

A MORPHOPHONOLOGICAL STUDY OF REDUPLICATION IN THE TERA LANGUAGE

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Abstract

This paper is set to study the morpho-phonological analysis of some Tera lexical items by analysing both full and partial reduplication in Tera. The objective of the research is to account for the phonological processes exhibited in the Tera reduplication patterns. It also examines how reduplication operates in the Tera language within the theoretical framework of Morphological Doubling Theory (MDT) proposed by (Inkelas & Zoll, 2005). The model postulates that reduplication targets morphological constituents of a word regardless of their phonological size, confirming that, what is doubled in reduplication is a morphological constituent either partially or totally. The data for the study was collected through observations and unstructured interviews with the native speakers of the Tera language in order to establish how this phenomenon operates in the language. The findings of the study showed that some phonological changes occur in partial reduplication. In total reduplication complete root is repeated, while in partial only some consonantal or vowel changes occur in the base form. The study further revealed that reduplication in Tera is both a class maintaining and class changing form of derivation. By this, the study validated MDT's assumption that for any morphological reduplication there was always semantic connotations that underlie the morphology of reduplication and there are phonological modifications of the respective inputs that accompanied phonological doubling. Therefore, it can be concluded from the analysis that it is valid and evident to state that morphological doubling theory can be used to account for reduplicative patterns in the Tera language.

Key Words: Morphophonological, Reduplication, Tera Language

Introduction

Morphology on one hand is deals with the internal structure of words (Heine & Narrog, 2012: 507). As far as the term morphology is concerned, Daura (2012) sees it as an aspect of linguistics that deals with the identification, analysis and description of the structure of words. Phonology on the other hand is viewed as the descriptions of the systems and patterns of sounds that occur in a language (Ladefoged & Johnson, 2014:35). Morpho-phonology is therefore, the study of interactions between phonology and morphological processes (Abdullahi, 2021). Dressler (1985:149) states that phonological and morphological factors co-exist and the Morphophonology cannot be studied in the absence of either. While Maiden (1991:263) points out that Morphophonology interface covers both the morphological and phonological processes at the interface within the grammar of each system.

Therefore, this paper attempts to discuss some aspects of morphophonology of reduplication in the Tera language within the framework of Morphological Doubling Theory (MDT). The scope of the work is an attempt to deal with the interactions between morphology and phonology of some reduplicated lexical items in Tera. Consequently, it does not in any way claim an exhaustive treatment of all aspects of morphophonology of reduplication in the Tera language. However, it limits itself to the operation of reduplication of some lexical categories such as nouns, verbs, adverbs and adjectives.

Reduplication

Reduplication as a type of word formation process is an important aspect in linguistic studies. Yakasai (2023: 1) argues that many languages have reduplication in their morphology but the linguistic dimension of reduplication is manifested through the interface between morphology and phonology. For Rainy (2000: 1) that the most fruitful analysis of reduplication as a phenomenon into itself would utilize aspects of both phonology and morphology and any analysis that neglects either of these aspects would not fully illuminate

what reduplication is. He further states that reduplication is a microcosm of phonology and all aspect of phonological processes can be studied and illuminated by workinging on reduplication patterns.

Rainy (2000: 5) says reduplication is predicated to exist as a very common feature in human languages. Many languages form new words by repeating an existing word either in full or in part. This is called reduplication. McGregor (2010: 93) uses the term reduplication as often iconic. Reduplication of verbs generally conveys the idea of frequent and repeated events, or one that is habitual or characteristic of something. Reduplication of noun often indicates numerocity or multiplicity or intensity.

Hapsel Math and Sim (2010: 38) opine that a very common morphological operation is reduplication, whereby part of the base or the complete base is copied and attached to the base (either preceding or following it). O'Grady, Archibald and Katamba (2011: 137) share the same view and describe reduplication as a common morphological process in some languages involve, which is a grammatical or semantic contrast by repeating all or parts of the base to which it applies. Repetition of the entire base yields **full reduplication**. In contrast, **partial reduplication** copies only part of the base.

