Locality Requirements in Reduplication: SYLLABLEPROXIMITY-BR

Overview: Many languages show patterns of order-disrupting reduplication, in which the expected linear order of elements in the reduplicated form is disrupted by an occurrence of the copied element. For example, Pima (Riggle 2006) features such a pattern: in (1), the expected string [mavit] is not faithfully expressed in the reduplicative output, as the second occurrence of [m] disrupts this linear order.

1) [ma.vit] 'lion (sg.)' -> [**m**a**m**.vit] 'lion (pl.)'

These patterns violate constraints that demand faithfulness to the input ordering of elements, such as LINEARITY and CONTIGUITY; any account of order-disrupting reduplication must provide some higher-ranked constraint to motivate this violation. I propose that these patterns are driven by a SYLLABLE-PROXIMITY constraint on the Base and Reduplicant (henceforth SYLLPROX-BR), which requires elements in correspondence to be dominated by the same syllable. This constraint drives the elements to be rearranged so that the corresponding elements fit into one syllable.

Case Study—Saisiyat: I illustrate this account of order-disrupting reduplication with data from the Austronesian language Saisiyat (Taiwan). Progressive Reduplication in Saisiyat (personal fieldwork; Zeitoun and Wu, forthcoming) occurs with the Agent Focus (AF) infix [om]. The initial consonant of the root is copied and infixed into the AF morpheme so that it occupies the coda of the first syllable, separating the [o] of the AF morpheme from the [m] (2-3).

2) [k-o.m-a:.at] 'write-AF' -> [**k**-o-**k**-.m-a:.at] 'be writing-AF'

3) [s-o.m-i.ʔæl] 'eat-AF' -> [**s**-o-**s**-.m-i.ʔæl] 'be eating-AF'

I propose that this pattern of reduplication is driven by a constraint demanding that corresponding elements be in the same syllable. I formalize this constraint as SYLLPROX-BR:

4) SYLLPROX-BR: Assign a violation mark for any element in the Reduplicant that is not dominated by the same syllable node as its correspondent in the Base.

SYLLPROX-BR can force both corresponding instances of C_1 to occur in the same syllable. I account for the Saisiyat pattern by ranking SYLLPROX-BR over O-CONTIGUITY.

5) O-CONTIGUITY: The portion of S_2 (e.g., the Base corresponding to the input root) standing in correspondence forms a contiguous string (McCarthy and Prince 1995)

The attested form [**k**-o-**k**-.m-a:.at] has two loci of violation of O-CONTIGUITY: one for splitting the root [ka:at] and one for splitting the AF morpheme [om]. Ranking SYLLPROX-BR over O-CONTIGUITY eliminates challengers that do not violate the latter at all (e.g., [**k**-om-.**k**a:.at]) or violate it less by copying more material (e.g., [**k**o-.**k**-o.m-a:.at]). SYLLPROX-BR must also dominate BR-MAX to eliminate the latter.

Table 1. Order-disrupting Reduplication: SYLLPROX-BR >> O-CONTIGUITY, BR-MAX

/RED,om,ka:at/	SYLLPROX-BR	O-CONTIGUITY	BR-MAX
-> **k**-o-**k**-.m-a:.at		**	oma:at
k-om-.**k**a:.at	*!		oma:at
ko-.**k**-o.m-a:.at	*!	*	ma:at

No other single constraint favors the attested form over the challengers. The candidates [**k**-om-.**k**a:.at] and [**k**-o-**k**-.m-a:.at] are identical prosodically, so an economy constraint such as *SYLL (Zoll 1994), which penalizes every syllable, cannot decide between them. The corresponding [k]s in [**k**o-.**k**-o.ma:.at] and in [**k**-o-**k**-.m-a:.at] are both the same distance from each other, so a string-based locality constraint, such as LOCALITY (Nelson 2003), cannot decide between them. Because SYLLPROX-BR penalizes candidates where the corresponding [k]s are in different syllables, it eliminates both challengers at once.

Theoretical Discussion: The Saisiyat data can also be accounted for by a combination of a string-based locality constraint, such as LOCALITY (Nelson 2003), to favor [**k**-o-**k**-m-a:at] over [**k**-om-**k**a:at], and an economy constraint, such as *SYLL (Zoll 1994), to favor [**k**-o-**k**-m-a:at] over [**k**o-**k**-om-a:at]. Riggle (2006) uses such a combination to account for a similar pattern in Pima. LOCALITY demands that no non-reduplicant material intervene between elements in correspondence, forcing elements in the Reduplicant to be as close as possible to their Base correspondents. *SYLL encourages minimality by penalizing syllables, and can thus force order-disruption to keep Reduplicants from adding a syllable.

However, in addition to the general liabilities of economy constraints shown in Gouskova (2003), LOCALITY and *SYLL together predict an unattested pattern of order-disrupting reduplication. Assuming *SYLL dominates order-preserving constraints in order to generate order-disruption, when a Positional Markedness constraint, e.g. SON-CODA, is dominated by *SYLL but in turn dominates LOCALITY, the nearest sonorant is copied into the coda of the target syllable, no matter how far away that sonorant is (e.g., [ba-**n**-digu**n**] in Table 3). If there are no sonorants at all in the word, then the closest obstruent is copied (e.g., [ba-**d**-**d**igus]). In this pattern, there is no consistent source of copying: the Reduplicant can copy a sonorant arbitrarily far away, but else defaults to the closest segment.

Table 2. Inconsistent source of copy: *SYLL >> SON-CODA >> LOCALITY

Input	Winner	Challengers	*SYLL	SON-CODA	LOCALITY
/RED,badigun/	ba-**n**-digu**n**	ba-**d**-**d**igun		W	L
		ba-**ba**digun	W		L
/RED,badigus/	ba-**d**-**d**igus	ba-**s**-digu**s**			W
		ba-**ba**digus	W	L	

The SYLLPROX-BR account does not predict this pattern, because an output like [ba-**n**-digu**n**], which violates both SYLLPROX-BR and order-preserving constraints, is harmonically bounded by [**ba**-**ba**digun], which only violates SYLLPROX-BR. Either SYLLPROX-BR is obeyed, generating, e.g., [**b**a-**b**-digun], or it is violated, generating, e.g., [**ba**-**ba**digun]. Therefore an account of order-disrupting reduplication using SYLLPROX-BR is not only more parsimonious but typologically more restrictive than an account using string-based locality and economy constraints together. Further research can examine whether SYLLPROX-BR can be extended to account for minimality effects in order-preserving reduplication, or restrictions on the scope of long-distance consonant harmony in the Agreement-by-Correspondence framework (Rose and Walker 2004).

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