CROSSING THE LANGUAGE BOUNDARY: SYLLABLE FUSION IN CODE-MIXING SPEECH

A Preliminary Study

IVAN FONG | DIPLOMA IN LINGUISTICS

INTRODUCTION: SYLLABLE FUSION IN CANTONESE

SYLLABLE FUSION IN CANTONESE

Syllable fusion is a connected speech process that obscures neighbouring syllables by:

- **consonant deletion/lenition**

  or

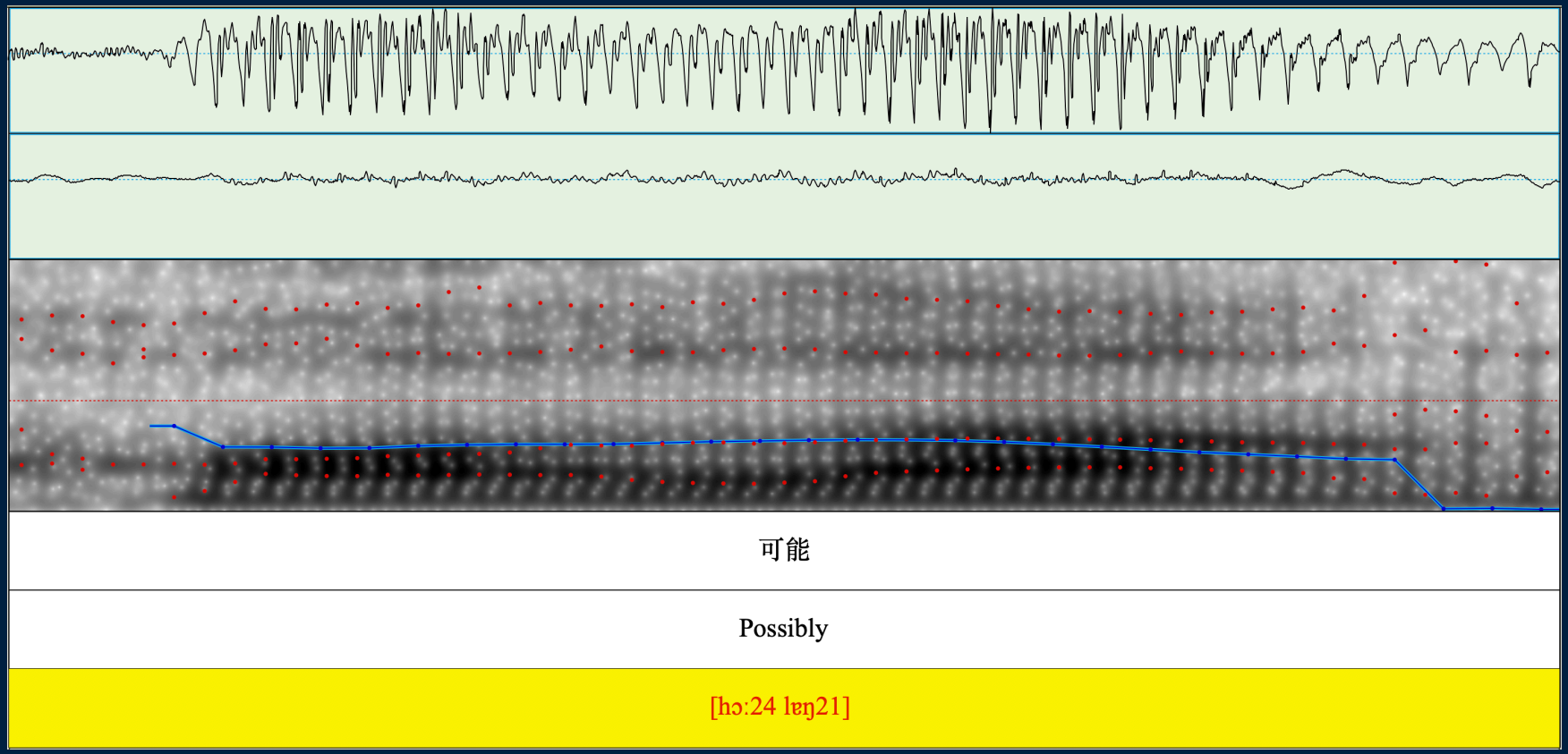
- **vowel reduction**

Examples will be given on the fused/unfused form of the word "possibly" in Cantonese in the next slide:

Unfused	Fused
[hɔː^{24} lɐŋ^{21}]	[hɔŋ$^{24+21}$]