Hence, the term reduplication can be described as the repetition of part or all of one linguistic constituent to form a new constituent with different functions, occurring in many parts of the spectrum from phonologically defined partial duplication to the morphologically defined total reduplication to the syntactic phrases. Reduplication is a word formation process in which some part of a base (a segment, syllable, morpheme) is repeated, either to the left, or to the right of the word or, occasionally, within the middle of the word. Over time, reduplication plays an increasingly important role in different areas of language study. Many researchers investigated reduplication in relation to a particular language. Unfortunately, it seems that reduplication in Tera language was not studied and elaborated by previous researchers. Hence, notwithstanding the importance of reduplication in word formation process, Tera reduplication is left by the previous researchers,

despite its richness in reduplicative formations. This is the rationale behind conducting the research.

Methodology

This research uses both the primary and secondary sources in order to source for information relevant to the topic under study. The primary source came from unstructured conversation using recording aids such as voice recorder and audio-visual recording device were used in gathering the data from some native speakers of the Tera language. Regarding the secondary sources, data was collected using published works related to the subject matter. The study uses a homogeneous purposeful sampling technique, as proposed by Patton (1990). The study adopts this method due to the small number of Tera fluent speakers. The participants were given consideration for selection based on their linguistic knowledge.

Theoretical framework

The theoretical framework of this paper is based on Morphological Doubling Theory (MDT) as propounded by Inkelas and Zoll (2005). In the words of Haugen (2009) “Morphological Doubling Theory (henceforth, MDT) abandons the usual phonological copying approach to reduplication, where the phonological make-up of the ‘reduplicant’ is determined by the copying materials from some other morpheme/stem, ‘base’. MDT proposes instead that the identity between the two elements is semantic, rather than phonological. In MDT, reduplication itself is a kind of compounding construction, where the daughters are often (usually) identical. In MDT, there is no direct relation between the ‘reduplicant’ and its ‘base’ (i.e. no B-R correspondence between X and Y) and therefore no reduplication-specific phonology”. According to Dowing (2007) in MDT, a reduplicative construction is a self-compound, with each half-considered an independent input morphological construction-required to have the same semantic features; the new meaning derived by the process of reduplication is associated with the construction.

Morphological Reduplication in Tera

Tera, also called Nyimatli [ɲimali] is the language of the Tera people. Tera belongs to the cluster of the Biumandara branch of the Chadic language family. There are two sub-groups of the Tera language namely western and eastern cluster which are divided based on their linguistic correspondence with the present-day geographical separation of the area. Tera speaking towns are divided into west, east, north, south and central. This division could account for the differences in dialects of the language (Newman 1963, 1968; Tench 2007a; Musa 2017) cited in Musa (2018).

The Tera is one of the ethnic groups that occupy territory between the eastern border of the Hausa and the western border of the Kanuri speaking people in Northeast Nigeria. They number over 100,000 and live mainly in the northern part of Gombe State and the eastern part of Borno (Tench 2007:1). More recently, according to web sources, Tera people have a population of approximately 194,000.

According to Newman (1963), Tera is a Chadic language. While Greenberg in Newman call the Bata-margi group, Tera, Hinna, Jera, Hona, Gabin and Boga constitute a distinct subgroup. This subgroup can be linguistically subdivided in a manner which corresponds to the present geographical separation: Tera, Pidlimdi and Jara (west of the River Hawal) forming one cluster and Hona, Gobin Boga (east of the River Hawal) forming the other cluster. Furthermore, Tera and Padlimdi constitute a single dialect cluster apart from Jara while Gabin and Boga constitute a single dialect cluster apart from Hona.

Broadly speaking, natural languages create new words by repeating existing ones in various ways, Tera is not an exception. No doubt that Tera form new words by repeating an existing word either in full or in part.

