Vowel tensing in Kaqchikel Maya

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Analyses of vowel alternations as a laxing process are quite common in the literature (see Poliquin 2006 for Canadian French; Brunelle & Riehl 2002 for Ngaju Dayak; Latimer 1978 for Chilcotin). On the other hand, analyses of vowel alternations as tensing processes are comparatively rare (see Kramer 2009 for Southern Umbro Italian). What follows is an analysis based on my own field work in Kaqchikel, in which the best analysis is indeed one of tensing, counter to typological expectation.

Kaqchikel is a Mayan language spoken by around 450,000 speakers in southern Guatemala. It features underlying tense and lax vowels (Krueger 1986), and yet some tense-lax vowel alternations do exist in the data.

A.			B.		
ak'wal ∼ *ak'wala*	[a.k'w**á**l̥ ∼ a.k'w**a**.lá]	'child(ren)'	*xtän* ∼ *xtani*	[ʃt**é**n ∼ ʃt**a**.ní]	'girl(s)'
tijoxel ∼ *tijoxela*	[ti.xo.ʃ**é**l̥ ∼ ti.xo.ʃ**e**.lá]	'students(s)'	*ixöq* ∼ *ixoqi*	[i.ʃ**ó**χ ∼ i.ʃ**o**.qí]	'woman/women'
ajq'ij ∼ *ajq'ija*	[ax.ɕ'**í**x ∼ ax.ɕ'**i**.xá]	'day-keeper(s)'	*nïm* ∼ *nima'q*	[n**í**m ∼ n**i**.máχ]	'big (SG/PL)'

An analysis of tense vowels undergoing a laxing process in CVC syllables is not the right one for the alternations above in B. If that were the case, one would also expect lax vowels in the CVC syllables for the singular forms in A. The correct analysis is thus one of tensing, whereby **underlyingly lax vowels become tense when unstressed**. The alternation is conditioned by derivation: stress is always word-final in Kaqchikel, and thus concatenating a suffix to a root shifts stress rightward from the root's final syllable to the suffix's. If the root's final syllable vowel is lax, it will now surface as tense due to being unstressed.

C. /ʃtən/ → [ʃt**é**n] 'girl' /ʃtən + PL/ → [ʃt**a**.ní] 'girls'

This analysis is theory-neutral in that it can be formalized equally well within a rule-based or OT approach, both of which will be presented and their merits discussed during the poster session. Furthermore, the analysis proposed here is important to the field for two reasons. First, research on Kaqchikel Maya has focused on morphosyntactic elements of the grammar, while the language's phonology remains un(der)described. For example, Krueger mentions some phonological patterns, but only in passing. The work presented here fills a gap in the literature on this particular language.

Second, despite the alternation described above, lax vowels still only surface in closed CVC syllables in Kaqchikel (much like English). What is the nature of the relationship between lax vowels and closed syllables? Can this data offer insight into the nature of the markedness of tense and lax vowels? Exploring these typologically-rare cases of vowel tensing – as a complement to better-studied cases of vowel laxing – leads us to a greater understanding of the phonological enterprise.

References

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