Initiation, progression and conditioning: Short front vowels in Australian English
James Grama, Catherine Travis, Simon Gonzalez

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james.grama@anu.edu.au  catherine.travis@anu.edu.au  simon.gonzalez@anu.edu.au

• Lowering and retracting short front vowels in Australian English
• Pre-nasal TRAP advances; gradual enhanced differentiation between pre-nasal and pre-obstruent TRAP
• Phonological and lexical conditioning

Role of conditioning factors

• Pre-nasal TRAP advances; gradual enhanced differentiation between pre-nasal and pre-obstruent TRAP
• Phonological and lexical conditioning

Change over time

- Significant lowering/retraction (p<0.0001)
- Pre-nasal TRAP (already relatively raised), raises further (p<0.001)
- BATH
- Significant lowering/retraction evident in 2010s adults (p<0.001), before that of TRAP
- Suggests structural connection with TRAP retraction – reduction of BATH provided space for TRAP to retract
- DRESS
- Significant lowering/retraction (p<0.001)
- KIT
- Significant raising/fronting (p<0.05) up to 2010s older adults

Development of an allophonic split in TRAP

- Pre-nasal TRAP always on aggregate higher than pre-obstruent TRAP
- Gradually enhanced differentiation between the two phonological contexts
- Distribution decreases in variance/scatter over time
- Progression of change:
  - 1970s
  - Large degree of overlap between pre-nasal and pre-obstruent TRAP, with complete overlap for some speakers
  - 2010s
  - Younger adults show allophonic split, yielding two categories: TRAP and saw

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Data preparation, extraction and analysis

- Speech transcribed orthographically in ELAN48
- Force-aligned at segment level in LaBBA9
- Tokens for analysis:
  - No grammatical or unstressed words
  - No more than 5 instances of any one word per speaker
  - Alignment of all tokens manually checked for accuracy
  - F1/F2 measurements taken at vowel midpoint
  - Normalized on the basis of the entire vowel space33

Lexical effects

- Lexical realignment in certain words from BATH to TRAP over time

Conclusions

- Lowering and retracting of short front vowels in Sydney English
- Pre-obstruent saw gradually retracts

References