Data Analysis

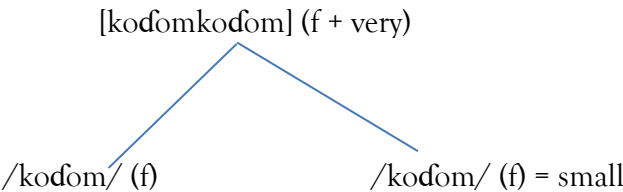
For this work, the data is analysed within the context of Morphological Doubling Theory (MDT) as presented below:

Total Reduplication

The sense of full reduplication is that all the word form is repeated or doubled (Yakasai 2023: 3). It is called full reduplication because the entire word is repeated. This type of reduplication is the most common in Tera since most word classes undergo total reduplication. Consider the following examples of total reduplication in Tera.

sn	Base	Gloss	Redupliacted form	Gloss
1	koḏom adv	Small	koḏomkoḏom adj.	Very small
2	Beu adj.	Sour	ḃeuḃeu adj	Sourish
3	Zo v.	Drink	zozo v.	Drink repeatedly
4	Wakho adv.	Hast/fast	wakhowakho adv.	Hastily/fastly
5	Puzhit (n)	Ashes	Puzhitpuzhit adj.	Ash coloured
6	Zum n	Type, kind	zumzum adv.	Of different kinds
7	Laya n.	Expression of sympathy	Layalaya adv.	Slowly
8	Da	one	dada	Each one

From the above examples (1-8), it is evident that Tera is very rich in the frequent use of full reduplication of the base and the copied element is positioned to the right. It is also evident that the value of the reduplicant and the base is the same semantically. This agrees with the Morphological Doubling Theory which assumes that the essential identity in reduplication is semantic rather than phonological. Let study the below example:



It is found that some of the concept conveyed by reduplicated forms is intensification, repeated actions, emphasis, distributions which reaffirm the claim of MDT that the semantics of the output is specificities in each construction as function of the semantics of the inputs. According to MDT, the morphology calls twice for identical inputs /koɗom/ ‘small’ that results to /koɗomkoɗom/, which has some added meaning, ‘very.’ The degree word ‘very’ is used to signify the extent or degree of intensity. The inputs are identical semantically. The input has the semantic value ‘small’. This meaning changes after total reduplication to mean ‘very small’. Apart from intensity seen, in example 8 for instance, distribution pattern is formed via reduplication processes in which the reduplicated form ‘dada’ refers to each individual or items to be shared among the persons.

However, reduplication in Tera function in ways associated with derivational morphology by a way of changing the lexical category as evidenced in the language. Like in other languages, derivation is sometimes also subdivided into *class maintaining derivation* and *class changing derivation*. Class maintaining derivation is demonstrated in examples 2, 3, and 4 above. The outputs are of the same part of speech as the base from which they are formed. In contrast, the class changing derivation is illustrated in examples 5, 6, and 7 which clearly show that the reduplicated forms belong to different word classes from their bases. In other words, it results into change of word class from noun to adjective, noun to adverb respectively.

Partial Reduplication

Partial reduplication copies only part of the base (O’Grady, 2011: 137). In the Tera language, partial reduplication is not frequently used. Find below a few instances of partial reduplication in Tera:

sn	Base form	Gloss	Reduplicated form	Gloss
9	Dyi (n)	Honey	Dyik-dyik (adj.)	Very sweet
10	Dyot (adj.)	Bitter	Dyotata (n)	A tpe of bitter weed

11	zhaɓur (n).	Chicken with ruffled feathers	zhaɓurɓur (adj)	Having dishelve hair of a feathers
12	khaikha (n)	Incomplete mat	Khakhaikha (n)	spirit

In the example given above, it is obvious that a few number of partial reduplication are found to be operating in the language. It is also observed in examples 9-12 there is an addition of (**k-dɣik, ɓur, ata and kha**). Reduplication is considered partial when the reduplicant is placed to the left of the lexical base as a prefix that preceded the stem and the meaning changes as shown in 12 above, to the right of the lexical base as a suffix as exemplified in 8-10 or inside as an infix as **shown in**. Based on the above data, it is, therefore, observed that partial reduplication is the least found reduplication pattern in the Tera language. Just like the total reduplication, instances of class changing (e.g 9, 10 and 11) and class maintaining derivation (e.g 12) are found to be operating in the language.

