Tone and voice quality in Santiago Laxopa Zapotec

Santiago Laxopa Zapotec (SLZ) is an understudied Oto-Manguean language with lexical tone spoken by roughly 1000 people, mainly in the town of Santiago Laxopa in the Sierra Norte of Oaxaca, Mexico. SLZ, like other Oto-Manguean languages, contains a robust systems of both tone and voice quality which are independent from each other (Silverman 1997, Blankenship 2002, Avelino 2004, Arellanes 2009).

This paper provides: (i) a description of the tone and voice quality systems of SLZ and their interactions; and (ii) test the validity of the Laryngeal Articulator Model (LAM; Moisik et al. 2015, Esling et al. 2019) as a theoretical tool to describe the interactions between tone and voice quality. This model has been used to describe historical sound changes and describe voice quality distributions. However, this model has not been tested in laryngeally complex systems.

Description: SLZ has five tonal patterns that are allowed to surface on syllables: H, M, L, HL, and MH and four voice quality distinctions: Modal, Breathy, Checked, and Laryngealized. These different tones and voice qualities are allowed to appear independent of each other, with one notable exception. As seen in Table 1, Breathy voice quality is only found on L toned syllables with the exception of one word where it appears on a MH syllable.

Table 1: Distribution of tone and voice quality in SLZ on a syllable

	Modal	**Breathy**	**Checked**	**Laryngealized**
H	✓	–	✓	✓
M	✓	–	✓	✓
L	✓	–	✓	✓
HL	✓	–	✓	✓
MH	✓	(✓)	–	✓

Besides the distribution of Breathy voice quality, SLZ also exhibits checked and Laryngealized which are both realized with creaky voice but timed differently (Silverman 1997). It is commonly known that creaky voice is often associated with low tone and typically does not occur in high pitched contexts. In comparing the spectral tilt measurements for these two phonations, we observe a rather stark contrast between them in the second half of the vowel, as seen in Figure 1

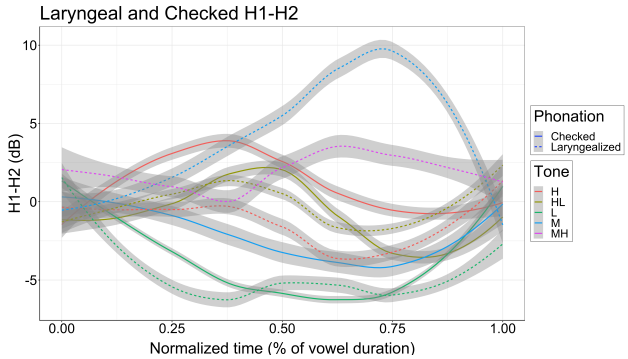

Figure 1: Comparison of H1-H2 measurement for checked and laryngealized vowels.

Upshot:

References

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