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What causes dissimilation?

Traditional Views

Repeated articulations are difficult to produce

Repeated articulations are difficult to mentally serialize

Perceptual hypercorrection theory

Ohala 1993: Listeners perceptually hypercorrect for coarticulation

Sounds like /r/ coarticulate over several syllables (Heid & Hawkins 2000), creating ambiguity as to how many /r/s are present

American /r/-dissimilation

Americans tend to drop /r/ in words containing two /r/s.

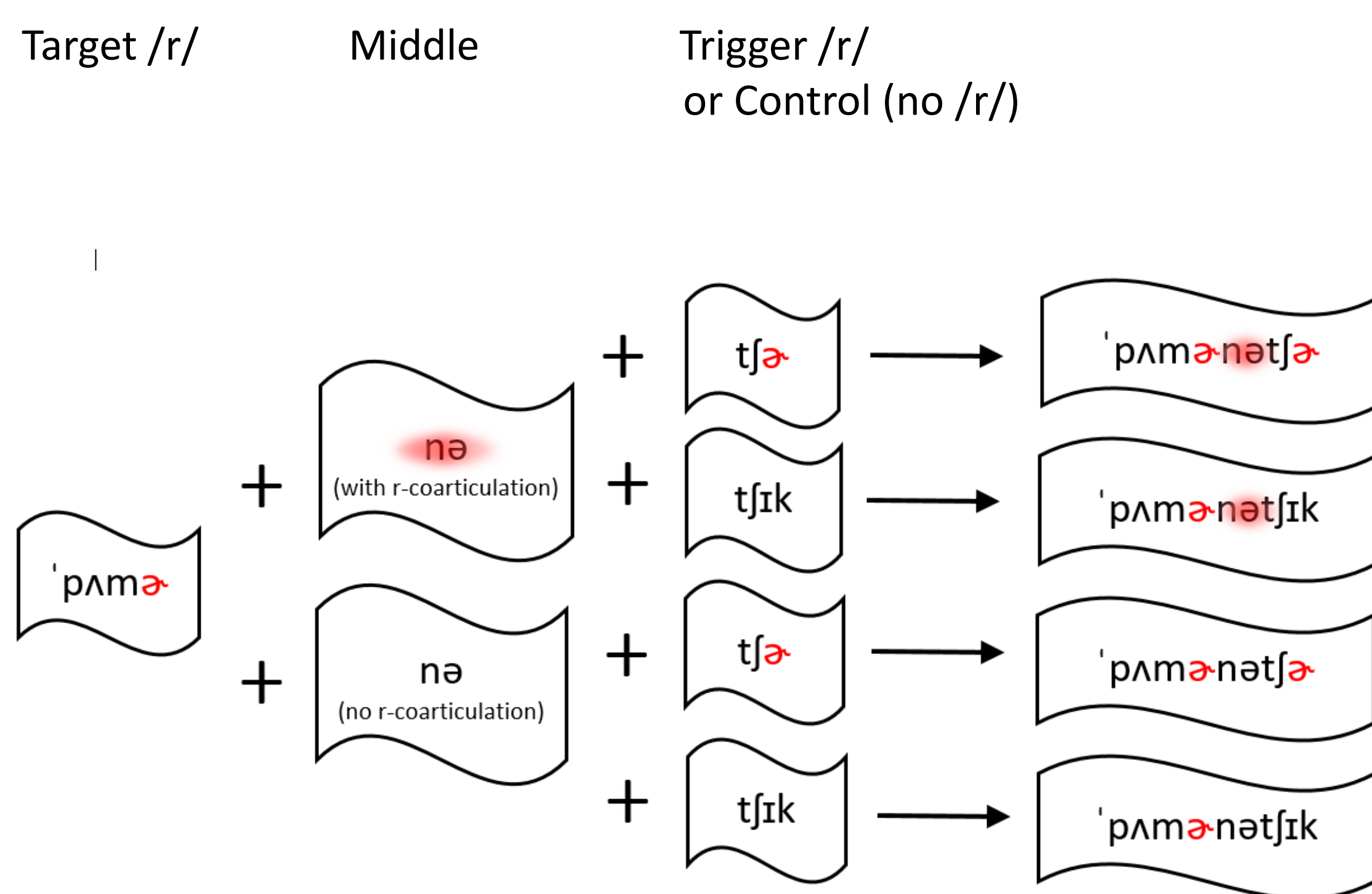
su(r)prise be(r)serk cate(r)pillar pa(r)ticular

Our goal

We test whether American /r/-dropping can be produced in a perceptual task, through manipulating presence / absence of a later 'trigger /r/', as well as intervening /r/-coarticulation.

