Blurring the line between duplication and reduplication
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It is a current issue in prosodic morphology to distinguish between morphological reduplication and emergent, phonological duplication. (See, e.g., Elfner & Kimper 2008; Inkelas 2005, 2008, 2014; Inkelas & Zoll 2005; Saba-Kirchner 2013; Yu 2004, 2005.) A classic case illustrating how hard it is to draw the line between the two approaches is the gerundive construction of Yoruba, which contains a fixed (unmarked) [high, front] vowel and a fixed (marked) High tone: e.g., *là* 'split' *lí-là* 'splitting'. While the copied consonant in the gerundive prefix is motivated by morphological reduplication in work like Alderete et al. (1999) and Pulleyblank (1988), as Orie (1997:58; also Inkelas & Zoll 2005; Kawu 2002; Pulleyblank 2009; Yu 2005) argues, consonant copy could just as plausibly be phonologically motivated. Onsetless High-toned syllables do not occur in Yoruba. Consonant copy is the optimal way to provide an onset to the gerundive prefix, *–í*. As Downing (2006) and Downing & Inkelas (2015) point out, though, a problem with a purely phonological account of the Yoruba gerundive pattern is that it does not extend to cognate constructions in closely related languages, where consonant copy is accompanied by tonal reduction in vowel of the gerundive prefix: e.g., Nupe *bé* 'come' *bi-bé* 'coming' (Kawu 2002). There is no obvious phonological motivation for consonant copy in Nupe, so is this the best analysis of Yoruba?

    This talk presents another case where segment copy can be analyzed equally well as resulting from morphological reduplication or phonological duplication. What makes the case of particular interest is that the copied string has a fixed disyllabic shape, challenging Inkelas's (2008) and Yu's (2005) proposal that phonologically-motivated duplication should be limited to copying a single segment or a syllable rime.

    The data come from nominal (re)duplication in Chichewa, previously analysed by Kanerva (1990), Moto (1989), Mtenje (1988) and Myers & Carlton (1996). As shown in (1), the copied string (double-underlined) follows the Base, is exactly disyllabic, and contains a fixed High tone (exs. d, e, f); the underlying position of High tones in the Base is underlined:
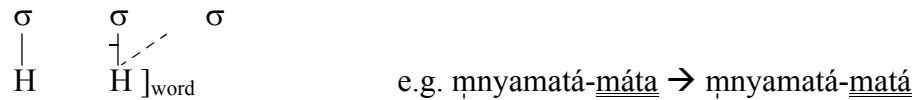
(1) | *Base* | *Reduplicated form* | *Gloss* |
| --- | --- | --- |
| a. | mw-aáná | mwaná-mwááná | 'child; a real/good child' |
| b. | ma-saáná | masaná-sááná | 'afternoon; a real/good afternoon' |
| c. | m̩-nyamaátá | m̩nyamatá-máátá | 'boy; a real/good boy' |
| d. | c-uulu | culu-cúulu | 'anthill; a real anthill' |
| e. | ci-ganiizo | ci-ganizo-níizo | 'sentence; a real/good sentence' |
| f. | ci-khulupuliilo | ci-khulupulilo-líilo | 'hope; a real hope' |
| g. | ci-tsíilu | citsílú-tsiílú | 'fool; a real fool' |
| h. | ci-gawéenga | cigawéngá-weéngá | 'terrorist; a real terrorist' |

The analysis would appear to be straightforward. The disyllabic shape could be defined as a Foot (Kanerva 1990) or a minimal/canonical Prosodic Word (Myers & Carleton 1996). High tones as well as segments are copied from the Base to fill out the disyllabic shape.
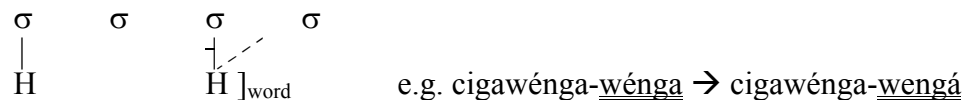
    The problem for any analysis lies in trying to account for the fact that the copied string not only has a High tone whether the Base does or not; in addition, the position of the fixed High tone is variable. It occurs on the final syllable of the copy if the Base contains a High tone, and on the initial syllable of the copy if the Base is toneless. Myers & Carleton's (M&C) proposal is that the RED morpheme includes a floating High tone in its lexical specification: [RED, H]. The RED High tone optimally aligns with the left edge of the RED's Prosodic Word (PWord): i.e., with the initial syllable of the copy. If the Base contains a High tone, then the reduplicative High tone associates with the final syllable instead, because associating with the penult would violate OCP-motivated TONE SHIFT constraints. As Kanerva (1990) M&C, and Hyman & Mtenje (1999) argue in some detail, TONE SHIFT applies, in some