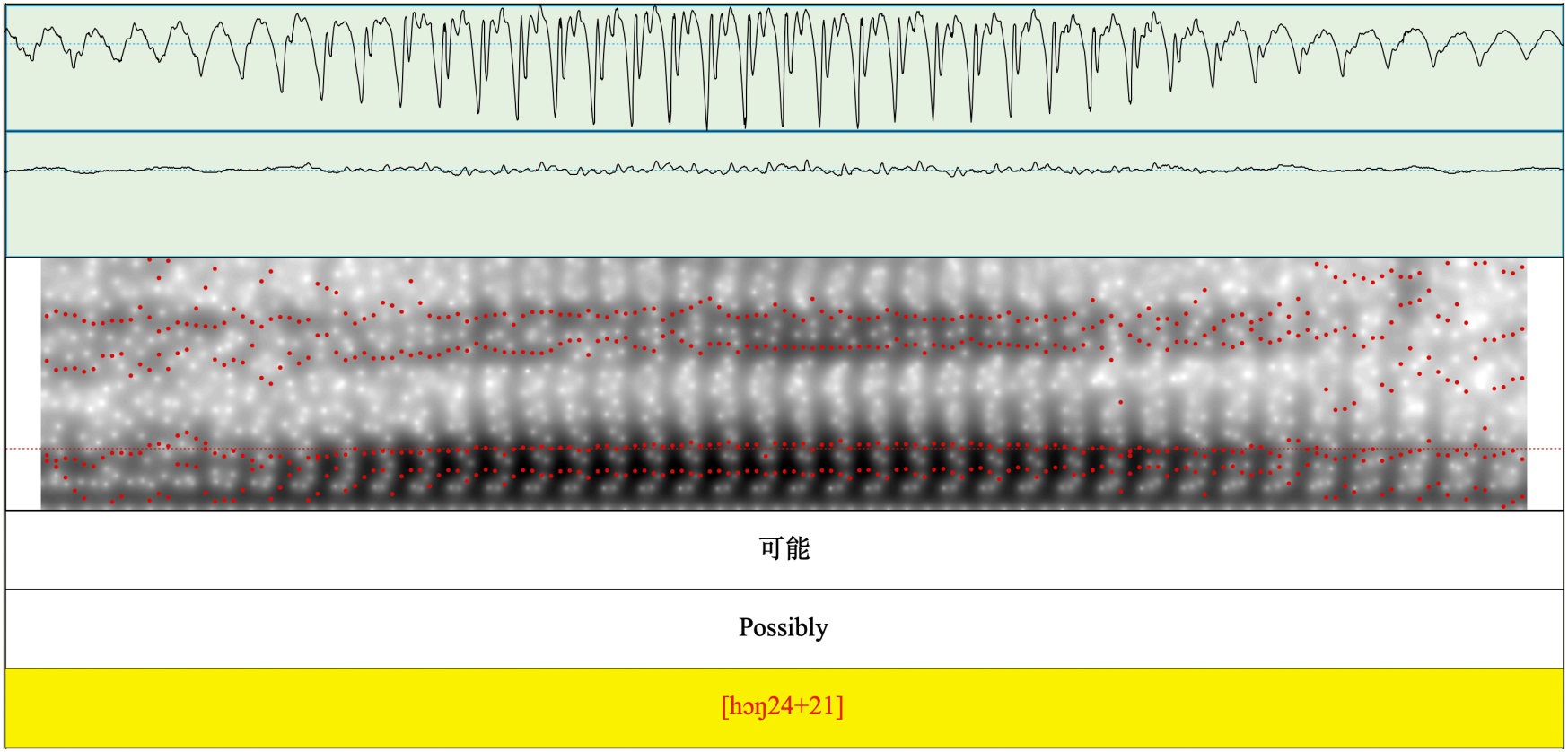
SYLLABLE FUSION EXAMPLE

Unfused form



SYLLABLE FUSION EXAMPLE

Fused Form



SYLLABLE FUSION IN CANTONESE

This process is compared and analogized as syllable contraction in English:

Do not → Don't

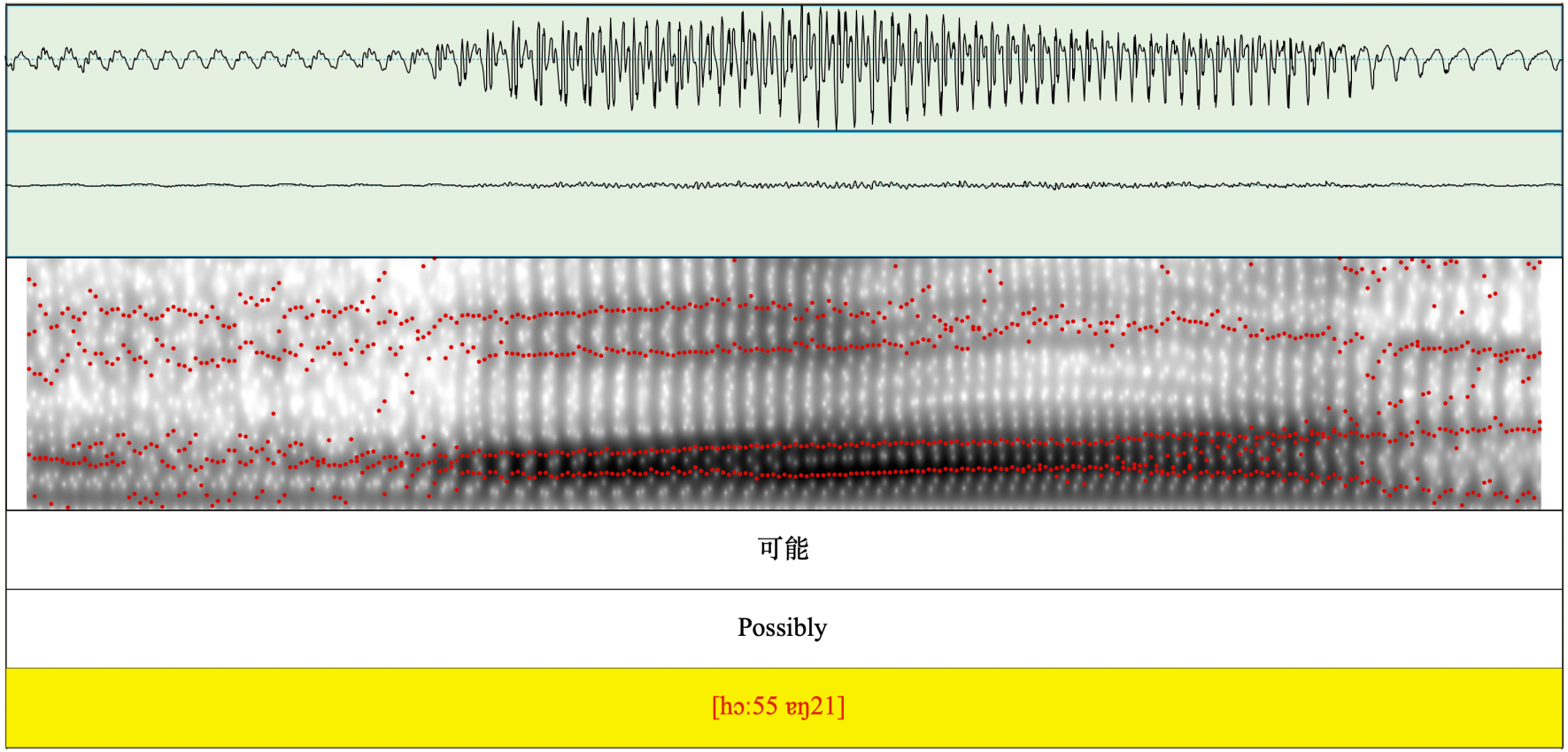
But they are in fact different, syllable fusion is a continuum of varying degrees of reduction shown below.

Within the same speaker, there is at least one intermediate version of the fused form of "possibly" in Cantonese.

Unfused	Plain	Coerced
[hɔː^{24} lɐŋ^{21}]	[hɔɐŋ$^{24+21}$]	[hɔŋ$^{24+21}$]

SYLLABLE FUSION EXAMPLE

Plain Form



RESEARCH QUESTION: WOULD SYLLABLE FUSION HAPPEN IN CANTONESE-ENGLISH BILINGUAL SPEECH?

MORE SPECIFICALLY, CAN SYLLABLE FUSION HAPPEN IN CANTONESE-ENGLISH CODE-MIXED SPEECH?

KNOWLEDGE GAP

There are several motivations behind this study on syllable fusion:

- Lack of studies on non-Sinitic languages
- Property of not being bound by morphemes
    - Allows fusion between word boundaries
    - Possibility of crossing language boundaries?
- Tones (though possibly truncated) retained during fusion
    - Tones in Hong Kong English possibly allows fusion
- Productive use of fusion and code-mixing by speakers

Investigation:

Possibility of syllable fusion in Cant-Eng code-mixed speech through language transfer.

