Two approaches to exceptionality in Mushunguli (Somali Chizigula)

Katherine Hout and Eric Baković, UC San Diego

Language background. Mushunguli (Somali Chizigula, G.311) is spoken by the inhabitants of a small area around the lower Jubba River in Somalia, many of whom now reside in diaspora communities throughout the United States. The language is underdescribed, and there is no published description of the phonology. The data discussed here were collected by the first author from a native speaker consultant living in Columbus, Ohio, in 2011-2012.

Description of the problem. Potential vowel hiatus is usually resolved in one of two ways. Illustrations of both are provided in (1) and (2) below, using the example verb stem *-iv-* 'hear'; note that penultimate vowels are lengthened in all forms considered here.

(1) Glide formation: prevocalic high vowels *i,u* become glides *j,w*
u-iv-a → **wii**va 'it (cl. 3) heard' k**u-i**v-a → k**wii**va 'to hear'

(2) Fusion: low *a* + mid or high *e,i* / *o,u* are fused to mid *e* / *o*
a-a-iv-a → **ee**va 'he/she is hearing' k**a-i**v-a → k**ee**va 'he/she heard'

An exceptional group of stems, all high-vowel initial, resolve potential hiatus normally in contexts where glide formation is expected, but do not resolve hiatus in contexts where fusion is expected. The behavior of one such stem, *-it-* 'go', is illustrated in (3) and (4) below.

(3) Glide formation applies as expected
u-it-a → **wii**ta 'it (cl. 3) went' k**u-i**t-a → k**wii**ta 'to go'

(4) Fusion exceptionally fails to apply
a-a-it-a → **aii**ta 'he/she is going' k**a-i**t-a → k**aii**ta 'he/she went' (*k**ee**ta)

These stems do not differ from other high-vowel initial stems other than their failure to undergo fusion. Thus, their behavior needs to be accounted for in the phonology.

Two approaches. We compare two analyses of the data illustrated in (1)–(4) in this talk. The first is an *abstract representational analysis*, in which exceptional stems begin underlyingly with a glide that blocks fusion but that is critically deleted before glide formation (Hyman 1970; cf. Kiparsky 1968). The second is a *lexical constraint indexation analysis* in which exceptional stems are subject to a lexically-indexed faithfulness constraint that protects them from fusion (Pater 2010). We present arguments in favor of the lexical constraint indexation analysis based on the fact that it better captures the two critical generalizations in (5) and (6).

(5) The exceptional stems *all* begin with high vowels.

(6) These stems are exceptional *only* with respect to fusion.

In the **abstract representational analysis**, the behavior of exceptional stems is accounted for by assuming they begin with underlying homorganic glide + high vowel sequences. In the case of *-it-*, then, the underlying form would be /-jit-/. Because these glides never surface, a rule of homorganic glide deletion is required. This rule applies after, and thus counterfeeds, fusion; it applies before, and thus feeds, glide formation. This accounts for the difference in behavior between stems like /-iv-/ and stems like /-jit-/, as seen in the derivations in (7).

(7)

	/k**u-i**v-a/	/k**a-i**v-a/	/k**u-ji**t-a/	/k**a-ji**t-a/
Fusion	*n/a*	k**e**va	*n/a*	*n/a*
Homorganic Glide Deletion	*n/a*	*n/a*	k**ui**ta	k**ai**ta
Glide Formation	k**wi**va	*n/a*	k**wi**ta	*n/a*
Lengthening	k**wii**va	k**ee**va	k**wii**ta	k**aii**ta

This analysis captures the fact that all of the exceptional stems are high-vowel initial (5): only such stems are subject to homorganic glide deletion. The fact that the exceptional stems are exceptional only with respect to fusion (6), on the other hand, is effectively stipulated by ordering homorganic glide deletion between fusion and glide formation. Moreover, surface [ji] and [wu] clusters are unattested stem-initially in Mushunguli and exceedingly rare otherwise; any that are present underlyingly are dealt with by homorganic glide deletion, but any that might be created by glide formation — e.g. /**u-u**t-a/ → [**uu**ta] 'the bow (cl. 14), *[**wuu**ta] (length again due to penultimate vowel lengthening) — must be dealt with either by a repeated application of homorganic glide deletion or by another rule after glide formation.

