

Opacity, Level Ordering, and Tonal Feet in Dogrib

Dogrib (Tłı̄chǫ Yatı̄ı) is a Northern Athabaskan language spoken in the Northwest Territories, Canada, between the Great Slave Lake and Great Bear Lake. In previous work (Jaker, under review) I have argued that the *tonal foot* (Rice 1990, Zec 1999, DeLacy 2002, Pearce 2006) conditions several independent phonological processes in this language, including syncope, gemination, and High to Mid tone lowering. I show that these processes occur in different phonological levels, and that apparent counterexamples to tonal feet in Dogrib are the result of opacity, which can be accommodated through Level Ordering.

Tonal feet in Dogrib are metrical feet which are sensitive to tone. Moraic trochees are assigned from right to left, with non-finality of the final syllable. This by itself predicts a Latin-type stress rule: penultimate stress if the penult is underlyingly heavy; antepenultimate stress otherwise. Dogrib feet are also *tonal* in that disyllabic feet are required to be level—either (*Low-Low*) or (*High-High*); (*Low-High*) and (*High-Low*) feet are prohibited. This is expressed by the constraint NOCONTOUR-FOOT (Pearce 2006).

Dogrib is unusual in that tones and moras behave like properties of segments, rather than independent autosegmental tiers. This means that Dogrib uses segmental repair strategies for ill-formed tone sequences, previously claimed to be impossible (Blumenfeld 2006). At the Stem Level, (*High-Low*) sequences are repaired by deleting the High toned vowel (Figure 1 (b)), while at the Word Level, (*Low-High*) sequences are repaired by geminating the consonant after the High toned vowel, letting the syllable stand as an independent, bimoraic foot (Figure 1(c)). Finally, some sequences are already well-formed in the input, and can be parsed into well-formed feet with no segmental alteration (Figure 1 (a)).

There are, however, apparent exceptions to tonal feet in Dogrib, i.e. both (*High-Low*) and (*Low-High*) trochees present in the output—although the latter is actually realized as (*Low-Mid*). I show that such exceptions are the result of Postlexical processes which obscure tonal feet formed at the Word Level. In Figure 2 (a), epenthesis occurs postlexically to break up an *lk*- onset cluster, generating a foot that violates NONFINALITY. In Figure 2 (b), gemination is blocked at the Word Level, because the form (*del*)zô has a heavy penult. The classifier *l* deletes postlexically, however, leaving behind a light penult and a violation of NONFINALITY. Similarly in Figure 2 (c), the form (*bòkà*)(*wen*)t'è does not undergo gemination at the Word Level, since the penult is heavy, but postlexically the *n* deletes, leaving a short nasal vowel behind.

My analysis thus supports the distinction between Stem phonology, Word phonology, and Postlexical phonology, as well as the claim that opacity is the result of interlevel constraint masking, as in Stratal Optimality Theory (Kiparsky 2000; to appear, Bermudez-Otero in preparation).

Figure 1: Processes Generating Well-Formed Tonal Feet.

	(a) /bò-kà-e-h-t'è/	(b) /bò-kà-whe-wìd-t'e/	(c) /bò-kà-e-t'è/
Stem Level syncope	-----	bò-kà-whìt'e	-----
Word Level gemination	-----	-----	(bòkà)(et)t'è
Postlexical	-----	-----	-----
Output	[(bòkà)(eh)t'è] “I cook.”	[bò(kàwhì)t'e] “Two of us cooked.”	[(bòkà)(et)t'è] “He/she cooks.”

Figure 2: Non-Level Feet Resulting from Opacity.

	(a) /ɬ-k'à/	(b) /de-l-zɔ/	(c) /bò-kà-w-ne-t'è/
Stem Level metathesis	-----	-----	bò-kà-went'è
Word Level (gemination blocked)	-----	-----	-----
Postlexical epenthesis, nasalization, sonorant deletion	(ɬek'à)	(dezɔ)	(bòkà)(wɪt'è)
Output	[(ɬek'à)] “He/she is fat”	[(dezɔ)] “It is black.”	[(bòkà)(wɪt'è)] “You may cook.”

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