Active and frozen reduplication in the Tera language

Active Reduplication

According to Newman (2000), active reduplication refers to word formation rules in which reduplication function as a synchronically recognizable derivational or inflectional process. Yakasai (2023) adds that active reduplication is a kind of reduplication that has a recognizable simple lexical stem from which the form has been derived or inflected. Examples of active reduplications are:

sn				
13	Koɗom	Small	Koɗomkoɗom	Very small
14	Zum	Different	zumzum	Of different kinds
15	Ɓeu	Sour	ɓeuɓeu	Sourish
16	Wakho	Haste/fast	wakhowakho	Hastily/fastly
17	Zo	drink	zozo	Drink repeatedly

Frozen Reduplication

On frozen reduplication, Newman (2000) refers it as words that phonologically have a reduplicated structure, but which from a synchronic point of view constitute essentially unanalyzable simple lexical items. Examples of frozen reduplication include:

sn	Base form	Gloss	sn	Base form	Gloss
18	Ndolndol adj	Cold	25	Kapkap (id)	Eat completely
19	Dakdak adj	Bitterness	26	Nggalmanggal (n)	African peach
20	Dumdum adj	Warmth	27	Khubulbult (n)	Foam froath
21	Tomtom n	Deaf person	28	Reng-deng (n)	Small biting insect
22	Lubulubu (n)	Cooked cow	29	Picici (adj.pl)	Tiny
23	Jumjum adj	Darkness	30	Dlamlam (adj)	Hardness of a blow
24	Gutgut (id)	Movement in a group	31	Turara (n)	incense

The operation of this process is evident of fully reduplicated forms in the language. Yakasai (2023) described these instances as items that are fully reduplicated in forms but lack the non-reduplicative counterparts. This means that the parts are the same which means that the items are fully reduplicated. The items involved in this process included nouns, adjectives, adverbs and idiophones. Examples 18-26 are reduplicated in their structure but lack the non-reduplicative counterparts. While examples 27-31 are partially frozen reduplicated forms which Yakasai (2023) described as reduplicated items without an identified base. This means that they appear partially reduplicated but with no simple stem for them.

Therefore, it is discovered that Tera happens to have both active and frozen forms of lexical items operating in the language and the operation of these processes are evident in above given instances.

Function of reduplication

Yakasai (2019:62) views reduplication as a morphosemantic process used to create meaning. Reduplication frequently serves a number of grammatical functions which include emphasis, frequency, repetition, pluralization etc. he further opined that *Repeated action* implies that the action of the base form has been repeated (yakasai, 2019: 62).

Sn	Base form	Gloss	Reduplicated form	Gloss
32	Zo	drink	zozo	Drink repeatedly

From the foregoing, the action of the verb is repeated and gives the semantic value of repeated occurrence of events/ doing something frequently. The verb becomes a frequentative verb after reduplication. *Intensification* adds the meaning which is usually translated with ‘very’ (ibid).

Sn	Base form	Gloss	Reduplicated form	Gloss
33	koɔm	small	koɔmkoɔm	Very small

Total reduplication in Tera is straightforward because the reduplicant is generally identical to the stem. The stem in reduplication always appears in full without any deletion. In other words, the stem in reduplication is not affected by either the reduplicant or reduplication. However, meaning after reduplication does not change- have quite similar meaning

Phonology of Reduplication in Tera

According to MDT’s claim, reduplication occurs with some major phonological processes of a language.

Vowel Lengthening

Vowels are lengthened in the penultimate position especially in emphatic Speech (Gachugi 2007) cited in Nyagan (2014). This is evident in reduplicated forms since reduplication is sometimes used for emphasis. The vowel in the penultimate position in Tera is lengthened

in reduplication for emphasis as could be seen in the following Example:

34. [layalaaya] (f + very) = very slowly

/laya/ (f) slowly/carefully

/laya/ (f) = slowly/carefully

The above example shows how vowel lengthening is used for emphasis. The reduplicated form /layalaya/ has the semantic value **'very slowly'**. However, the vowel in the reduplicative form is lengthened when the speaker wants to emphasize as shown in the example. MDT couples morphological constituents that agree in their semantic specifications but do not have to match phonologically. In the example, the base and the reduplicant are identical at the level of meaning but are different in their phonology. In this data, the vowel /a/ is lengthened through doubling in the phonological in its penultimate position. This conforms to the fundamental claim of MDT that reduplication involves semantic rather than phonological identity. In this data, the reduplicant occurs with a possible phonological modification of either or both constituents.

