



Reduplication as a Morphological Process in Icibemba Loanword Adaptation

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ABSTRACT

Original Research Article

English loanwords in Icibemba take part in reduplication just as native words do. Once borrowed items are integrated into the language's system, they reduplicate in the same ways: total reduplication copies the entire stem (e.g., *fashiti-fashiti* 'kind of hurry', *wanu-wanu* 'one by one'), and partial reduplication copies only the CV portion (e.g., *ukusaina-saina* 'to sign repeatedly'). Reduplication in these loanwords marks grammatical and semantic contrasts — repetition, intensity, frequency, distributive meaning. Borrowed words also obey the same bisyllabic constraints as native words in partial reduplication, confirming that they have been fully absorbed into the morphological system. The study uses Lexical Phonology and Morphology (LPM) and CV Phonology to explain how phonological constraints and morphological processes interact during loanword adaptation. English loanwords, once nativised through vowel epenthesis, segmental substitution, and syllabic restructuring, fall under the same reduplication patterns that govern native Icibemba vocabulary. Reduplication thus works as a reliable diagnostic of full morphological assimilation, with implications for how we understand language contact, lexical borrowing, and the structure of the Bantu morphological system.

Keywords: Reduplication, Icibemba, Morphological Adaptation, Loanwords, Bantu Morphology, Lexical Phonology, CV Phonology, Phonological Integration.

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Introduction

Reduplication is one of the most widespread and productive morphological processes across the world's languages. It matters a great deal in the Bantu family, where it shows up in systematic patterns across multiple word categories. O'Grady and Archibald (2000) define reduplication as a morphological process that marks grammatical or semantic contrasts by repeating all or part of the base. The process can enhance, emphasise, amplify, diminish, add number, or change verb tense — producing anything from subtle shifts in meaning to clear grammatical distinctions (Kauffman, n.d.). The fact that reduplication appears in so many genetically and geographically diverse languages suggests it has real cognitive salience and functional utility.

In Bantu languages, reduplication appears across nouns, verbs, adjectives, adverbs, and numerals. Each category follows patterns shaped by the phonological and morphological architecture of the language in question. When foreign words enter these languages through borrowing, we expect them to participate in reduplication — and whether they do tells us a great deal about how completely they have integrated into the recipient system. Whether borrowed words become fully nativised or retain traces of their source language is central to understanding morphological integration in language contact situations.

Icibemba, a Bantu language of the Central Bantu group (Zone M42 in Guthrie's classification), is spoken across Zambia's Northern, Copperbelt, Luapula, Muchinga, and Central provinces. With several million speakers, it is one of Zambia's major regional languages and has well-developed

reduplication processes affecting both native and borrowed lexical items. The language has a canonical CV syllable structure, and this constraint heavily influences how foreign words are adapted and how they later participate in morphological processes.

This article examines how English loanwords in Ibibemba undergo reduplication, analysing the patterns, constraints, and functions involved. I show that loanwords, once integrated, behave identically to native words with respect to reduplication — evidence of full morphological assimilation into the Ibibemba system. The analysis draws on two complementary frameworks: Lexical Phonology and Morphology (LPM), which accounts for the hierarchical organisation of morphological and phonological rules, and CV Phonology, which provides tools for understanding syllable structure constraints.

What this study does, specifically, is three things. It documents reduplication patterns in Ibibemba loanwords in detail, extending what we know about how morphological processes apply to borrowed items. It also provides theoretical insight into morphological integration, showing that loanwords become subject to native phonological and morphological constraints once initial adaptation is complete. And it adds to the literature on Bantu morphology and language contact, offering evidence that the reduplication system can accommodate new vocabulary.

Theoretical Framework

The study uses Lexical Phonology and Morphology (LPM) as its primary framework, supplemented by CV Phonology. These perspectives give complementary angles on how phonological and morphological processes interact during loanword adaptation.

Lexical Phonology and Morphology

Lexical Phonology and Morphology, developed by Kiparsky (1973, 1982) and elaborated by subsequent scholars, proposes that morphological and phonological rules are organised hierarchically in the lexicon, applying cyclically after each morphological operation. Within this framework, reduplication is treated as a morphological operation that applies at specific lexical levels, triggering phonological rules that shape the reduplicated form.

LPM suits the analysis of loanword reduplication because it gives a principled account of how morphological processes and phonological constraints interact. Lexical rules apply in ordered strata:

Level 1 (Root Level): The base form is established. English loanwords are assigned to noun classes or verb categories, acquiring the appropriate prefixes and undergoing initial phonological adaptation. This level includes the assignment of class prefixes to borrowed nouns, determined by initial

syllable resemblance to a class prefix, semantic content, or the zero prefix in some classes.

Level 2 (Stem Level): Reduplication applies to the stem. This lexical rule operates on the output of Level 1, copying all or part of the stem according to the reduplication type.

