A PILOT STUDY ON THE ACOUSTICS OF STRESS AND TONE IN USPANTEKO
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THE PHONOLOGY OF STRESS AND TONE IN USPANTEKO

Uspanteko is the only Mayan language in Guatemala to have developed a system of lexical tone [2-5]:

- Tone on long vowels: [əV#]-[əV#]
- Tone on short vowels: [ıV#]-[ıV#]

(1) ichaaj [ti.įaj] ‘herb, grass’
(2) inchaaj [tin.įaj] ‘my ash’
(3) isk’eq [i;k’eq] ‘fingernail’

Pitch (z-scores over ERB)

-1.00
-0.75
-0.50
-0.25
0.00
0.25
0.50
0.75
1.00

Future work: phonation differences, intensity, more speakers

THE PILOT STUDY

- Data: 792 vowels from 3 speakers (2 male, 1 female)
- Recorded in Antigua and San Miguel Uspantán (Aug. 2014).
- Target words elicited in a frame like:
  (5) Ri’ yaj Tek xk’aiyn ___ kab’ijir. FOC DET Diego buy.35G.PST.AF ___ day before yesterday. ‘It was Diego who bought ___ the day before yesterday.’
- All p-values < .05 (one-way unpaired t-tests using R and Praat).

PREDICTIONS

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- Height partially correlated with vowel duration (F1 centralization: r = 0.25, p < .001). May reflect simple undershoot.

Conclusion: vowel quality is not a robust cue to stress, though mid vowels show a larger effect than peripheral vowels.

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