Dissimilation by surface correspondence in Aghem velarized diphthongs

Agreement by Correspondence (ABC) is a framework for analysis of long-distance agreement where no obvious spread occurs through intervening material (Rose and Walker, 2004). Bennett (2013) advances the framework through a claim that *dissimilation* to avoid surface correspondence is also possible if correspondence would generate suboptimal agreement patterns—typically, suboptimality results from extending beyond certain morphological domains.

I argue that Aghem exhibits dissimilation of an intrusive velar segment present in two diphthongs in the language, /i̯ɣa/ and /u̯ɣo/. I analyze this dissimilation using ABC with quantized segments (ABC+Q), which accomodates the apparent correspondence between the onset and a subsegmental *portion* of the following vowel (Inkelas and Shih, 2013). This analysis has three unusual features: first, *contra* Bennett, it is not possible to motivate dissimilation except through anti-identity (*ID) constraints, as the only relevant factor in dissimilation appears to be place of articulation for segments with a certain constriction degree. Secondly, subphonemic factors must be referenced to fully explain the observed patterns. Finally, the dissimilations discussed are similar to OCP effects, and use of ABC here suggests that the notion of correspondence might fruitfully be applied to the OCP more generally.

(1) a. **Dissimilation (place):**

Onset	**/ɨɣa/**	**/uɣo/**
Velar	[-kɨ́á] 'headpad' (*[-kɨ́ɣá])	[-kùò] 'belt' (*[-kù̯ɣʷò])
Labial	[-bɨ́ɣá] 'valley'	[-bùò] 'to be tired' (*[-bù̯ɣʷò])
Alveolar	[-tsi̯ɣà] 'to pass'	[-dú̯ɣʷó] 'house'

b. **Assimilation (nasality):**

/n/ /-nɨ́ɣá/ → [-nɨ́ŋá] 'to lick' /-nùɣò/ → [-nùŋʷò] 'to leave'

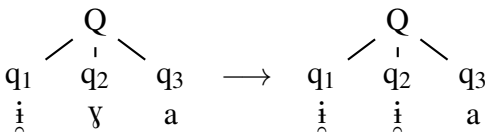
The Aghem diphthongs /i̯ɣa/ and /u̯ɣo/ are produced with an intrusive velar glide [ɣ] unless preceded by certain tautosyllabic onsets (Hyman, 1979).[1] Velar onsets never precede /ɣ/, and labial onsets similarly do not precede /ɣ/ when the diphthong is rounded /u̯ɣo/ and the glide is thus phonetically rounded [ɣʷ] (1a). Furthermore, the velar glide *assimilates* to the syllable onset in nasality when the onset is an alveolar nasal (1b), with no nasalization observable on the vowel.

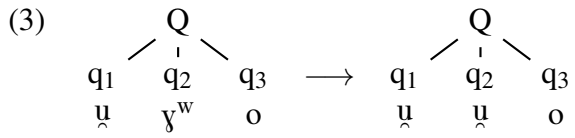
While the observed non-local agreement and anti-agreement suggest an ABC analysis, other important structural details limit the range of plausible analyses. First, simply stating a place co-occurrence constraint (such as OCP-PLACE) on consonants in stems fails to predict numerous CVC stems with both C at the same place of articulation, such as /-kɔ̀ŋ/ 'mixing stick' or /-bɔ̀m/ 'hand piano' (Hyman, 1979). Assimilation and dissimilation also appear to target only the [ɣ] in a following VɣV sequence, with the sequence functioning as a monosyllabic diphthong despite the presence of the intrusive consonant.[2]

Given these details, I argue that the [ɣ] is a subsegment of a larger unit diphthong in correspondence with the immediately preceding syllable initial on the basis of their relatively high degree of constriction. Following Inkelas and Shih (2013)'s ABC+Q framework, I break the velarized

[1] Acoustic examination of the relevant VɣV sequences confirms Hyman's transcriptions as accurate; I do not include these here for the sake of conserving space.

[2] Evidence for this comes from a regular process of high-tone spreading: a sequence of syllables /H L/ is realized as [H HL]. For L [VɣV] sequences with a preceding H (typically of a noun class prefix), the resulting HL contour is realized over the entire sequence rather than on the first V alone, i.e. /kɨ-fɨɣa/ > kɨ́-fɨ́ɣà, *kɨ́-fɨɣà 'plantain'.

(2) 

(3) 

diphthong [VɣV] (a whole segment, Q) down into three subsegments (q_n). I posit a constraint penalizing non-correspondence, CORR-$Q_0 \leftrightarrow q_2$[+cons], where the pre-condition for correspondence is a sufficiently narrow constriction degree excluding vocoids (Padgett, 2008). Following Bennett (2013), I posit dissimilation in this pre-condition, such that /ɣ/ reduces its constriction degree (to [i̯] or [u̯]) and avoids a penalty for featural identity encoded in two further anti-identity constraints, *ID-QQ[LAB] and *ID-QQ[DOR]. The dissimilation process is schematized in (2) and (3).

(4)

	/bùɣò/ 'to be tired'	ID-IO (ONS)	CORR $Q_O \leftrightarrow q_2$[+cons]	*ID-$Q_O q_2$ [LAB]	*VjV	ID-IO [+cons]
	a. u̯ùu̯ɣò	*!				*
☞	b. bu̯ùu̯o					*
	c. bu̯ɣʷò		*!			
	d. b_iu̯ùɣʷ$_i$ò			*!		
	e. b_iu̯ùj$_i$ò				*!	*

The tableau (4) shows the derivation of [búò] 'to be tired'.[3] Some candidates are less than optimal because they violate Aghem phonotactic constraints in other areas (for instance, /j/ is rare and only occurs as an onset before monophthongal /ɔ/).

Signficantly, Bennett (2013)'s CC-EDGE constraints, which penalize correspondences reaching outside of a given domain, cannot be invoked to explain dissimilation for correspondence preconditions in Aghem. Consonant place is the only factor that conditions the observed assimilation and dissimilation, suggesting that the proposed OCP-like family of anti-identity constraints must be invoked as the driver of dissimilation. I conclude by suggesting the broader applicability of ABC in accounting for OCP effects, the representation of which is notably variable in the OT literature (cf. Pulleyblank (2002)).

References

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[3] I omit the anti-identity constraint for velars in (4) since it is not violated; it is ranked in parallel with *ID-QQ[LAB] above ID-IO[+cons].