

Phonology without morphology: A parallel account of Turoyo verb structure

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Introduction: One topic of debate among morpho-phonologists is the structure of the interfaces between the two moduli, particularly with regards to the phenomenon of suppletive allomorphy. Proponents of Optimality Theory (Prince and Smolensky, 1993) and some of its later versions argue that morphological well-formedness and phonological well-formedness are evaluated in parallel. In this view, allomorph selection takes into account phonological restrictions. Approaches based on Distributed Morphology (Halle and Marantz, 1993) and “subcategorization” (Paster, 2006), on the other hand, view morphology as separate from and prior to phonology. In this view, allomorph selection is oblivious to the phonological restrictions of the language. In her seminal paper, Kalin (2020) argues for the latter view, providing evidence from Turoyo finite verb structure, where some agreement morphemes exhibit phonologically-conditioned suppletive allomorphy (PCSA) that is anti-optimizing and surface opaque (i.e, allomorph selection is conditioned by the underlying form creating an illicit structure which is then optimized by the phonology). While PCSA is required for some languages (Bonet et al., 2007), many see it as “last resort”, where only alternations that cannot stem from a single underlier constitute PCSA (Scheer, 2016).

Claim: In this paper, I re-examine the facts of Turoyo verbal agreement morphemes morphemes and argue that the surface forms of these morphemes are not a result of suppletive allomorphy. Rather, all surface alternations are governed by the phonology and stem from the presence of ghost features. Hence, the data from Turoyo do not provide support for either view on the morphology-phonology interface. In addition, I show that Gradient Symbolic Representations (GSR; Smolensky and Goldrick, 2016; Zimmermann, 2019) allow us to account for alternations that resemble instances of non-optimizing PCSA within phonology by enriching the representations, thereby simplifying both morphology and the morphology-phonology interface.

Data: In Turoyo¹ (Neo-Aramaic), verbal agreement is expressed by suffixation giving the structure Verb-B-S-L, where B and S are morphemes that encode the φ -features on one argument, and L encodes the φ -features of the second argument. The L morpheme, decomposed into L + agreement marker, can surface as *l* (1ab), *n* (1cd), or as a copy of the preceding consonant (1e). In Kalin (2020), these are suppletive allomorphs whose selection is determined by both the number specification of the preceding S morpheme and the phonological environment.

(1)	a.	/zbt̚	-i	-ut(u)	-l-e/	[zəbt̚útle]	(=elsewhere)
		catch	BPL	S2PL	L-3.MS.SG	‘you catch him’	
	b.	/zbt̚	-∅	-et	-l-e/	[zəbt̚ót̚le]	
		catch	BMS.SG	S2.SG	L-3.MS.SG	‘you _{MS.SG} catch him’	
	c.	/zbt̚	-i	-ut(u)	-n-xu/	[zəbt̚út̚n̚xu]	(=n after PL and before C)
		catch	BPL	S2PL	L-2.PL	‘you catch yourselves’	
	d.	/zbt̚	-i	-ut(u)	-n-Ce/	[zəbt̚út̚ne]	
		catch	BPL	S2.PL	L-3.PL	‘you _{PL} catch them’	
	e.	/zbt̚	-∅	-et	-C-Ce/	[zəbt̚ót̚te]	(=C before C)
		catch	BMS.SG	S2SG	L-3.PL	‘you catch them’	

¹Additional data come from Jastrow (1985).

Analysis: I argue that the L-allomorphy is not a case of suppletion, but a result of the regular phonology of the language, which can be accounted for with a representational contrast, such as allowed within the framework of Gradient Harmonic Grammar (Legendre et al., 1990; Smolensky and Goldrick, 2016), employing segmental activity between 0-1. A careful examination of the data reveals that the *n* variant of the L morpheme surfaces when the L is both preceded and followed by a small set of morphemes, all of which contained a nasal segment diachronically. I claim that these morphemes contain weakly active floating nasal features. The L morpheme is represented as a sonorant with a [+lateral] feature, which is also weakly active and, hence, prone to deletion. The relevant morphemes are represented in (2) using GSR. Subscripted features are associated and superscripted features are floating.

(2)		PLURAL			SINGULAR					
		1	2	3	1		2		3	
					MS	FM	MS	FM	MS	FM
	L (=C _{[+son],[+lat]_{0.5}})	L-an	L-xu ^{[+n]_{0.5}}	L-Ce ^{[+n]_{0.5}}	L-i	L-i	L-ex	L-ax	L-e	L-a
	S	na ^{[+n]_{0.5}}	utu ^{[+n]_{0.5}}	∅ ^{[+n]_{0.5}}	no ^{[+n]_{0.5}}		et		∅	

The third L-allomorph proposed by Kalin (2020), (1e), is always in the middle of a triconsonantal cluster, and hence, never makes it to the surface. When only one morpheme introduces a weak nasal feature, the L retains its underlying lateral feature, since deletion of a floating feature only violates MAX_F which penalizes feature deletion (3b). Realizing the nasal feature would result in an additional violation of MAX_A which penalizes deletion of association lines (3c), leading to a higher harmony score. When the L is surrounded by two such features, they coalesce, resulting in a surface *n* and a deletion of the weak [+lateral] feature (4c), incurring a 0.5 violation of MAX_F and a violation of MAX_A. Retaining the lateral feature would result in a full violation of MAX_F (4b), leading to a higher harmony score. The tableaux illustrate that L-allomorphy is, in fact, optimizing and non-opaque.

Input = a.	∞ *FLOAT	9 MAX _F	3 MAX _A	HS
3a. B S L agr zbt-∅-utu-l-e	1			∞
3b. B S L agr zbt-∅-utu-l-e		0.5		4.5
3c. B S L agr zbt-∅-utu-n-e		0.5	1	7.5

Input = a.	∞ *FLOAT	9 MAX _F	3 MAX _A	HS
4a. B S L agr zbt-∅-utu-l-xu	2			∞
4b. B S L agr zbt-∅-utu-l-xu		1		9
4c. B S L agr zbt-∅-utu-n-xu		0.5	1	7.5

Selected References: Jastrow, O. (1985). Laut- und Formenlehre des neuaramaischen Dialekts von Midin im Tur 'Abdin. Harrassowitz, Wiesbaden, 3 edition. Kalin, L. (2020). Morphology before phonology: A case study of turoyo (neo-aramaic). Morphology, 30. Smolensky, P. and Goldrick, M. (2016). Gradient symbolic representations in grammar: The case of french liaison. Ms., Johns Hopkins University and Northwestern University. ROA 1286.