Phonetic realisation of linking and intrusive /ɹ/ in Australian English

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Introduction

• In citation form, *manna*/*manor* are homophonous in Australian English, though one has an orthographic ‘r’ and the other doesn’t

  – Intrusive /ɹ/: Please say *manna* (r) again
  – Linking /ɹ/: Please say *manor* again

• This raises the question of whether the phonetic realisation of epenthetic ‘r’ is similar for both forms
Predictions

• Epenthetic /ɹ/ will manifest pre-vocally, but not utterance-finally
• Epenthetic /ɹ/ breaks up contiguous vowels for words containing orthographic and non-orthographic r
• More epenthetic /ɹ/ expected before an unstressed vowel (i.e. schwa) than a stressed vowel
• No difference in use of /ɹ/ epenthesis between monosyllables and disyllables

Methodology: Preliminary Data

• Participant: 1 female speaker, 27 yrs., Melbourne
• Procedure: reading aloud task
• Stimuli: 50 items x 3 phonological contexts = 150 items
  – monosyllables (law/lore) containing either /ɛ:/, /o:/ (20 items)
  – non-morphological disyllables (manna/manor) ending in /ə/ (18 items)
  – morphological disyllables (cheetah/cheater) ending in /ə/ (12 items)
• Phonological Contexts: 3
  – utterance-final position
  – before a stressed vowel (Please say _ only)
  – before an unstressed schwa (Please say _ again)
Preliminary Findings

- Acoustically analysed 150 items using Praat
- No difference between r in orthographic and non-orthographic forms, therefore collapsed
- No epenthetic /ɹ/ for the utterance-final items
- No epenthetic /ɹ/ for monosyllables
- A glottal stop or vowel-final glottalisation was primarily used to break up contiguous vowels
- Epenthetic /ɹ/ in disyllables only in /ə ə/ (unstressed vowel) context

There was a positive correlation between F3 at vowel onset and F3 minimum in the _stress [-] context
- Linking /ɹ/: r = 0.604, n = 25, p < 0.001
- Intrusive /ɹ/: r = 0.688, n = 25, p < 0.0001
Phonological Contexts of Glottal Realisations

- More use of glottal stop before stressed /ə /
- More use of glottalisation before unstressed /ə/

Percent occurrence of glottal cues to /ə/ across contexts and word types
Glottal Stop Realisation

Example: ‘Please say *manna* only’

![Glottal Stop Diagram]

Glottalisation Realisation

Example: ‘Please say *manna* again’

![Glottalisation Diagram]
Linking -/ʌ/

Example: ‘Please say pastor again’

Intrusive -/ʌ/

Example: ‘Please say pasta again’
Conclusion & Future Research

- As predicted, no epenthesis found utterance-finally
- The use of glottal stop and glottalisation to break up two adjacent vowels also raises the question of whether they might be related to boundary strength
- No /ʌ/ epenthesis in monosyllables, compared to disyllables, raises the question of ‘stress’ and weak/reduced vowels in conditioning /ʌ/ epenthesis
- Interestingly, F3 minimum positively correlated with F3 at vowel onset in the _stress [-] context, suggesting epenthetic /ʌ/ as a gradient event
- More subjects will be needed to test for generalizability

References

- Cox, Felicity & Linda Buckley. In sub. Hiatus resolution and linking /ʌ/ in Australian English