

Chamorro Umlaut: An Argument Against Candidate Chains

In Chamorro umlaut (Chung 1983, Topping 1968), [-back] spreads from prefixes and particles (henceforth simply “prefixes”) rightward to root-initial syllables; see (1a). Umlaut only occurs if the target syllable is stressed. As (1b) shows, umlaut can neither target initial unstressed syllables nor spread through them to reach the stressed syllable. This seems to require a “reverse” Positional Faithfulness (Beckman 1999) whereby faithfulness to weak positions—but not faithfulness to strong positions—blocks spreading. Since this is the sort of phenomenon that Positional Faithfulness rules out, umlaut is problematic for an analysis couched in that framework.

In contrast, the observed pattern is predicted by the theory of Candidate Chains (OT-CC; McCarthy 2006). OT-CC requires harmonic improvement: each spreading “step” must improve the form with respect to the constraint ranking. If umlaut is attraction to stress (ATS), spreading in (1b) is blocked because the first spreading step, which would target the unstressed root-initial syllable, is not harmonically improving: it adds a Faithfulness violation but doesn’t satisfy the ATS constraint. Umlaut in (1a) is permitted because the lone spreading step satisfies the ATS constraint.

The analysis of umlaut proposed here reconciles standard OT with the apparent weak-vowel blocking by treating umlaut as attraction to the root, not ATS. Umlaut is driven by a Positional Licensing (PL; Walker 2004, 2005, Zoll 1998a,b) constraint that requires certain [-back] features to be associated with a root segment. While previous analyses (Crosswhite 1996, Klein 2000) treat spreading to the root/stress separately from the blocking effects of unstressed syllables, deriving one and stipulating the other, the PL account treats these facts as related. Umlaut occurs only when a prefix is followed by a stressed syllable because such prefixes are in a doubly weak position. Prefixes are morphologically weak, compared to roots: Roots are “prominent positions which license more contrasts than other non-prominent positions” (Urbanczyk 2006:194). Pretonic syllables are also weak in Chamorro. Many types of clash are allowed, but the syllable immediately before primary stress must be unstressed. Perhaps to maximize the prominence of primary stress, Chamorro requires non-prominent pretonic syllables.

Umlaut therefore spreads [-back] from a pretonic prefix, a highly marked position. This is produced with a constraint LICENSE-Pretonic, which requires immediately pretonic [-back] features to be linked to some root segment. I.e., to compensate for weakness due to pretonicity, pretonic features must be in a morphologically strong position. As shown in (2), spreading is necessary with root-initial stress because the pretonic syllable does not belong to the root. In (3), the pretonic syllable is already part of the root, so LICENSE-Pretonic is satisfied without spreading.

Since umlaut isn’t motivated in (1b) under this analysis, the “reverse Positional Faithfulness” problem is solved. The OT-CC analysis is no longer superior to a standard OT analysis grounded in LICENSE-Pretonic. We do not need OT-CC to limit the extent of spreading. Thus OT-CC, for which umlaut at first appeared tailor-made, is rendered superfluous.

Umlaut appears to reflect OT-CC’s harmonic improvement requirement only because in cases where the target and erstwhile trigger are separated, the constraint that motivates umlaut is not violated in the first place. Perhaps the same is true for other similar phenomena: whenever harmonic improvement seems to block a process, this is because the impetus for performing the operation is already satisfied. Together with other problematic cases for OT-CC (such as metaphony in Central Venetan (Walker 2005, 2008), where ATS spreading *does* spread through intervening syllables and thereby violates harmonic improvement), this result suggests that OT-CC is not superior to standard OT.

- (1) a. gúma? ‘house’ i gíma? ‘the house’
 tómo ‘knee’ i témo ‘the knee’
- b. pulónnun ‘trigger fish’ i pulónnun ‘the trigger fish’ *i pilónnun, *i pilénnun

(2)

/i gúma?/	LICENSE-Pretonic	IDENT(back)
a. i gúma?	*!	
☞ b. i gíma?		*

(3)

/i pulónnun/	LICENSE-Pretonic	IDENT(back)
☞ a. i pulónnun		
b. i pilónnun		*!
c. i pilénnun		*!*

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