In the **lexical constraint indexation analysis**, the behavior of exceptional stems is accounted for by assuming that they are subject to a lexically-indexed copy of a faithfulness constraint, IDENT(high)$_{\text{L}}$, that is violated by fusion involving high vowels. IDENT(high)$_{\text{L}}$ must then be ranked above the markedness constraint ONSET that drives hiatus resolution, blocking fusion for these lexically-indexed exceptional stems. Fusion applies to other stems because the non-indexed IDENT(high) is ranked below ONSET. The tableaux in (8) make this result clear.

(8) Exceptional stems block fusion

/k**a-i**t$_{\text{L}}$-a/	ID(hi)$_{\text{L}}$	ONS	ID(hi)
k**ee**ta	* !		*
☞ k**aii**ta		*	

Other stems undergo fusion

/k**a-i**v-a/	ID(hi)$_{\text{L}}$	ONS	ID(hi)
☞ k**ee**va			*
k**aii**va		* !	

Stems cannot block glide formation because the vowel that glides is in the prefix, not the stem; lexically-indexed constraints "apply if and only if the locus of violation contains some portion of the indexed morpheme" (Pater 2010: 133). Thus, even if exceptional stems are subject to a lexically-indexed copy of a faithfulness constraint, IDENT(μ)$_{\text{L}}$, that is violated by glide formation and that is ranked above ONSET, glide formation will apply so long as the non-indexed IDENT(μ) is ranked below ONSET. The tableaux in (9) make this result clear.

(9) Prefixes attached to any kind of stem undergo glide formation

/k**u-i**t$_{\text{L}}$-a/	ID(μ)$_{\text{L}}$	ONS	ID(μ)
☞ k**wii**ta			*
k**uii**ta		* !	

/k**u-i**v-a/	ID(μ)$_{\text{L}}$	ONS	ID(μ)
☞ k**wii**va			*
k**uii**va		* !	

This analysis captures the fact that exceptional stems are exceptional only with respect to fusion (6), as was just illustrated in (8) and (9): stem-initial vowels are materially affected by fusion but are not affected by glide formation. The fact that surface [ji] and [wu] clusters are unattested stem-initially and exceedingly rare otherwise, even as a result of glide formation, can also be accommodated under this analysis: assuming no featural distinctions between high vowels and homorganic glides (see e.g. Rosenthall 1997), such sequences can undergo fusion freely either because an anti-fusion UNIFORMITY constraint is sufficiently low-ranked or because such a constraint doesn't exist (Keer 1999). Assuming that UNIFORMITY does not exist as a constraint strengthens the result also captured by this analysis, that all of the exceptional stems are high-vowel initial (5): only such stems are subject to IDENT(high)$_{\text{L}}$, and only this constraint is potentially violated by fusion of a stem-initial vowel.

Conclusion. The lexical constraint indexation analysis better captures the generalizations stated in (5) and (6), and is thus to be preferred to the abstract representational analysis.

References cited

Hyman, Larry M. 1970. How concrete is phonology? *Language* 46, 58-76.

Keer, Edward. 1999. *Geminates, the OCP and the Nature of CON*. Doctoral dissertation, Rutgers University.

Kiparsky, Paul. 1968. How abstract is phonology? Ms., MIT. [Published in 1973 as Part 1 of 'Phonological Representations', in Osamu Fujimura (ed.), *Three Dimensions of Linguistic Theory*, 5-56. Tokyo: TEC Company, Ltd.]

Pater, Joe. 2010. Morpheme-specific phonology: Constraint indexation and inconsistency resolution. In Steve Parker (ed.), *Phonological Argumentation: Essays on Evidence and Motivation*, 123-154. London: Equinox.

Rosenthall, Sam. 1997. The distribution of prevocalic vowels. *NLLT* 15, 139-180.