

Chamorro Umlaut: An Argument Against Candidate Chains

Aaron Kaplan
 UCLA
 afkaplan@humnet.ucla.edu

AFLA 16, May 1–3, 2009

Chamorro Umlaut

- [-back] spreads from certain prefixes/particles to root-initial vowels. . .

(1)	nána	'mother'	i nána	'the mother'
	gúma?	'house'	i gúma?	'the house'
	cúpa	'cigarettes'	i cúpa	'the cigarettes'
	sóysuj	'village'	i sóysuj	'the village'

- . . . but only if the root-initial vowel is stressed (Chung 1983):

(2)	pulónnun	'trigger fish'	i pulónnun	'the trigger fish'
			*i pilónnun, *i pilénnun	
	mundóygu	'cow's stomach'	i mundóygu	'the cow's stomach'
			*i mindóygu, *i mindéygu	

- Cf. Central Venetan, where [+high] spreads leftward through intervening syllables to reach the stressed syllable (Walker 2008):

(3)	a.	<i>No intervening syllables</i>			
		kal-sé-to	'sock (masc. sg.)'	kal-sí-ti	'sock (masc. pl.)'
		kant-é-se	'sing (1 pl.)'	kant-í-si-mo	'sing (1 pl. impf. subj.)'
	b.	<i>An intervening syllable</i>			
		órdeno	'order (1sg.)'	úrdini	'order (2sg.)'

Why do unstressed vowels seem to block umlaut in Chamorro?

- This property is predicted by Candidate Chains (OT-CC; McCarthy 2006, 2007), but OT-CC cannot account for both Chamorro and Central Venetan.
- A standard OT account of umlaut that takes stress to be the *trigger*, not the *target*, is superior to an OT-CC analysis.

References

Beckman, Jill N. (1999) *Positional Faithfulness*. New York: Garland.
 Chung, Sandra (1983) Transderivational Relationships in Chamorro Phonology. *Language* 59: 35–66.
 McCarthy, John (2006) Restraint of Analysis. In *Wondering at the Natural Fecundity of Things: Essays in Honor of Alan Prince*, Eric Bakovic, Junko Ito, & John McCarthy, eds., 213–239. Santa Cruz, CA: Linguistics Research Center.
 McCarthy, John (2007) Restraint of Analysis. In *Freedom of Analysis*, Sylvia Blaho, Patrik Bye, & Martin Krämer, eds., Berlin: Mouton de Gruyter.
 Steriade, Donca (1995) Underspecification and Markedness. In *Handbook of Phonological Theory*, John Goldsmith, ed., 114–174. Oxford: Blackwell.
 Walker, Rachel (2005) Weak Triggers in Vowel Harmony. *Natural Language and Linguistic Theory* 23: 917–989.
 Walker, Rachel (2008) Gradualness and Fell-Swoop Derivations. Handout from talk presented at the UCSC Alumni Conference, Sept. 13.

Thanks to Junko Ito, Abby Kaplan, Anya Lunden, Armin Mester, and Jaye Padgett for their many helpful comments and questions.

OT-CC & Umlaut

- OT-CC: outputs are produced incrementally, with each step in the derivation evaluated by the constraint ranking. Two requirements:

Gradualness: Chains can only make one change at a time; each step adds just one violation of a “basic” faithfulness constraint.

- Chains for (1) and (2):
 ✓ <i gúma?, i gúma?> (Just one violation of IDENT(back))
 **<i pulónnun, i pilénnun> (Two violations of IDENT in one step)
 ✓ <i pulónnun, i pilónnun, i pilénnun> (One violation of IDENT per step)

Harmonic Improvement (HI): Only spreading in which each spreading step improves the candidate’s violation profile is allowed.

- Attraction to stress (Walker 2005): umlaut may be driven by LICENSE(back):
- LICENSE(back): [back] features must be associated with the stressed syllable.

- <i gúma?, i gúma?> shows HI:

/i gúma?/	LICENSE(back)	IDENT(back)
i gúma?	*!	
☞ i gúma?		*

- But <i pulónnun, i pilónnun, i pilénnun> does not:

/i pulónnun/	LICENSE(back)	IDENT(back)
☞ i pulónnun	*	
i pilónnun	*	*!

Since both chains for /i pulónnun/ → *i pilénnun are blocked by Gradualness and HI, OT-CC correctly predicts that umlaut will occur only with root-initial stress.

⇒ However, the same architecture precludes an analysis of Central Venetan.

- Possible chains:
 **<órdeni, úrdini> ruled out by Gradualness.
 *<órdeni, órdini, úrdini> ruled out by HI.

- Walker (2008): Modify gradualness to allow multiple violations of one faithfulness constraint if the result improves markedness at one locus.
- [+high] can spread to multiple vowels to eliminate a violation of LICENSE.
- But now <i pulónnun, i pilénnun> is a possible chain for Chamorro!

Using LICENSE(back), OT-CC can produce either Chamorro or Central Venetan, but not both.

Classic OT: Stress as Trigger

- Suppose umlaut is only triggered by immediately pretonic prefixes. Why would this be?
 - Prefixes are weak (Steriade 1995, Beckman 1999).
 - Immediately pretonic syllables are weak in Chamorro: clash is tolerated, except that the syllable immediately before primary stress must be unstressed (Chung 1983).
- ⇒ [-back] spreads from a doubly weak position to a stronger position, the root:
- (5) LICENSE-Pretonic: Immediately pretonic [-back] features must be linked to root segments.

- This constraint motivates umlaut in just the right places:

/i gúma?/	LIC-Pretonic	IDENT
i gúma?	*!	
☞ i gúma?		*

/i pulónnun/	LIC-Pretonic	IDENT
☞ i pulónnun		
i pilónnun		*!
i pilénnun		*!*

⇒ Stress is the trigger of umlaut, not the target.

- Central Venetan can still be produced with LICENSE(back).
- These analyses are available to OT-CC, but then candidate chains aren’t doing any work.

Conclusion: Despite appearances, Chamorro umlaut does not argue for OT-CC.

- Standard OT accounts for umlaut. No appeal to HI is necessary.
- Without LICENSE-Pretonic, OT-CC can produce either Chamorro or Central Venetan, but not both. With LICENSE-Pretonic, OT-CC provides no advantage over standard OT.
- ⇒ OT-CC is not necessary to produce (the appearance of) HI. Perhaps other cases that seem to require OT-CC can be analyzed in standard OT with constraints like LICENSE-Pretonic. This result would undermine an important argument for OT-CC.