic and colorimetric analyses. This approach is taken here in order to examine synaesthaesiae that have speech sounds and/or the sounds of voices as inducers.

First, a description of vowel sound - colour associations is given. An experiment is reported that tested to what extent vowel acoustics influence colour associations for synaesthetes and non-synaesthetes. Systematic association patterns between vowel formants and colour measures could be found in general, but most strongly in synaesthetes. Synaesthetes also showed higher within-subject consistency of vowel-colour associations. Then, two experiments are introduced to explore voice-induced synaesthesia. The first experiment explores voice descriptions by voice synaesthetes, phoneticians and controls to investigate their verbal voice quality descriptions and the colour and texture associations that they have with voices. Qualitative analysis provides data about the nature of associations by the participant groups, while quantitative analyses revealed that for all groups, acoustic parameters such as pitch, pitch range, vowel formants and other spectral properties influenced colour and texture associations in a systematic way. Above all, a strong connection was found between these measures and luminance. Finally, voice-induced synaesthetes, other synaesthetes and controls participated in a voice line-up, of the kind used in forensic phonetic case work. This experiment, motivated by previous findings of memory advantages in synaesthetes in certain areas, tested whether synaesthetes' voice memory is influenced by their condition. While no difference in performance was found between groups when using normal speech, voice-induced synaesthetes outperformed others in identifying a whispering speaker.

My research illuminates the interesting condition synaesthesia from a largely neglected phonetic angle.