METHODOLOGY

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- Using a still-developing bilingual corpus that records conversational and spontaneous speech of Cant-Eng bilingual speakers:
    1. A list of all utterances that contains both English and Cantonese will first be narrowed down by the intuition of a native speaker (me!)
    2. Followed by spectrographic analysis on all utterances identified as possibly fused.
- The use of a conversational and spontaneous speech corpus is important since:
    1. One determining factor for syllable fusion is speech rate
    2. Previous studies only featured elicitation with a list of words/utterance that the speaker is asked to read with a metronome to simulate normal and fast speech.

RESULTS

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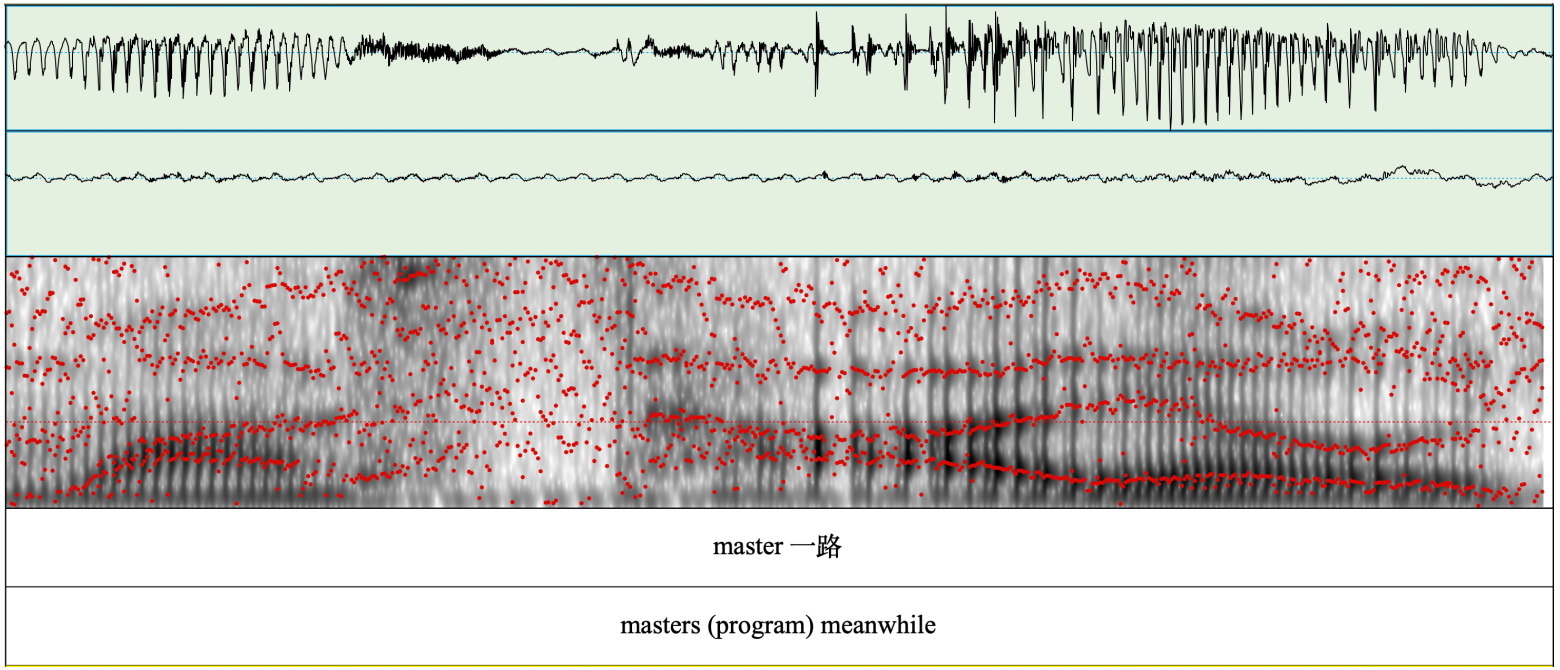
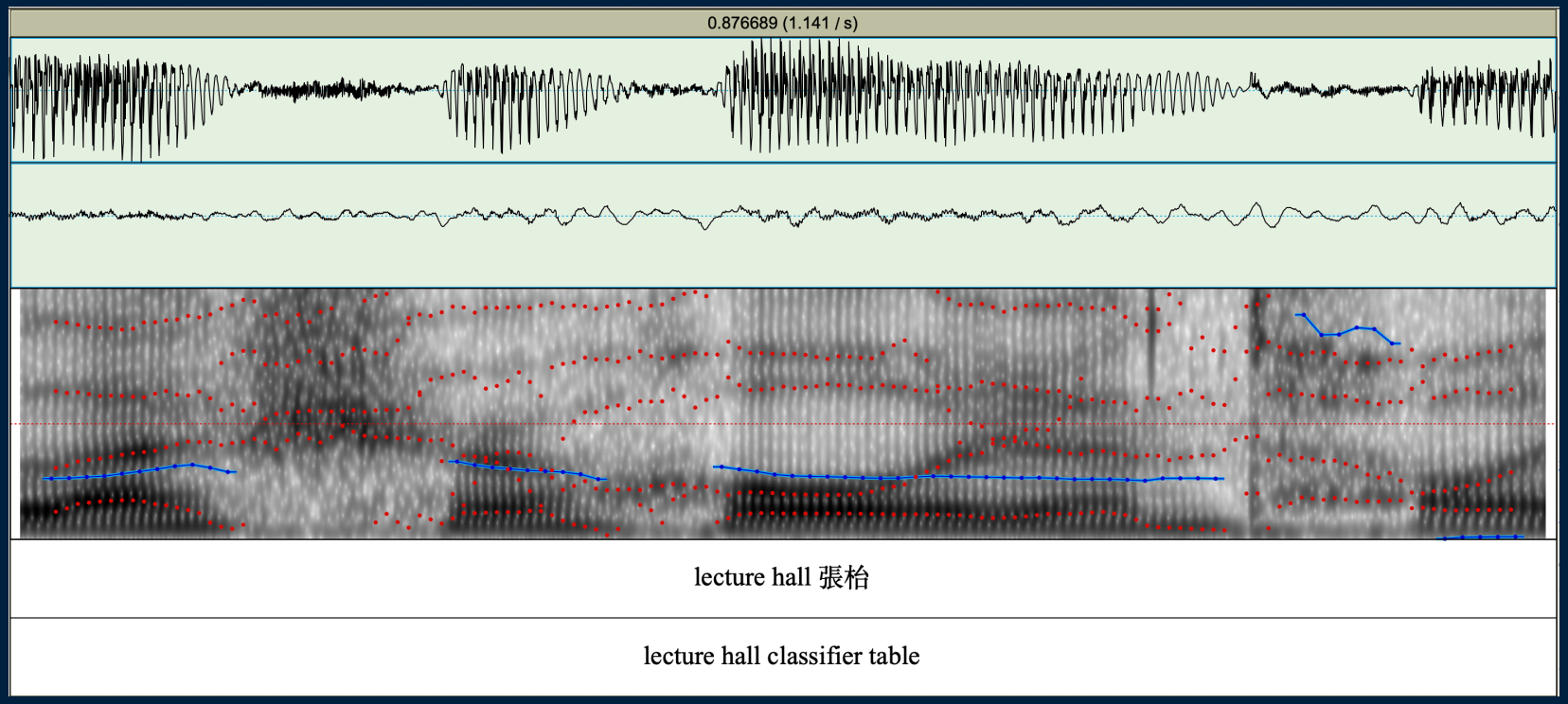
- Preliminary narrowing process on one participant has shown evidence of syllable fusion
- Below is a spectrogram that possibly shows syllable fusion from an English syllable to a Cantonese syllable for the phrase "master 一路"

