

Boundary disputes and sociophonetic variation: schwa-epenthesis in Dutch rC clusters

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Schwa-insertion or schwa-intrusion?

Boundary dispute: a single process is claimed to be phonological by some and phonetic by others [13]

Dutch liquid+C clusters often broken up by epenthetic element

<i>film</i>	/fɪlm/	[fɪ.ləm]	'film'
<i>hark</i>	/hark/	[hɑ.rək]	'rake'
<i>verf</i>	/vɛrf/	[vɛ.rɛf]	'paint'
<i>verven</i>	/vɛr.və/	[vɛ.rɛ.və]	'to paint'

Traditional phonological account: insertion rule [19,20,3]

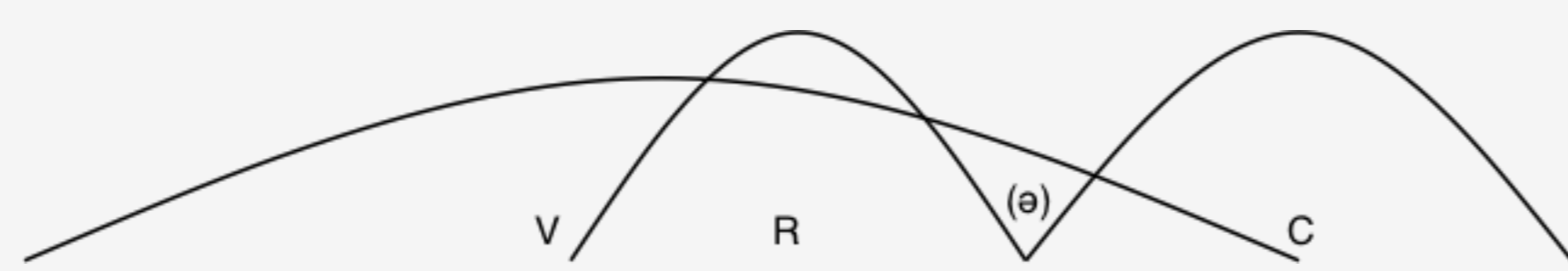
- Categorical, discrete: inserts segment /ə/ $\emptyset \rightarrow /ə/$
- Creates additional syllable

Phonetic alternative: vowel intrusion [6,7]

- Vocalic percept due to coordination of C-gestures
- No new syllable created

evidence from

- Speaker intuitions
- Total word duration
- Phonological patterning



The two accounts make **contrasting predictions:**

- Under phonological account
 - [ə] should not behave differently from canonical (lexical) schwa
 - /r/ should behave as a syllable onset
- Under phonetic account
 - [ə] should behave as intrusive element, not full segment
 - /r/ should behave as a syllable coda
- Plus: Dutch /r/ is highly variable [17]
 - Should not matter for the phonological account
 - Likely to be of influence under the phonetic account

Detailed examination of data could adjudicate, but:

- Traditional accounts: no mention of source of data
- Hall (2003, 2006): single informant

Corpus and method

Needed: data from several speakers, dialect backgrounds, segmental contexts, etc., taking possible variation into account

Focus of current study is on **duration** of epenthetic element (for an examination of **spectral qualities** see [17])
→ Comparison with canonical schwa & full short vowels

Hema corpus [17]

- Urban Dutch, 400 speakers from 10 cities in Netherlands and Flanders
- Focus on r variation, elicited & read speech
- Contains >3000 tokens with rC coda clusters

