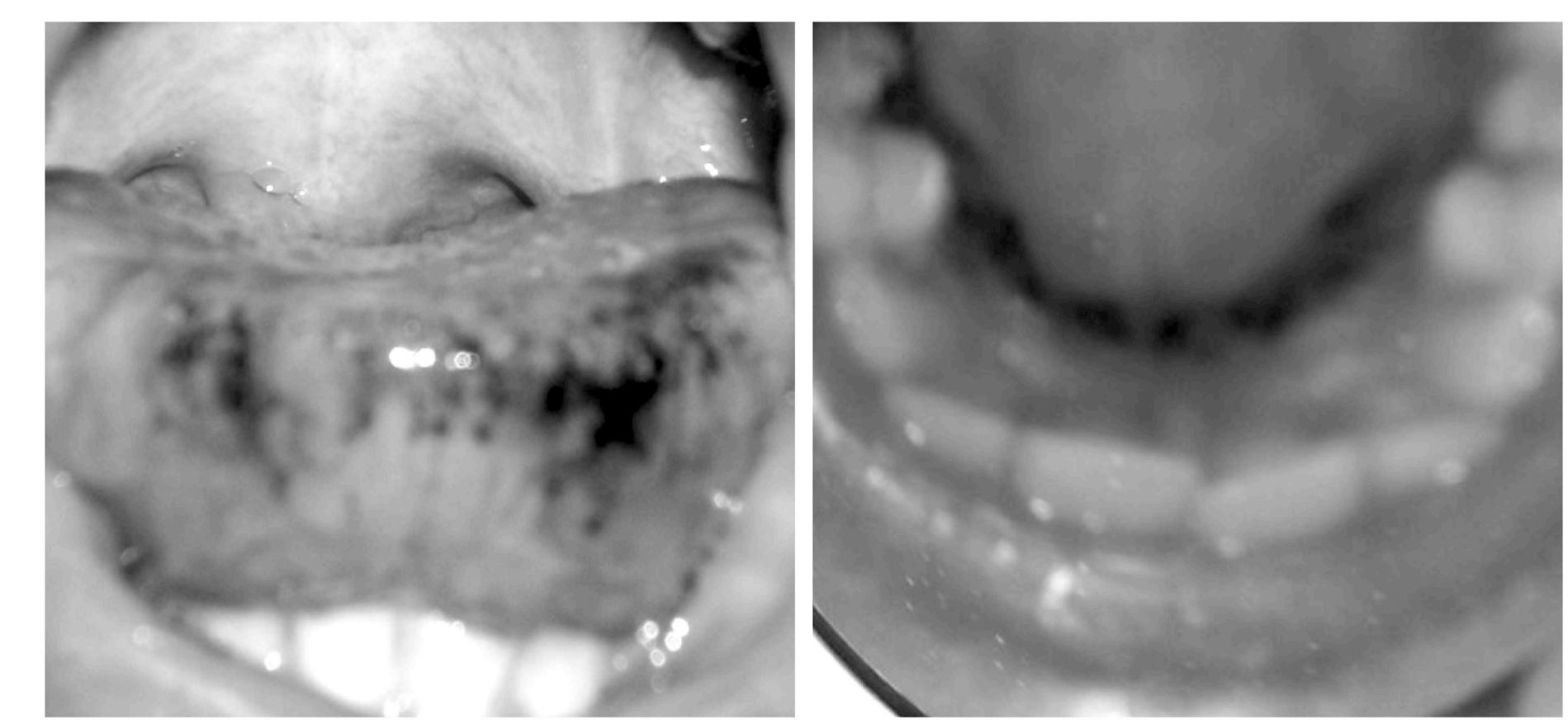


Tamil retroflex (a) stop and (b) lateral (Subject BN, Bakst 2012)

Accounting for Variation in Tamil Retroflex Articulation

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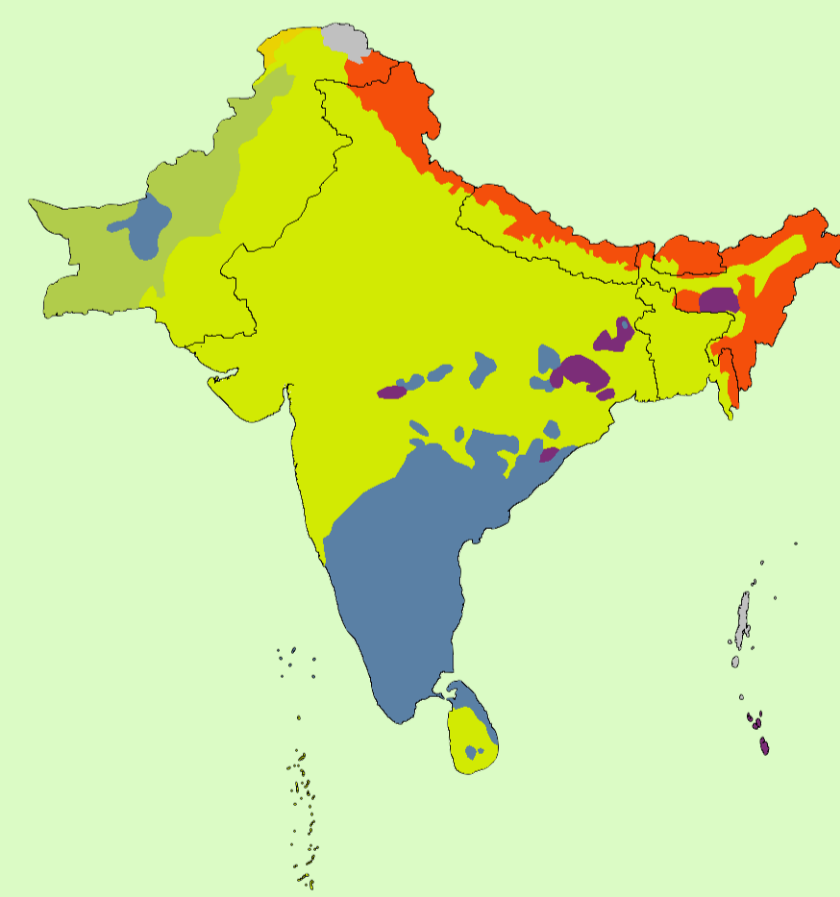
Hindi retroflex stop for comparison with Tamil (Subject SS, Bakst 2012)