MDT views phonological reduplication as a situation where a morphological construction contains the same number of daughters, prototypically two which are identical in their semantic and syntactic features, which then has one of the daughters modified phonologically by phonological rules or constraints associated with the construction, hence the manifestation of vowel lengthening (Inkleas and Zoll, 2005). According to MDT, the primary phonological issues arising in reduplication is that the copies in reduplication are phonologically modified relative to how they would appear in isolation

Phonological Copying in Tera Reduplication Pattern

For Inkleas (2008:4) whenever a phonological element is doubled, it results to phonological reduplication. This situation is not open to a morphological doubling analysis, because the doubling does

not result in change of meaning. Reduplication is only known as morphological doubling if there is semantic or grammatical change. See the below example:

sn	Base form	Gloss
35.	Dauḍau (adv)	Quickly
36.	Ratatata (n)	Bottle guard

As seen above, the items occur in a reduplicated form, but not amenable to any morphological doubling analysis. There is no evidence that a morphological element occurs twice. We only see phonological copying of the elements. This is because the words given above do not occur singly in Tera. They always occur in a reduplicated form. Reduplication is morphological doubling if there is a change in meaning associated with the act of reduplication or if there is a change in grammatical category (Inkelas and Zoll 2005: 28). The duplication inputs in this case of phonological copying do not bear any semantic or syntactic features as postulated in the MDT tenet on the identity of the semantic inputs but bear phonological features that link each of the inputs in the resultant mother node. The syllable inputs do not independently carry any related meaning (Maina, 2023).

Syllable Weight in Tera Reduplication

According to Katamba (1992), the main distinction between open and closed syllables—two types of syllables prevalent in languages—has historically been made. Although closed syllables might end in a consonant, open syllables frequently have a clear preference in languages that permit them. Generally, languages in which a distinction between light and heavy syllables is drawn fall into two camps, the light syllable where the rhyme contains a short vowel and a heavy syllable where the rhyme contains either; a long vowel or a diphthong followed by one or more consonants or a short vowel followed by at least a consonant (Maina, 2023). Tera has both open and closed syllables, (laya

→layalaya and Kodom→ Kodomkodom, khaikha→ khakhaikha and Dyot →Dyotata). Phonological reduplication affects syllable weight within reduplicated words that exhibit open syllables.

37. Dyot /diyot/ Dyotata /diyotata/→ /diyotaata/

In the above data, the vowel in the penultimate position/ syllable has been lengthened in the output. Therefore, stress is also placed on the same syllable which makes the penultimate syllable heavy unlike the first and last syllables. The reduplicated form is open syllable which has cvcvcvcv order.

Phonological reduplication that affects syllable weight occurs in Tera vowel sounds within morphologically reduplicated words that exhibit closed syllables.

38. Kodom /kodom/ Kodomkodom → / kodomkodom/

The penultimate syllable's vowels in this data have been lengthened (o→oo in 37 above) in the reduplicant. Additionally, the penultimate syllable is stressed (kodomkodom). We can conclude that the penultimate syllable is heavy. This adequately accounts for the observation of Maina (2023) that reduplication through vowel lengthening affects the weight of syllables in the penultimate positions of a given lexical item. The resulting reduplicative, / Kodomkodom /, has the CVCVCVC order and is considered a closed syllable while the first and last are said to be light syllables.

Conclusion

The whole word is repeated in complete reduplication, whereas, some phonological changes occur in partial reduplication. In total reduplication complete root is repeated, while in partial only some consonantal or vowel changes occur in the base form. The fact that these reduplicants contain morphemes not found in the base clearly shows that the reduplicant does not rely on the base as its source of phonological material. The study discovered that reduplication in Tera

is both a class maintaining and class changing form of derivation. For the former, it means that the output is in the same word class category as the root even though the meaning may change. While in latter, the word class of a given lexical item changes in the resultant reduplicant. By this, the study validated MDT's assumption that for any morphological reduplication there was always semantic connotations that underlie the morphology of reduplication and there are phonological modifications of the respective inputs that accompanied phonological doubling. Therefore, it can be concluded from the analysis that it is valid and evident to state that morphological doubling theory can be used to account for reduplicative patterns in the Tera language.

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