Level 3 (Word Level): Phonological rules apply to the reduplicated form, ensuring it conforms to syllable structure requirements, vowel harmony patterns, and tonal specifications.

LPM also recognises a bidirectional relationship between phonology and morphology: morphological operations can create phonological environments that trigger phonological rules, and phonological constraints can restrict which morphological operations are possible. You can see this especially in reduplication, where the morphological operation of copying is constrained by phonological requirements such as the bisyllabic minimality condition.

CV Phonology

CV Phonology, developed by Clements and Keyser (1983), offers a framework for understanding the syllable structure constraints that govern reduplication patterns. In this model, the phonological representation is organised on multiple tiers, including a CV-tier that captures the timing and syllabic organisation of utterances.

The CV-tier is particularly useful for analysing reduplication because it lets us model exactly which portions of the base are copied and how the copied material is integrated into the prosodic structure of the word. It captures the timing and syllabic organisation of reduplicated forms, explaining why certain patterns are permitted while others are blocked.

Ibibemba's canonical syllable structure is CV, and this template shapes both loanword adaptation and reduplication. When English words with complex syllable structures are borrowed, they undergo repair strategies — vowel epenthesis, segmental substitution, deletion — to fit the CV template. As Kangwa (2019) shows, vowel epenthesis is the most common repair strategy, with the high vowels /i/ and /u/ doing most of the work.

Loanword Adaptation and Phonological Integration

The adaptation of English loanwords into Ibibemba involves several phonological processes that need to be understood before we can analyse their participation in reduplication. Kangwa (2019) identifies three main repair strategies:

Vowel epenthesis: Vowels are inserted to break up impermissible consonant clusters and to avoid syllable codas. English monosyllabic words, for instance, become disyllabic in Ibibemba through final vowel epenthesis, satisfying the language's disyllabic word requirement. Examples include English /nat/ (nut) becoming naati and /ʃɒk/ (shock)

becoming shoko. The epenthetic vowel is typically a default vowel — the unmarked or perceptually least salient one.

Segmental substitution: Foreign segments absent from the Ibibemba inventory are replaced with native counterparts considered auditorily, acoustically, or articulatorily closest to them. These replacements occur wherever foreign segments appear.

Deletion: Some segments are deleted, particularly those not found in Ibibemba. This is a marginal strategy compared to epenthesis and substitution.

These repair strategies ensure that borrowed forms satisfy native phonotactic requirements. Once the phonological adjustments are made, loanwords are fully integrated into the Ibibemba phonological system and become subject to all morphological processes, including reduplication.

Reduplication in Bantu Languages

Reduplication is characteristic of Bantu languages, appearing in two primary forms: total reduplication and partial reduplication. The distribution and function of these forms vary across the family, but certain patterns are widespread.

Total Reduplication

Total reduplication involves copying the entire base or stem, including prefixes where they occur. Across Bantu languages, total reduplication typically serves functions such as expressing emphasis or intensity, marking distributivity, indicating repetition, and creating augmentative or diminutive forms. The functions are relatively consistent across Bantu languages, though the specific categories that undergo the process may vary. In many Bantu languages, total reduplication applies to nouns, adjectives, numerals, and adverbs.

Partial Reduplication

Partial reduplication involves copying only part of the base — typically the first syllable, the CV portion, or a bisyllabic template. This form is subject to prosodic constraints, such as the bisyllabic minimality constraint common in Bantu languages. Partial reduplication often marks habitual or frequentative aspect, distributive meaning, and attenuation or intensity.

The diachronic development of partial reduplication in Bantu has received considerable attention. While some scholars (Steriade, 1988; Hyman, Inkelas, & Sibanda, 1998) have suggested that total reduplication represents the original pattern, with partial reduplication emerging later, research by Tak (2007) and others has argued that bisyllabic reduplication may in fact be the original pattern. This debate matters for understanding how reduplication systems have developed historically across the Bantu family.

The Bisyllabic Template in Bantu Reduplication

Many Bantu languages exhibit a bisyllabic template constraint in partial reduplication. This constraint requires that the reduplicant (the copied portion) be at least two syllables long. When the stem is monosyllabic, languages may employ various strategies to satisfy the constraint, including vowel lengthening or copying additional material.

The bisyllabic constraint has been analysed within Optimality Theory as reflecting a requirement that prosodic words be minimally bisyllabic. It interacts with other phonological and morphological constraints to determine the shape of reduplicated forms. In some languages, the constraint is strong enough to trigger vowel lengthening when a monosyllabic stem is reduplicated; in others, it may lead to the copying of prefixal material to reach the required size.

