The effect of regional variation on speech processing: evidence from an eye-tracking experiment.

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Previous research in sociophonetics has shown that perceived information about the speaker affects low-level speech perception (e.g., Strand, 1999) and lexical access (e.g., Koops et al., 2008). These experiments often use pictures or words to cue a specific social category (e.g., gender, age, region) explicitly, but it is not clear whether brief exposure to accent-specific phonetic features in the speaker's speech would also influence speech processing. The present study used the Visual World Paradigm (Tanenhaus et al., 1995) to investigate whether information about the speakers' accent embedded in the speech signal affects the time-course of spoken word recognition.

The phonetic variables under investigation were the BATH, TRAP, STRUT and FOOT lexical sets, which are well-known for distinguishing Northern and Southern varieties of English. The accents included in the task were Southern Standard British English (SSBE), which contrasts BATH and TRAP and STRUT and FOOT, respectively, and Leeds English (LE), which does not have these pairwise contrasts. Visual displays of the stimuli were two printed words, on the left and right of the screen: a target and a competitor (e.g., *path, pack; cut, cook*). Test sets containing the variables of interest were controlled for lexical frequency. The audio stimuli consisted of naturally-produced words recorded by two LE and two SSBE speakers (1 female, 1 male speaker per accent). Words were embedded in the carrier phrase "I'm asking you to access _____". The word "asking" was used as a cue for either the Northern or Southern accent and the word "access" was included to minimise priming effects. Hearing a BATH and a TRAP vowel in the same phrase also highlighted the existence of a contrast between these two lexical sets in SSBE, and the lack of contrast in LE.

Data collection is ongoing; 25 monolingual native English listeners born and raised in Yorkshire will complete the task. The statistical analysis will examine the effect of accent (LE, SSBE) on the number of looks to the target and competitor words as a function of time. We hypothesise that listeners will look at the target word earlier in the SSBE condition because the TRAP-BATH and STRUT-FOOT contrasts will facilitate discarding the competitor word as they hear the vowel, e.g., when listeners hear the word *path*, they will be able to discard *pack* earlier in the SSBE accent. Besides, listeners will look longer at the competitor in the LE condition because of the lack of contrast between the variables of interest. These findings would provide further evidence that information about a talker's accent, even when it is not provided explicitly, is used in speech processing and may support spoken word recognition. These findings have implications for our understanding of how social information is used in speech processing and episodic models of spoken word perception.

References

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