morphological contexts, to High tones on adjacent syllables (2) or to High tones separated from each other by one syllable (3), with the result that a High tone that is expected to surface on the penult surfaces on the final syllable instead:

(2) LOCAL TONE SHIFT (Hyman & Mtenje 1999b: 100)

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σ        σ        σ
|        |,´´
H        H ]word          e.g. m̥nyamatá-máta → m̥nyamatá-matá
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(3) NON-LOCAL TONE SHIFT (Hyman & Mtenje 1999b: 100)

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σ        σ        σ        σ
|                 |,´´
H                 H ]word          e.g. cigawénga-wénga → cigawénga-wengá
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(Other tonal processes account for the additional High-toned syllables in the reduplicated forms. The constraints in (2) and (3) are formalized as rules merely for clarity of exposition.)

M&C's elegant account has **a fatal flaw**: TONE SHIFT does not apply if the two High tones are separated by a PWord boundary (Kanerva 1990). If the RED morpheme is a PWord, distinct from that of its Base, TONE SHIFT does not account for the variable position of the RED High tone. If RED is not a minimal/canonical PWord, though, what general principle accounts for its fixed disyllabic shape?

What I propose is that in this construction, as in the Yoruba gerundive, apparent morphological reduplication can be reconceived as phonologically-motivated segment duplication. As in Yoruba, the motivation for copy is to provide an optimal segmental host for an affixal High tone. That is, the input specification for *cigawéngá-weéngá* 'terrorist; a real terrorist', for example, is simply the Base plus a floating High tone suffix: *cigawénga*, H. The floating High tone cannot associate with the final syllable of the Base, because that would violate the OCP. Furthermore, associating a suffixal High tone with its base would violate a constraint optimizing perfect alignment between morphemes and syllables: the MORPHEME-SYLLABLE CORRELATION (Downing 2006:120). This constraint is violated if there is no syllable boundary separating the base (underlined) and the suffixal High toned syllable (bolded): **cigawéngá*. The High-toned suffix can be realized on a distinct syllable from its base if segments are copied to support the High tone. Copying just one syllable, however, violates the OCP configuration in (3): **cigawénga-gá*. Copying two syllables is therefore optimal: *cigawénga-wengá*. A similar analysis clearly holds for **mnyamatá-tá*; *mnyamatá-matá*. Copying only one syllable violates the OCP; copying two syllables satisfies the configuration in (2). An apparent problem is why two syllables are copied in the case of a toneless base, where the OCP does not optimize copying more than one syllable: e.g., *ciganizo-nízo* 'sentence; a real/good sentence'. What is wrong with *ciganizo-zó*? As we can see (most easily) from the non-reduplicative data in (1), High tones associated with final syllables are also realized on the penult mora of a lengthened penult syllable when a word is in phrase-final position. In a monosyllabic copy, the suffixal High tone would also be realized on the final syllable of the Base (e.g., *ciganizoó-zó*), in violation of the MORPHEME-SYLLABLE CORRELATION. In a disyllabic copy, the suffixal High tone is realized entirely within the suffix: *ciganizo-nízo*.

To sum up, fixed High tone in the copied string in Chichewa, as in Yoruba, makes the analysis of segmental copy ambiguous. Is segmental copy best motivated by a reduplicative morpheme or by the need to provide phonologically optimal segmental support for the realization of the affixal High tone? More work on the realization of tone in (re)duplicative contexts is clearly needed to reach a better understanding of how one draws the line between morphological reduplication and phonological duplication.