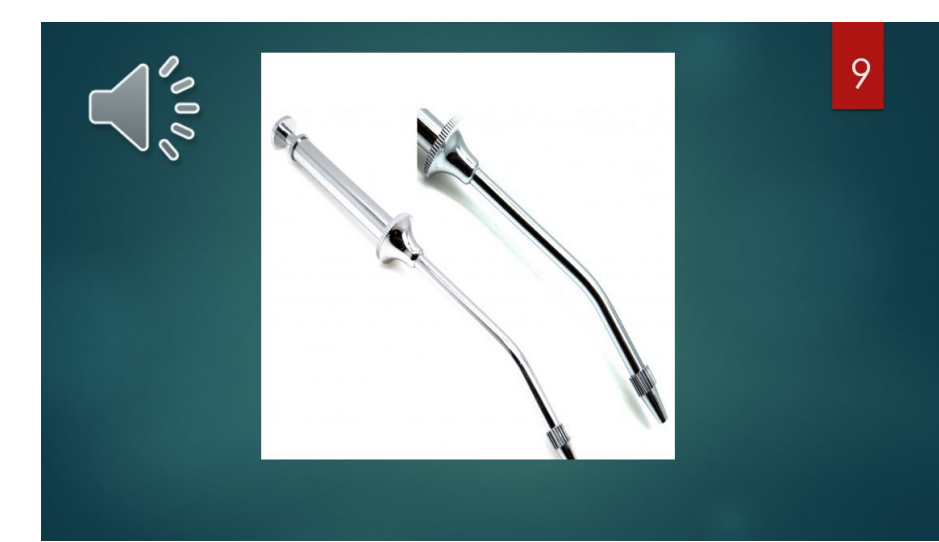
Stimuli

34 sets of 4 nonce words, spliced from multiple natural productions.



Participants & Procedure

60 English speakers typed nonce words (4 counterbalanced lists), heard in frame sentences accompanied with pictures.



Audio: *Pass me the* ['pʌmənɪtʃə]

Responses coded for dropping of target /r/

Typed responses

pubnisher
pubernicher
Pumernicher
Pumerniture
pummernature
pummernitscher
pummernitcher
puminacher
pominerture
parmenature
pumernitcher
pumernitcher
puninuture
pummernicher
Pumernicher

Results

Predictions & Findings

We predicted that a later /r/ should perceptually mask an earlier /r/, especially when there is /r/-coarticulation on intervening segments.

Target /r/ did drop more before trigger /r/, but only when intervening /r/-coarticulation was absent (contra prediction).

	Condition	# Target /r/ drops
	'pʌmənətʃə	20 (+21 trigger /r/ drops)
most dropping predicted →	'pʌmənətʃə	8 (+27 trigger /r/ drops)
least dropping predicted →	'pʌmənətʃɪk	6
	'pʌmənətʃɪk	8

Discussion

- Results are compatible with the perceptual hypercorrection theory: listeners were more likely to miss an /r/ when another /r/ was present.
- Results support the importance of /r/-coarticulation on neighboring syllables for perception of American /r/.
- However, presence of /r/-coarticulation does not affect dissimilation in the way we expected. Perhaps what's important is its *expected* presence: when actual coarticulation is weak, listeners are more likely to interpret the first /r/ as the expected coarticulation.

References

- Heid, S., & Hawkins, S. (2000). An acoustical study of long-domain/r/and//coarticulation. In *Proceedings of the 5th seminar on speech production: Models and data* (pp. 77-80). Kloster Seeon Germany.
- Ohala, J. J. (1993). The phonetics of sound change. In C. Jones (ed.), *Historical Linguistics: Problems and Perspectives*. London: Longman Academic, 237-278.

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