REDUPLICATIVE IDENTITY IN ÌZHIÌ

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Abstract
The principles governing reduplication have been subjected to renewed scrutiny within Optimality Theory. Different languages have provided empirical domain for such investigation with the revelation that while certain principles of reduplicative phenomenon hold across languages, certain properties hold only in specific languages. Under this current impetus, this paper examines the reduplicative identity in Ìzhiì, a dialect of Ìgbo language spoken in the south-eastern part of Nigeria. The model of identity examined in this study is based on McCarthy and Prince's (1995, 1999) Correspondence Theory, a sub-theory of the Optimality theory, which proposes that correspondence is a relation that holds between two strings, encompassing the pairing of input to output, as well as the pairing between a reduplicant and its base. Though, reduplication ideally requires perfect identity between base and reduplicant on one hand, and between Input and output on the other, perfect identity is not always attained due to some templatic requirements and the constraint interactions in the language.

1.0 Introduction

As Spaelti (1999: 12-13) points out, certain aspects of reduplication have been the focus of much work in phonological theory: the mechanics by which identity between the two strings is achieved (Wilbur 1973, Carrier 1979, McCarthy 1979, Marantz 1982, Mester 1986, Steriade 1988, McCarthy & Prince 1993, 1994ab, among many others), the range of possible shapes of the part that is identical (McCarthy & Prince 1986, 1994b), and the forces constraining possible deviations from identity (Wilbur 1973, Steriade 1988, McCarthy & Prince 1995). All of these, in principle, converge in the view that a variety of segmental identity exists and that, according to Urbanczk 2007:473, reduplication may result in an identical copy of the base or not.

In the most unremarkable case, according to Urbanczyk, phonological alternations produce a reduplicated word that is entirely consistent with regular phonological patterns of the language, warranting nothing extra to account for the surface pattern. This is, however, not always the case. There are cases in which an alternation unexpectedly applies (or not) such that no phonological explanation can be adduced. A number of theories have been propounded in an attempt to account for this exceptional application of phonological alternation, and to generally explain segmental identity or otherwise between base/input and RED/output forms.

The most direct way to ensure identity between two segments is to have a link between them in the input form, which according to Urbanczyk (2007:475) is the insight behind Wilbur's (1973) *Mate Relation* and McCarthy and Prince's (1995, 1999) *Correspondence Theory.* McCarthy and Prince's Correspondence Theory proposes that correspondence is a relation that holds between two strings, encompassing the pairing of input to output, as well as the pairing between a reduplicant and its base (Urbanczyk, 2007).

In OT, therefore, candidate outputs are generated with their accompanying correspondence relations. According to Urbanczyk (2007: 476), faithfulness constraints evaluate the identity of strings that stand in correspondence. For reduplication, there are both I(nput)-O(utput)-FAITH and B(ase)-R(eduplicant)-FAITH constraints. Evaluation for faithfulness between base and reduplicant considers such properties as whether the reduplicant begins or ends like its base, whether it reflects the same linear order as the base, whether it contains materials not in the base, and whether it includes everything in the base. These faithfulness constraints, according to her, interact with markedness constraints (which evaluate each candidate output for its relative markedness). McCarthy and Prince, as noted Urbanczyk, have shown that by permuting IO-FAITH and BR-FAITH constraints with markedness, they are able to successfully derive the range of segmental identity conditions found in reduplication (otherwise known as factorial typology). We seek to account for segmental identity of Ìzhiì by exploring some of the phenomena identified as possible influence on segmental identity, such as Wilbur's (1973) *over/under-application,* McCarthy and Prince's (1994) *emergence of the unmarked, fixed segmentism* (Yip,1992), *default segmentism* and *melodic segmentism* (Alderete, et al, 1999).

2.0. Correspondence Relation

Anatomically, a reduplicated form always has two parts. Sometimes, the two parts are completely identical; sometimes they are not. When the two parts, both consist of identical sequence as in (1), it is impossible to tell which part is the original and which is copy, or even to argue convincingly that one part is original for that matter.

