Lookahead Effect in Reduplication: Serial vs. Parallel OT

**INTRODUCTION** McCarthy, Kimper, and Mullin 2012 (MKM hereafter) constructs a theory of reduplication called Serial Template Satisfaction (STS) within Harmonic Serialism (HS), a derivational framework of Optimality Theory. In STS, the candidate-generating GEN component is restricted to making one change (one operation) in each derivational step. Thus, STS predicts that the lookahead effect, a pattern in which the amount of material copied depends on the availability of post-reduplication phonology, is impossible in reduplication. By contrast, lookahead effect is predicted by BR-correspondence theory in parallel OT (P-OT) due to parallel evaluation. This paper brings a case of Mbe imperative reduplication to bear on this issue, and shows that the Mbe data instantiates the lookahead effect. The pattern is accounted for with a P-OT analysis (cf. Walker 2000), but cannot be captured by STS under MKM’s formulation. An alternative is attempted with an amendment to the template shape, but the modification requires inconsistent evaluation of two size-restricting constraints. Collectively, the attested lookahead effect questions the viability of a derivational approach to some complex reduplication phenomena.

**The Lookahead Pattern** MKM illustrates the lookahead effect with a hypothetical case. Suppose that a language allows a coda only if it is a nasal with its place linked to the following onset consonant (CODA-COND). In reduplication, there is a hypothetical pattern in which the reduplicant is of CV shape in (1a), but CVC in (1b) where a nasal is copied and assimilated.

(1) Lookahead effect: assimilation-dependent copying (Adapted from MKM, (61), pp. 213)

<table>
<thead>
<tr>
<th>( \rightarrow )</th>
<th>CODA-COND</th>
<th>MAX-BR</th>
<th>IDENT-BR-PL</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. pa.ta</td>
<td>pa-pa.ta</td>
<td>*pat-pa.ta due to CODA-COND</td>
<td></td>
</tr>
<tr>
<td>b. pa-na</td>
<td>pam-pa-na</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notice that [pap-pa.ta] should also be impossible in this hypothetical case as geminate or oral coda is banned. This pattern of assimilation-dependent copying is modeled under the constraint ranking in P-OT in (2): reduplication and place assimilation proceed in parallel.

Because STS requires one operation per step, there is a paradox concerning the copy operation and the feature-changing operation: the nasal cannot be copied unless it is place-assimilated but it cannot assimilate until it has been copied; copying and assimilation cannot apply in the same step. MKM reanalyzes the reduplication of Southern Paiute, which is recruited as an instantiation of the pattern in (1) to argue for P-OT (McCarthy 2002: 144-145). MKM concludes that Southern Paiute is actually not an instance of the lookahead effect in (1).

**Mbe Data** The imperative reduplication in Mbe (Benue-Congo; Bamgboše 1967, 1971, Walker 2000) is an instance of the lookahead pattern. In the imperative reduplication in Mbe, when the stem contains only oral consonant(s), the reduplicant is of CV shape without copying the onset of the second syllable into the coda position (3a-d). The presence of a nasal in the stem triggers the occurrence of a nasal coda in the reduplicant with its place linked to the following onset (3e-h).
The following two tableaux demonstrate that the same ranking as in (2) is exactly what we need to account for the Mbe imperative reduplication.

Contrarily, STS cannot fully account for the Mbe imperative reduplication. Assume a σ-template for the reduplicative prefix; copying CV or CVC satisfies this template. STS can derive the case where the stem contains no nasal. Crucially, with stepwise derivation, STS cannot device a path for the output \{\text{pum-pu\-ni}\}, based on the input \{\text{RED}_n+pu\-ni\} with a nasal in the stem. In Step 1 below, H_d(σ) is satisfied by segment copying. In the current step, GEN can only apply the Copy(seg) operation. Any other operation, feature changing in this case, cannot be applied simultaneously; this is exactly the paradox depicted above.

I consider a Copy + Deletion alternative within the STS framework. In Step 1, some high-ranked constraint needs to trigger the copying of the second syllable that contains the nasal. I assume that the reduplicative prefix has a ft template, and FtBIN(σ) demands that the whole stem to be copied into the template. For instance, with the input \{\text{RED}_n+pu\-ni\}, Ft-BIN(σ) can only be satisfied by copying the whole stem, even though copying the first syllable [pu\-ni] with a diphthong satisfies foot binarity on the moraic level. In the following step, the size of the prefix in the intermediate output /pu\-ni-pu\-ni/ needs to be reduced to one syllable and the nasal place-assimilated to the following onset. I employ the constraint AFFIX≤σ to reduce the size of the prefix. AFFIX≤σ enforces the deletion of the nucleus in the second syllable, and the onset consonant is resyllabified as coda. However, the intermediate output /pu\-ni-pu\-ni/ violates the top-ranked FtBIN(σ). Therefore, empirically, there seems to be a ranking paradox between FtBIN(σ) and AFFIX≤σ. Furthermore, conceptually, the constraint AFFIX≤σ raises the question why the reduplicative prefix is specified with a ft template in the lexicon.

**CONCLUSION** The lookahead effect is attested in Mbe imperative reduplication and STS fails to provide a derivational path for the desired output. This challenges the viability of STS formulated in MKM and provides argument in favor of P-OT.

**SELECTED REFERENCES:**