

Tone Polarization and Dissimilation

In some languages certain affixes have tones that are predictable from the tone of the root to which they attach, but instead of receiving their tones by spreading they show a tone that is the opposite of the neighboring tone. Words that end in L take H affixes and words that end in H take L affixes. This is known as “polarity”. Gur languages (Ghana, Burkina Faso) are perhaps are perhaps best known for this phenomenon (Anttila 2001, Anttila and Bodomo 1997, Bodomo 1997, Cahill 1999, Hyman 1993, Kenstowicz, Nikiema, and Ourso 1988, and others).

This paper presents an analysis of tone polarization and dissimilation in two Gur languages, Kɔ̀nni and Dagaare. In Kɔ̀nni, Cahill (1999) shows that there are two sets of suffixes: a set of H affixes, including the singular velar-nasal suffix in (1), which do not show any polarity effects; and the plural suffix which is L after H toned roots and H after L toned roots. (Vowel differences result from vowel harmony.)

(1)		Singular	Plural	
L toned root	/tàn/	tǎŋ	tàn-á	stone/s
H toned root	/tíg/	tígíŋ	tíg-è	house/s

After showing that the plural suffix above cannot be L underlyingly, Cahill proposes an analysis in which it is toneless. In (1), the fact that the singular (H-toned) suffix undergoes no change even after an H-toned root shows that the OCP is not involved here, and is not responsible for the polarity that is observed in the plural suffix.

In Dagaare, Anttila (2001) proposes that suffixes are underlyingly H-toned. The H tone suffix dissimilates to L when next to a noun root that ends in a High tone, but when the root ends in a Low tone, no tone change takes place. Anttila attributes the H-tone dissimilation in the suffix to an OCP effect. (But see Anttila and Bodomo 1997 for a different analysis.)

In this paper, we propose an analysis that develops a proposal by Akinlabi and Liberman (2000) that tonal processes including contour formation (spreading), polarization and dissimilation arise from the preference for tones to form **tonal complexes**. Tonal complexes are "bound states" of (two or more) unlike tones, such as [high low] or [low high], and they have a role in organizing tonal features somewhat analogous to that of moras and syllables in organizing segmental features. On this analogy, contour tone formation is like re-syllabification, in which a coda consonant becomes an onset for a following syllable. Tone polarization and polarized tone epenthesis are like the epenthesis of vowels and consonants in rescuing forbidden or marked syllable structures. And the phonetic dissimilation of tone sequences is like the different phonetic interpretation of high vowels or nasals in onset vs. rhyme positions in syllables.

The analysis of the Kɔ̀nni and Dagaare polarization data goes roughly as follows. In both languages, suffixes join with roots to form tonal complexes—this is like syllabifying a suffix with the root. The preferred tonal complexes are obviously LH and HL. In the Kɔ̀nni toneless suffixes, the inserted tone is completely predictable—H is inserted after L roots and L is inserted after H roots. H toned suffixes are allowed to form complexes with preceding roots because a final HH is permitted but final a LL is not. Disallowing a final LL here is analogous to disallowing a final consonant cluster. Dagaare differs from Kɔ̀nni in that either sequence is disallowed finally.