Variable neutralization of the tap/trill contrast in a bilingual Spanish-Creole community

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Structure of the presentation

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  - The Archipelago of San Andres
  - Three Linguistics varieties in Contact

- **This Study**

- **Results**
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  - Non-Vibrant Rhotics in Raizal Spanish Across Generations

- **Discussion and Conclusion**
The Archipelago of San Andres, Colombia

The Archipelago in the Western Caribbean

1. The Archipelago of San Andres, Colombia, home to an English-based Creole, known as Islander.

2. Two main languages in contact: Colombian Spanish, spoken by Catholic, monolingual Spanish speakers and Islander Creole, spoken by protestant, Afro-Caribbean, bilingual speakers (Islander and Spanish).

3. Ethnonym of “Raizales”.
The Archipelago of San Andres, Colombia

► Population

► Language use: Virtually, all Raizales are bilinguals in Islander and Spanish.
► Education: Spanish is the language of instruction in public schools. There are no university institutions in the island.
► Language policies: Both Languages are co-official in the islands as per the Colombian Constitution and other language Laws (Law 43, 1993; Law 1381, 2010).
Three Linguistic Varieties in Contact

Islander Creole
(Raizal Creole henceforth): Language derived from the Twi African Languages and British English. Population, migrated to the islands from Jamaica, and thus, it is mainly, an offshoot of Jamaican Creole.

Raizal Spanish (The bilingual variety)
The bilingual Spanish variety emerged from contact and spoken by three generations of Raizales (R1, R2, R3).

Continental Spanish (The monolingual variety)
The monolingual Spanish variety spoken by immigrants from mainland Colombia, particularly from the Caribbean coast, who have remained in the islands.
This Study

What?
Compare the segmental duration of non-vibrant rhotics (zero-occlusion) in their contrastive environment (i.e. intervocalic position) in the three linguistic varieties under study by means of acoustic, linguistic and social predictors.

Raizal Spanish --- Tap with a normative lingual closure (left). Tap displaying no tongue vibration (right).
This Study

What?

Raiz Spanish ---Trill with the normative lingual closures (left). Trill displaying no tongue vibration (right).
This Study

Why?
Outcome of contact across generations.

How?
By conducting a cross-linguistic comparison across three generations of Raizales (R1, R2, R3).

Sample

From 1450 non-vibrant rhotic tokens, 691 Praat-annotated intervocalic tokens were sampled from 30 Raizal Spanish informants. Data collected by means of sociolinguistic interviews and other elicitation tasks. 328 tokens for Raizal Creole were sampled.

<table>
<thead>
<tr>
<th>Generation</th>
<th>Age Median</th>
<th>Island</th>
<th>Sex</th>
</tr>
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<tbody>
<tr>
<td>1st Generation</td>
<td>72</td>
<td>San Andres</td>
<td>3 females, 2 males</td>
</tr>
<tr>
<td>2nd Generation</td>
<td>46</td>
<td>San Andres</td>
<td>3 females, 2 males</td>
</tr>
<tr>
<td>3rd Generation</td>
<td>28</td>
<td>San Andres</td>
<td>2 females, 3 males</td>
</tr>
<tr>
<td>1st Generation</td>
<td>61.5</td>
<td>Old Providence</td>
<td>3 females, 2 males</td>
</tr>
<tr>
<td>2nd Generation</td>
<td>43</td>
<td>Old Providence</td>
<td>3 females, 2 males</td>
</tr>
<tr>
<td>3rd Generation</td>
<td>26</td>
<td>Old Providence</td>
<td>2 females, 3 males</td>
</tr>
</tbody>
</table>
This Study: Linguistic predictors

Word context: *Only applied to measuring the overall segmental duration between varieties*
Complex: consonant clusters in syllable onsets (tres, libro)
Final: word-final positions (mar, vivir)
Initial: word-initial positions (Roma, rey)
Intervocalic: word-medial, intervocalic positions (arriba, perro)
Medial: word-medial, preconsonantal positions (arma, carne)

Word Stress: *Applied as the main linguistic predictor of the neutralization of the tap/trill contrast in the bilingual and monolingual Spanish varieties.*
Pre-tonic: rhotic located in pre-tonic word position (re.'ga.lo, ro.'sa.rio)
Tonic: rhotic located in tonic word position (a.'ro.ma, 'rá.pi.do)
Post-tonic: rhotic located in post-tonic word position (‘ca.rro, ‘ca.ro, ‘bu.rro, ro.’sa.rio)
Research Questions

Crosslinguistic comparison
R1. How different are the three varieties of the Archipelago in terms of segmental duration? How do they compare based on word context and stress?