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.



Language family distribution in India

- Indo-Aryan
- Dravidian

Source: *A Historical Atlas of South Asia*, Oxford University Press, New York 1992.

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 [a[a] for some participants.
- Four repetitions for each articulation.

Results

Subject	Hometown	Language (native in bold)	Stop	Lateral
201	Mumbai	Ta , Hi, En	A	—
202	Chennai	Ta, En , Te, Kn	A	A
203	Chennai	Ta , Hi, En	A	A
204	Chennai	Ta , Hi, En, (Fr)	A	P
BN (2012)	Chennai	Ta , Hi, En	P	P

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.

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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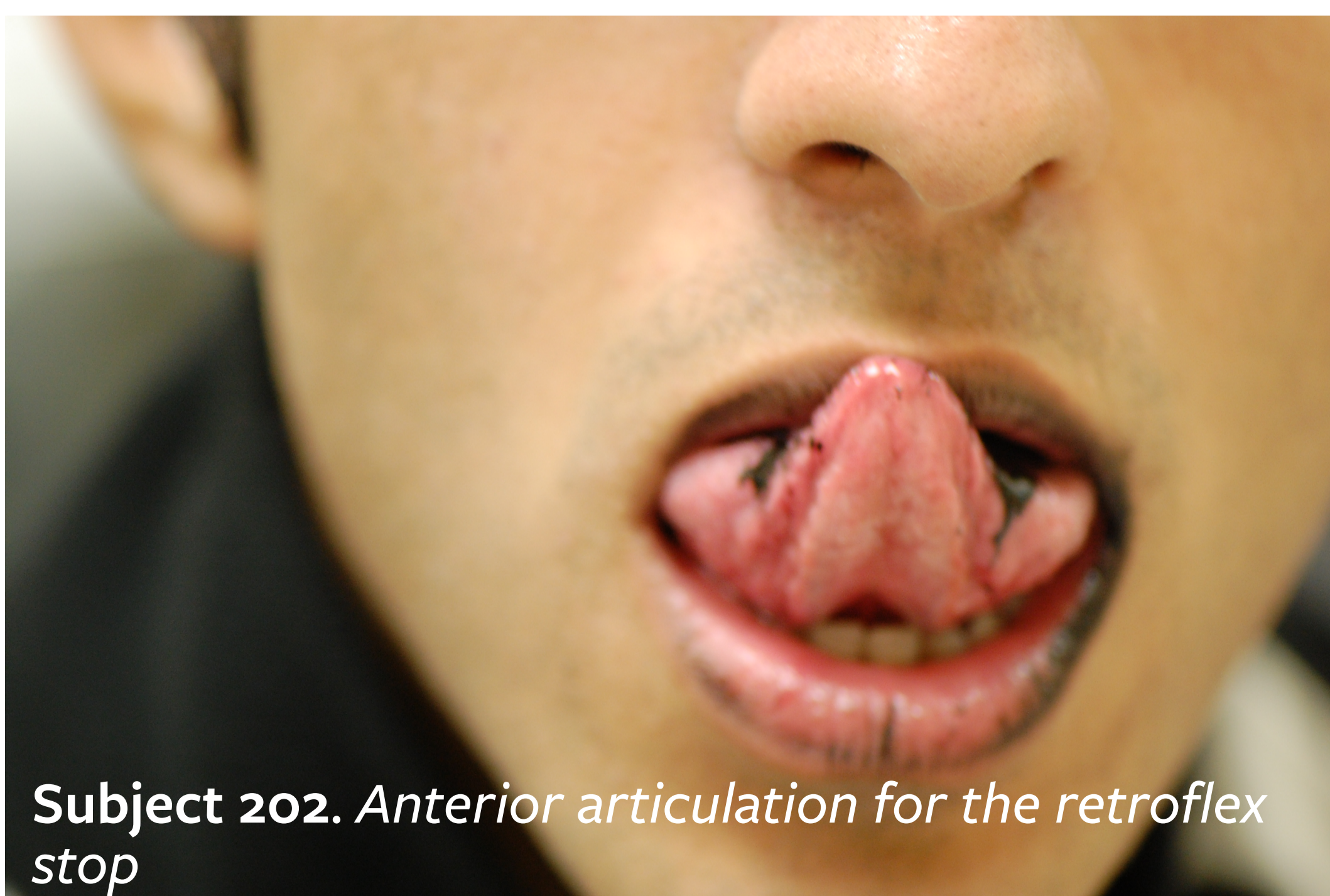
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Subject 202. Anterior articulation for the retroflex stop



Subject 202. Anterior articulation for the retroflex lateral



Subject 204. Anterior articulation for the retroflex stop



Subject 204. Posterior articulation for the retroflex lateral