1.	[RED](S_2)	Base (S_1)[1]	Reduplicated form	
a.	Kpụrụ	kpụrụ	kpụrụkpụrụ	(nutty)
b.	biri	biri	bìrìbìrì	(surprise, wonderful)
c.	nnà	nnà	nnànnà	(father, *vocative form*)

Examples like (1a-c) make Inkelas and Zoll (2000) to argue in their Morphological Doubling Theory (MDT) that reduplication is purely morphological and not the result of phonological copying as many hold. They hold that reduplication is the situation in which a construction calls twice for the same morphosyntactic unit. As such, there is no intrinsic asymmetry between reduplicant and base, nor is there any phonological correspondence between them. According to them, therefore, the parts referred to as RED and BASE are simply two copies in the reduplicative construction. This is just the core idea behind the MDT; we will not delve into the practical details here. Although, MDT has its merits, we

will depart from it. We found the Correspondence Theory more explanatory adequate, hence its adoption in this work.

1. Our designation of the two parts of the reduplicated forms as base and reduplicant in (1) is simply for descriptive convenience since full reduplication of idiophonic stems such as 1(a-b) above grant no means of determining its direction.

Correspondence is a relation pairing up strings of various types. McCarthy and Prince 1995; (cf. Urbanczyk 2000) define it formally as follows:

2. Given two strings S_1 and S_2, related to one another by some linguistic process, *correspondence* is a function *f* from any subset of elements of S_1 to S_2. Any element α of S_1 and any element of β of S_2 are *correspondents* of one another if α is the image of β under correspondence; that is $\alpha = f(\beta)$.

Gen, we have noted, is unrestricted in the number and shape of string it can supply as reduplicants. However, identity between base and reduplicant is evaluated by a number of constraints, which, according to Urbanczyk (2000: 504), ensures goodness of correspondence. In this evaluation, MAX and DEP are very key as the former (MAX) ensures total copy and the latter (DEP) bars all non-base material.

Following from the above, the explanation that can be given to cases of total reduplication is that when MAX and DEP are totally obeyed, reduplication is total/full. Partial reduplication is violation of MAX under compulsion of some higher ranked constraint(s) (Urbanczyk, 2000). Spaelti (1999:24) outline two sets of faithfulness constraints that ensure reduplication wellformedness. The first is that which ensure that the segmental content is copied; he referred to this as *substance constraints.* They include

3. MAX-BR

   Every element in *B* has a correspondence in *R*
   'copy every segment in the base'

   DEP-BR

   Every element in *R* has a correspondence in *B*
   'only copied segments in the reduplicant'

   IDENT(F)-BR

   Corresponding elements in *B* and *R* have identical value for F.

MAX bars deletion of segments; DEP prohibits insertion whereas IDENT prohibits change of features. These constraints are indications of OT's acknowledgment of the recognition in phonology that, according to Spaelti (1999:22), there are a number of different ways to alter a form, usually at least, deletion of segment, insertion of segment and featural change.

This set of constraints (3) could be satisfied and yet a total correspondence not achieved due to illicit organisation of segmental material. To ensure that the organisation of the segmental materials is maintained, McCarthy and Prince (1994ab, 1995) propose another set of three constraints which Spaelti refers to as *organisation constraints.*

4. ANCHOR(LEFT/RIGHT)-BR

   The right most elements in *R* correspond to the leftmost elements in *B*

   CONTIGUITY-BR

   Adjacent elements in *R* corresponds to adjacent elements in *B*

   LINEARITY-BR

   The linear order of elements in *R* is identical to the linear order of their corresponding elements in *B*

Anchor, which comes in two varieties – one for each edge – is meant to ensure that copying begins at the edge of the base. Contiguity ensures that copying does not skip segment, while linearity guarantees that linear order is preserve – bars metathesis. This implies that such perfect match between base and reduplicant as in (1a-c) is not a product of no-constraint/conflict situation but rather a result of perfect satisfaction of all the sets of constraints outlined above. To illustrate this, let us propose the constraint ranking as

5. FAITH(*Substance constraints/ Organisation*)>>MARKEDNESS constraints.
6. **Tableau**

Input: bìrì+RED	**MAX-BR**	**DEP-BR**	**IDENT(F)-BR**	**ANCHOR(L/R)-BR**	**CONT-BR**	**LIN-BR**
a. bìbìrì	***!***			*		
b. bìrìbì		***!***		*		
c. bìrìrì		***!***		*		
☞ **d. bìrìbìrì**						
e. bìrbìrì	***!**			*		
f. rìbìrìbì				***!**		*

Candidate (d) emerged the most optimal in (6) having satisfied all the FATH constraints stipulated. Note how the rest having violated at least one of the constraints crashed out of the competition. This proves that violation of any of these sets of constraints cannot yield a reduplicated form that bears perfect identity between base and reduplicant.

