Where the bloody h[ae]l are we? Mapping the acoustics of sound change(s) in South-Eastern Australia

Clear phonetic isoglosses have been difficult to establish in Australia, but in south-eastern Australia, a regional sound change is clearly in progress, where /el/->[æl] has been documented for some speakers/listeners (Cox & Palethorpe 2004, Loakes, Fletcher & Hajek 2011). Another, lesser-known phenomenon also occurs, where /æl/->[el] (Loakes et al. 2011). These have been called *merger* and *transposition* respectively, but these are working definitions which may not be fully appropriate.

Merger has been described as a listener-motivated sound change, where /el/->[ɛɬ]->/æl/ (Loakes et al. 2010, c.f. Ohala 1981). The presence of transposition is as yet unexplained, and two hypotheses have been posited (see Loakes et al. 2011). In one, transposition is a hypercorrection and part of the same sound change, while in the other it is linked to a separate sound change (where vowels raise before nasals). In the latter case, merger and transposition are distinct, having differing directionality.

At present, neither phenomenon is understood in any detail, and their exact nature, their geographical distribution, and the sociolinguistic profiles of their users are still to be determined. Until some of these questions are answered, the relationship between the sound change(s) themselves, and the lax vowel system of Australian English, remains unknown.

We report the results of an experiment designed to answer some of these questions. Speakers were recorded in four localities in Victoria, the only Australian state for which the presence of the sound changes has been confirmed. Sites include the state capital, Melbourne, as well as three smaller regional towns located on, or close to, state borders.

In this study we focus on acoustic patterns of lax vowels in pre-lateral and pre-/d/ contexts in controlled speech, for 35 female speakers. Initial acoustic findings from two of the four sites show that speakers from Melbourne (N=11) and Albury-Wodonga (N=9) (which straddles the north-east border) have no significant differences in pre-/d/ lax vowels. However, 50% of the Melbourne speakers merge /el/-/æl/, while all the Albury-Wodonga speakers keep them distinct (to varying degrees). Initial thoughts were that speakers in Melbourne merged due to pre-lateral vowel lowering coupled with lower vowels in general (e.g. Loakes et al. 2011), but this has not been borne out in these results. It may be that the lateral has a darker quality in Melbourne, but this is awaiting independent investigation.

That Albury-Wodonga speakers keep /el/-/æl/ distinct helps us determine almost the exact boundary of an isogloss, just within the Victorian side of the border. In a previous study, Cox & Palethorpe (2004) found that merger was present in Wangaratta, 69km (43 miles) to the south of Wodonga, and the nearest town connected by a major highway. Preliminary auditory results for the north-west and south-west sites suggest that change from /el/->/æl/ may be one of geographical diffusion, with the northern sites patterning together (no merger) and southern sites patterning together (merger for some).

In this study, we present acoustic-phonetic results for all locations, and include a focus on transposition. Lexical frequency and speaker background will also be factored in, so that we may more fully describe the sound change(s) and their distribution.

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