/mas^{55} **ta:^{21} jat^{5}** lou^{22}/ → [mas^{55} **tajaou$^{21+5+22}$**]



RESULTS

- Below is another spectrogram that possibly shows a more coerced form of syllable fusion from an English syllable to a Cantonese syllable for the phrase “lecture hall 張枱”
  /lek̄^{5} tʃʰɐ^{55} **<u>hɔː^{55} tɞœːŋ^{55}</u>** toːi^{24} / → [lek̄^{5} tʃʰɐ^{55} **<u>hɔjœːŋ$^{5+55}$</u>** toːi^{24}]



IMPLICATIONS AND FUTURE RESEARCH

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- Syllable fusion can violate phonological constraints in Cantonese, but can the same be said for bilingual speech?
  - E.g. introduction of onset clusters in fused Cantonese phrases
  - If so, which of Cantonese or English phonological constraints would fusion violate? Or both?
- Examining frequently uttered English phrases that possibly warrant syllable fusion since the prosody is carried throughout:

I don’t know → [aoʊ̃] → [mː]

ACKNOWLEDGEMENTS

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- Nancy Yiu, my fellow research assistant.
- Johnson, K. A., Babel, M., Fong, I., & Yiu, N. (2019). SpiCE: A new open-access corpus of conversational bilingual speech in Cantonese and English. Manuscript submitted for publication.

Please go to https://spice-corpus.readthedocs.io/en/latest/index.html to learn more

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