Analysis in R (lmer) [14,1,2]; Response variable = vowel duration

Subcorpus

Speakers selected from

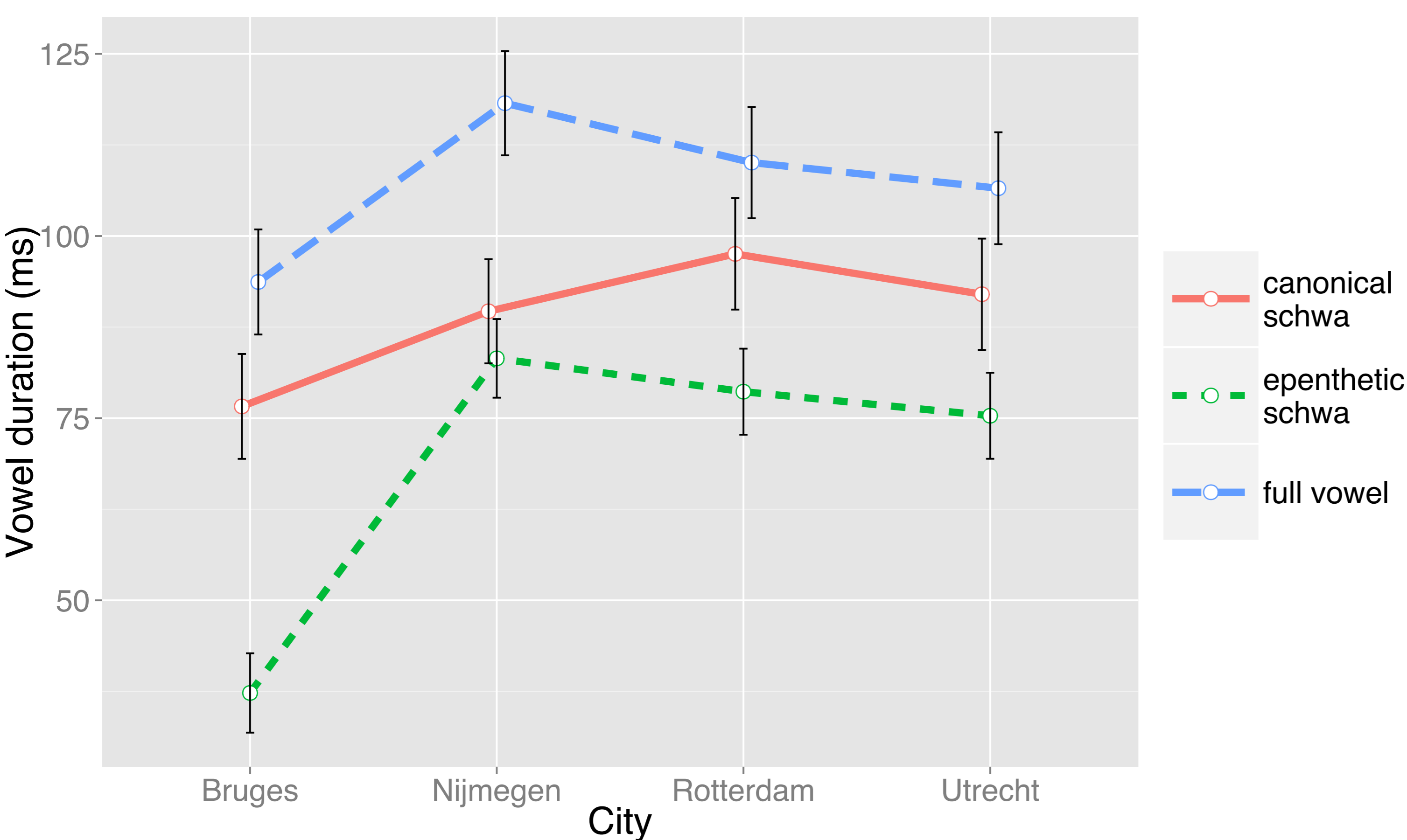
- 25 x Bruges (alveolar r)
- 26 x Nijmegen (uvular r)
- 17 x Rotterdam (50% uv, 50% alv r)
- 17 x Utrecht

Duration measurements of

- Epenthetic schwa (329 tokens)
har_p, ar_m, ber_g, ker_k
- Canonical schwa (167 tokens)
beraad, sturen
- Full vowel (163 tokens)
rok [ɔ], kruk [ɣ]

Results

Discussion and Conclusion



The duration data show:

- Schwa generally shorter than other short vowels (cf. [10])
- Epenthetic schwa shorter than canonical schwa overall
- **Bruges:** epenthetic schwa *much* shorter than canonical schwa
- **Nijmegen:** epenthetic not different from canonical schwa ($p=.456$)
- **Rotterdam/Utrecht:** pattern like Nijmegen, but categories closer
- No significant differences between Rotterdam and Utrecht (nor between uvular and alveolar r speakers in these cities)

The conclusion seems to be that phonological/phonetic status can depend on the variety of Dutch under consideration

- Epenthetic element in Bruges: intrusive, from gestural coordination
 - Full segment in Nijmegen Dutch: phonological insertion
- These differences cannot be reduced to differences in r realisations:
- No significant differences alveolar/uvular in Rotterdam/Utrecht

However, this leaves open a number of issues:

1. While Rotterdam & Utrecht pattern mostly like Nijmegen, suggesting a phonological account, the specifics differ
→ These subtle differences are not explained by simple "phonological" / "phonetic" labels
2. An intrusive vowel analysis for Bruges would mean the /r/ is in the coda (no new syllable is created)
→ But the r variants found before epenthetic schwa are typical intervocalic onset ones in Bruges (voiced alveolar taps), while typical coda r variants are not found (voiceless trills, taps, fricatives)
→ So even the very short vowels in Bruges behave as syllable nuclei
→ But if the process is phonological even here, how/why does the phonology make a distinction between the two schwas?

- Interpretation problematic if a phenomenon has to be either phonetic or phonological
- Dutch schwa-insertion is a phenomenon at the interface, or in the "overlap" area of phonology and phonetics [15, 16, 4]

References

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