The two parts of reduplicated forms do not always consist of identical segmental sequence or features. The parts do differ from each other in some respects. Once this is the case, it means that certain markedness constraint has topped, at least, one faithfulness constraint in ranking order.

The defining hallmark of the process of reduplication is that the base and the reduplicated portion (RED) of the word should have identical pronunciations (Wilbur 1973; cf Downing, 2002). However, in some cases, reduplication may bear perfect segmental identity but tonally mismatched. Researchers in the field have offered some explanations for this (Akinlabi 1997, Alderete 1999, Downing 2002, Kaplan 2006, and many others, Mbah 2008). This situation also obtains in Izhi reduplication as in

7. ne(nē) nenē (mother – *vocative form*)

About this, Okorji and Nwankwegu (2009) have argued that tonal mismatch in reduplication is simply a product of interaction between various FAITH constraints and Markedness constraints, particularly, TONOTACTIC, which is active in the language/dialect. (For a comprehensive outline of the tontactics (tone rules) in Ìgbo, see Emenanjo,1978; Mbah 2008). The root 'ne' bears inherent high tone, but the reduplicant is step-tone. It should be recalled that in order to ensure perfect copying of the base, reduplication has its own set of faithfulness constraints (FAITH-BR). But in order that they do not override the effect of tonotactic, they must be ranked below the tonotactic constraint(s). There is also this faithfulness constraint that seeks to ensure identity of form between input and output, FAITH-IO. The general ranking schema is

8. FAITH-IO >> TONOTACTIC[2]
   (Spaelti 1999)

The above ranking schema means that the tonotactic is inactive in the language. However, as (Spaelti 1999) has argued, the reduplicative morpheme RED cannot have an underlying form, since it is realized differently in every context. If it does not have an underlying form, it does not have anything to be faithful to, and can thus not be subject to Faith-IO (Spaelti's LS equals our IO here). But this means that no matter what its realization, it will not violate Faith-IO and if Faith-IO is never violated, then Faith-IO cannot force violation of the tonotactic (phonotactic) constraint in (8). In turn, this will mean that only structures which do not violate the phonotactic can be realized. Thus, the tonotactic in (8), which is normally inactive in the language, suddenly becomes active – makes its presence felt in reduplication contexts. This led to the following general schema for Emergence of the unmarked (McCarthy and Prince 1993, cf Spaelti 1999):

9. FAITH-IO >> TONOTACTIC >> FAITH-BR

Let us see the effect of this ranking in the following example:

Tableau 10

Input: ne+RED	**Faith-IO**	**Tonotactic**	**Faith-BR**

	(a)	**ne-<u>ne</u>**		***!**	
	(b)	**nè-<u>nè</u>**	***!**	*	
☞	**(c)**	**ne-nē**			*
	(d)	**n- nē**	***!**		*

The emergence of candidate (c) as the winner follows from its satisfying of the first two constraints, which are of higher ranking; it only violated Faith-BR. Candidate (a) crashed out under tonotactic because in Ìzhiì, disyllabic nouns of CVCV structure do not take high tone in

2. Note that we are taking tonotactic to be a member of the phonotactic set in a finer grained analysis. Spaelti used phonotactic in place of our tonotactic here.

the final syllable (though, such nouns are rare in the dialect – the few found are mostly borrowed: e.g. *motō* (motor); *barō* (wheel-barrow), *rizọ̄* (razor blade)). Apart from candidate (c), all others incurred fatal violation and crashed out.

Conclusion

This study has analysed the correspondence relations – pairing up of reduplicative strings of various type. Evidence from the data analysed shows that various segmental and tonal identity are possible: perfect identity between the base and reduplicant is possible as well as lack of it. Examining the range of possible reduplicative morphemes and the forces constraining their perfect identity shows that, in line with the conclusion of McCarthy and Prince (1995:118), high-ranking B-R identity narrows the candidate set down to B,R pairs that are sufficiently closely matched; other considerations select the optimal candidate. In other words, a number of faithfulness constraints, demanding perfect copy between base and RED, and between Input and output strings interact with phono-constraints demanding conformity of copy to phonotactic and prosodic requirements of the dialect to yield shapes of various appearances.

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