Accounting for Variation in Tamil Retroflex Articulation
Sarah Bakst
Department of Linguistics, UC Berkeley

Questions
1. Which language-internal and language-external forces are important in sound change?
2. How do we explain observed variation in Tamil retroflex articulation?

Background
- Ladefoged & Bhaskararao (1983) report different degrees of retroflexion for different languages.
- Indic languages described as having more anterior retroflexes
- Dravidian languages (including Tamil) described as having more posterior retroflexes.
- This study: variation is observed in degree of retroflexion in Tamil.
- The two articulations are acoustically very similar.

Possible Causes of Variation

Language-Internal Forces
- Loss of contrast
  - Tamil formerly contrasted dental, alveolar, and retroflex, but alveolars collapsed with tap/trill.

Aerodynamics
- Yet to be explored: possibility that the tongue tip has been “blown forward.”
- The prior collapse of retroflex/alveolar contrast facilitated the broadening of the retroflex category.
- Is there something preferable about more anterior retroflexes?

Language-External Forces
- Contact
  - Many Tamil speakers learn Hindi in school.
  - Hindi is a prestige language.
  - There are no Dravidian official languages in India.

Experiment
This study examines the articulations of Tamil retroflex stops and laterals with static palatography.

Participants
- Native Tamil speakers who grew up in India.
- University students in California.
- Learned English (often Hindi as well) in school.

Method
- The participant applies a charcoal and olive oil mixture to the palate.
- The participant says [aɖa].
- Photographs are taken with a digital camera.
- Additional data for [aɭa] for some participants.
- Four repetitions for each articulation.

Results

<table>
<thead>
<tr>
<th>Subject</th>
<th>Hometown</th>
<th>Language (native in bold)</th>
<th>Stop</th>
<th>Lateral</th>
</tr>
</thead>
<tbody>
<tr>
<td>201</td>
<td>Mumbai</td>
<td><strong>Ta, Hi, En</strong></td>
<td>A</td>
<td>—</td>
</tr>
<tr>
<td>202</td>
<td>Chennai</td>
<td><strong>Ta, En, Te, Kn</strong></td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>203</td>
<td>Chennai</td>
<td><strong>Ta, Hi, En</strong></td>
<td>A</td>
<td>A</td>
</tr>
<tr>
<td>204</td>
<td>Chennai</td>
<td><strong>Ta, Hi, En, (Fr)</strong></td>
<td>A</td>
<td>P</td>
</tr>
<tr>
<td>BN (2012)</td>
<td>Chennai</td>
<td><strong>Ta, Hi, En</strong></td>
<td>P</td>
<td>P</td>
</tr>
</tbody>
</table>

Future Directions
- Test the role of aerodynamics.
- Survey:
  - Age of Hindi acquisition.
  - Context and frequency for each language.
  - Correlation with type of retroflex.
- Accommodation experiment.

Selected References

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Background Map

Language family distribution in India
- Indo-Aryan
- Dravidian