On the tail of the Scottish Vowel Length Rule in Glasgow

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What is the Scottish Vowel Length Rule? The SVLR (Aitken 1981) describes *quasi-phonemic* timing alternations in Scottish English vowels /i ʉ ai/ (Scobbie, Hewlett & Turk 1999; Scobbie & Stuart-Smith 2008). Long vowels occur before voiced fricatives, /r/ or morpheme boundaries; short vowels in other contexts. Minimal pairs are e.g. *crude* vs. *crewed*, *brood* vs. *brewed*.

HYPOTHESES

1. The Dialect Contact Hypothesis

- SVLR is known to undergo change in dialect contact situations:
  - Edinburgh: Hewlett, Matthews & Scobbie (1999)
  - Berwick-upon-Tweed: Watt & Ingham (2000)
  - Tyneside English (Newcastle): Milroy (1995); Llamas et al. (2011)
- SVLR-constraints are often replaced by timing constraints of the so-called ***Voicing Effect, VE*** (House & Fairbanks 1953; Keating 1985)
  - long allophones before voiced consonants; short allophones before voiceless consonants
  - attested in many varieties of English
  - simplification of grammatical constraints is a typical consequence of contact (Trudgill 1986)

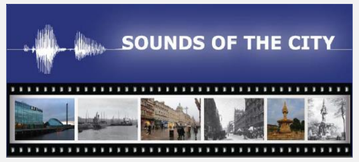
2. The Prosodic Timing Hypothesis

- Timing is also used to mark prosodic hierarchy (Beckman & Edwards 1990; Whitman et al. 1992):
  - accentual/phrase-final lengthening
- Prosodic hierarchy shapes sound changes (Beckman et al. 1992; Myers and Hansen 2007; Nakai 2013)
  - phrase-medial positions give rise to lenited changes
  - phrase-final accented positions reach durational ceiling, thus triggering positional neutralisations
- SVLR may interact with prosodic timing as it does in many quantity languages:
  - **prosody > quantity:** quantity neutralisation in phrase-final positions (Myers and Hansen 2007; Nakai 2013);
  - **quantity > prosody:** marginal prosodic timing effects due to the high functional load of duration for phonology (Nakai et al. 2012; Remijsen & Gilley 2008; White & Mády 2008)

METHODS

- 16 speakers was specified as either *low-contact* or *high-contact* (i.e. travels to, prolonged stays in England, relatives living in England)
- For each speaker, all fluently spoken, unreduced tokens containing /i ʉ/ were annotated (n= 982):
  - SVLR-context (*long* vs. *short*)
  - VE-context (*long* vs. *short* vs. *unspecified*, i.e. followed by a morpheme boundary)

- Large-scale corpus
- Glaswegian vernacular
- Real- and Apparent-Time



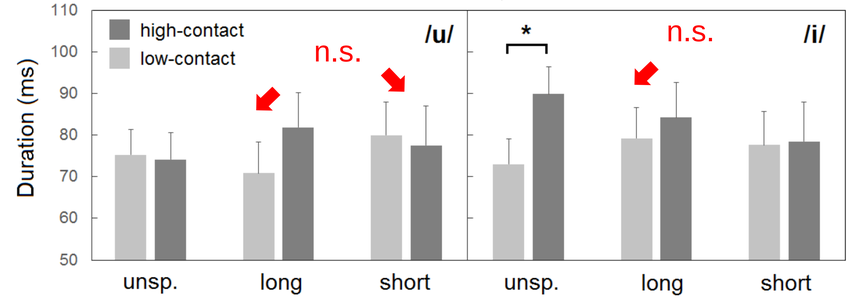
- oral history interviews
- sociolinguistic interviews
- conversations between peers
- TV/radio programmes

Target structure of the corpus *(still under construction)* **(this sample)**		Age and Gender of Speakers								
		"Old" intended as 67-90 yr-olds			"Middle" intended as 40-55 yr-olds			"Young" intended as 10-17 yr-olds		
		M	F	Born	M	F	Born	M	F	Born
Real-Time Period	1970s	6	6	1890s	6 **(4)**	6	1920s	6 **(4)**	6	1960s
	1980s	6	6	1900s	6	6	1930s	6	6	1970s
	1990s	6	6	1910s	6	6	1940s	6	6	1980s
	2000s	6	6	1920s	6 **(4)**	6	1950s	6 **(4)**	6	1990s

- Time-aligned transcriptions stored in the LaBB-CAT database (Fromont & Hay 2012)
- Phonemic transcriptions available via CELEX dictionary
- Forced alignment of segmental boundaries with audio recordings using HTK
- Multi-layered searches for stress/word position/phonemic environment

- Prosodic hierarchy specified as:
  - *phrase-medial* vs. *phrase-final* (i.e. the last syllable of a prosodic phrase)
  - *stressed* vs. *accented* (i.e. carrying a pitch accent)
- LMEMs included (1) *SVLR, vowel, speaker group, phrasal position, prominence, VE* as fixed effects; (2) *number of segments, lexical frequency* as covariates; (3) *speaker, word* as random effects

OUTCOMES



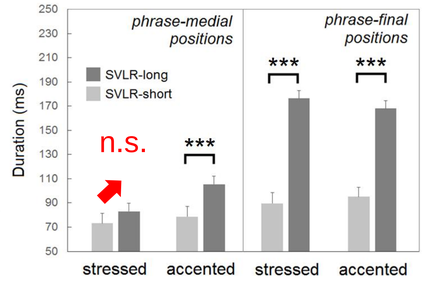
Estimates for *vowel*VE*contact* ($\chi^2(2) = 8.0$, $p < 0.05$)

Predicted shortening before voiceless consonants and lengthening before voiced consonants only numerical (but n.s.); lengthening only for /i/ in VE *unspecified* contexts (i.e. followed by morpheme boundary).

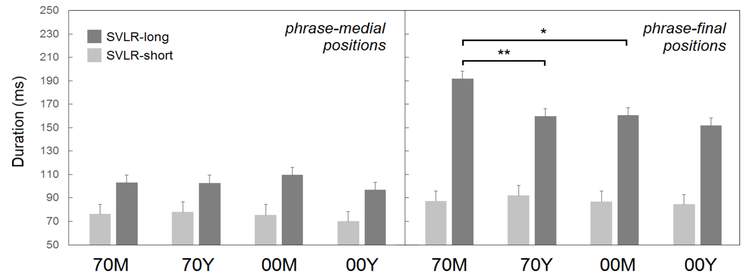
- These data partially support ***the Dialect Contact Hypothesis.*** How do we define high contact?

SVLR is weakened in phrase-medial, unaccented positions (cf. Beckman et al. 1992)

- These data strongly support ***the Prosodic Timing Hypothesis***



Estimates for *SVLR*prominence*phrasal position* ($\chi^2(1) = 3.2$, $p = 0.075$)



Estimates for *group*SVLR*phrasal position* ($\chi^2(3) = 16.2$, $p < 0.01$)

SVLR is weakened in phrase-final positions (cf. Myers and Hansen 2007; Nakai 2013). Innovators: speakers born in 1950s and 1960s.