Intervocalic, Word-Medial Tap/Trill Comparison between Spanish varieties
R2. Is there a difference in segmental duration between the bilingual Raizal Spanish and monolingual Continental Spanish?
If so:
- Are there any generation of Raizal Spanish speakers that neutralize the tap/trill contrast based on word stress?
- Is non-vibrant rhotic variation spreading in the direction of Continental Spanish motivated by new generation of speakers?
Segmental Duration in the Rhotics of the Archipelago

**Left:** Overall segmental duration across varieties of the Archipelago

**Right:** Segmental duration according to word context across varieties of the Archipelago

**Discussion and Conclusion**
Word Stress

Differences in word stress and overall segmental duration across varieties of the Archipelago
Raizal Spanish and Continental Spanish compared

- Note the clear boundary separation in Continental Spanish.
- Contrast seems less clear in Raizal Spanish.
Non-Vibrant Rhotics in Raizal Spanish Across Generations

Left: Segmental duration across generations

Right: Overall segmental duration across word stress contexts
The role of word stress

<table>
<thead>
<tr>
<th></th>
<th>Df</th>
<th>Sum Sq</th>
<th>Mean Sq</th>
<th>F value</th>
<th>Pr(&gt;F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Rhotic</td>
<td>2</td>
<td>0.00768</td>
<td>0.00384</td>
<td>13.694</td>
<td>1.52e-06 ***</td>
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<tr>
<td>Stress</td>
<td>1</td>
<td>0.03648</td>
<td>0.03648</td>
<td>130.071</td>
<td>&lt; 2e-16 ***</td>
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<tr>
<td>Type_rhotic:Stress</td>
<td>2</td>
<td>0.00089</td>
<td>0.00044</td>
<td>1.579</td>
<td>0.207</td>
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<tr>
<td>Residuals</td>
<td>611</td>
<td>0.17138</td>
<td>0.00028</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

ANOVA output of duration and the interaction between the type of rhotic and stress.
The role of word stress

Mean duration of approximant taps and trills in generations of bilingual Raizales and Continental Spanish according to word stress.

• A case of convergence towards the monolingual variety?
The role of word stress

Results of the Tukey’s Post Hoc tests for each generation and the non-significant p-values for each combination of taps and trills in their stress context.
Hierarchy of non-significant factor combinations of stress and tap/trill segments. Direct examples from the corpus.
Discussion

Crosslinguistic comparison

R1. How different are the three varieties of the Archipelago in terms of segmental duration? How do they compare based on word context and stress?

A. Results show that:
   i. Raizal Creole has longer segmental durations compared to the Spanish varieties.
   ii. From the Spanish varieties, Raizal Spanish has longer rhotic durations.
   iii. This difference between Raizal Creole and the Spanish varieties seems to be language specific.

Distribution of non-vibrant rhotics in the varieties of the Archipelago.
Discussion

Intervocalic, Word-Medial Tap/Trill Comparison between Spanish varieties

R2. Is there a difference in segmental duration between the bilingual Raizal Spanish and monolingual Continental Spanish?

A. Yes, Raizal Spanish has longer durations and such differences occur according to word stress. If so:

Are there any generation of Raizal Spanish speakers that neutralize the tap/trill contrast based on word stress?

A. Results show that mainly first and second generation neutralizes the tap/trill contrast.

Is non-vibrant rhotic variation spreading in the direction of Continental Spanish motivated by new generation of speakers?

A. Yes, third generation speakers are converging toward the monolingual variety and distancing themselves from the older generations.
Conclusion

• A signal of a diachronic linguistic change resulting from diverging variation patterns of segmental duration in generations of bilingual Raizales.

• Possible influence from the languages in contact supported by the phonological interference of the neutralization and maintenance of the tap/trill contrast across generations of Raizal Spanish.
  • bilingual Raizales seems to map the same phonological categorization present in the monolingual Continental Spanish variety.

• Results of this study resonates with with the framework discussed on contact situations where a creole language is in direct contact with a national non-lexifier language (Snow, 2000; Aceto, 1999; DeCamp, 1971).
Acknowledgement

Funding for this project was thanks to:

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Elicitation tasks

• Raizal female (66) telling an Anansy story (the trickster spider)

• Interaction task between two adult Raizales.
  - Jigsaw task. (Adapted from Thoms J., Liao J. & Szuztak A., 2005)
  - Diapix. (Adapted from Baker & Hazan, 2011)

• Raizal female (34) narrating the picture book: A Frogstory (Mercer, 1969)