Direction of Reduplication

The direction of reduplication — whether the reduplicant is prefixed or suffixed to the base — varies across Bantu languages and across word categories within a single language. Hyman, Inkelas, and Sibanda (1998) observe that verb stem reduplication in Bantu is typically prefixal, while noun reduplication may be suffixal. They suggest that this pattern reflects the suffixing nature of the Bantu verb stem: speakers are accustomed to grammatical marking at the right edge of the verb, so reduplication places the copy at the left edge.

This observation is backed by evidence from Ndebele and Kinande, where verb reduplication is prefixal (copying the root at the left), while noun reduplication may be suffixal, copying the prefix + stem at the right edge. In Kinande, when the noun stem is monosyllabic, the noun class prefix is also copied to fill out the bisyllabic template — which shows just how strong the minimality constraint is.

Reduplication in Ibibemba

Ibibemba has both total and partial reduplication across multiple word categories. The processes apply systematically to native and borrowed lexical items alike, with loanwords following the same patterns as native words. This section provides a detailed analysis of reduplication in native Ibibemba vocabulary, establishing the baseline against which loanword behaviour is measured.

Total Reduplication

Total reduplication in Ibibemba involves copying the entire stem, including any prefixes that are part of the stem. Table 1 illustrates this process across different word categories.

Table 1: Total Reduplication in Ibibemba Native Words

Base Form	Reduplicated Form	Meaning	Category
wanu 'one'	wanu-wanu	'one by one'	Numeral
tu 'two'	tu-tu	'two by two'	Numeral
fili 'three'	fili-fili	'three by three'	Numeral
posa 'quickly'	posa-posa	'very quickly'	Adverb
bwino 'well'	bwino-bwino	'very well'	Adverb

Total reduplication with numerals indicates distributive meaning; with adverbs, it emphasises or intensifies. The process applies to both monosyllabic and polysyllabic stems without restriction, since the entire stem is copied regardless of its length.

Partial Reduplication

Partial reduplication in Ibibemba involves copying the first CV syllable of the stem and prefixing it to the base. This process is subject to the bisyllabic constraint, meaning that only stems with a CV.CV structure (or, more precisely, stems that are at least bisyllabic) can undergo this form of reduplication.

The rule can be stated as follows: 1. Copy the first CV syllable of the stem. 2. Prefix the copy to the stem.

Table 2: Examples of Partial Reduplication in Native Verbs

Base Verb	Partial Reduplication	Meaning
ukulanda 'to speak'	ukulanda-landa	'to speak often/repeatedly'
ukushita 'to buy'	ukushita-shita	'to buy often/repeatedly'
ukusenda 'to carry'	ukusenda-senda	'to carry often/repeatedly'

The Bisyllabic Constraint in Native Words

The bisyllabic constraint is central to partial reduplication in Ibibemba. It operates as follows:

- Bisyllabic stems (CV.CV): Can undergo partial reduplication.
- Monosyllabic stems (CV): Cannot undergo partial reduplication.
- Multisyllabic stems (CV.CV.CV): Cannot undergo partial reduplication.

This constraint reflects the phonotactic requirements of the language and ensures that reduplicated forms maintain the prosodic well-formedness typical of Ibibemba words. It applies equally to native and borrowed forms, as the following sections demonstrate.

Phonological Integration of English Loanwords

Before English loanwords can participate in Ibibemba reduplication processes, they must undergo phonological

integration to conform to the phonotactic requirements of the language. This section analyses the adaptation processes that loanwords undergo, drawing on the research of Kangwa (2019) and Kashoki (2012).

Syllable Structure Adaptation

The biggest phonological challenge for English loanwords is the difference in syllable structure between English and Ibibemba. English permits complex onsets, codas, and consonant clusters; Ibibemba has a strict CV syllable structure.

When English words are borrowed, they are reconstructed to fit the canonical CV syllable pattern. Vowel epenthesis is the primary repair strategy, with high vowels (/i/ and /u/) serving as epenthetic vowels in most contexts. Table 2 illustrates the adaptation of various English words.

Table 3: Syllable Structure Adaptation of English Loanwords in Ibibemba

English Word	Ibibemba Form	Adaptation Process
'nut' /nʌt/	naati	Final vowel epenthesis, vowel adjustment
'shock' /ʃɒk/	shoko	Final vowel epenthesis, segmental substitution
'steak' /steɪk/	shiteeke	Vowel epenthesis to break cluster, final vowel epenthesis
'zip' /zɪp/	shipu	Final vowel epenthesis, segmental substitution
'skirt' /skɜ:t/	shikeeti	Vowel epenthesis to break cluster, final vowel epenthesis
'shift' /ʃɪft/	shifuti	Vowel epenthesis to break cluster, final vowel epenthesis
'pencil' /'pensəl/	pensulo	Vowel epenthesis, final vowel epenthesis

One thing that stands out from the data: monosyllabic English words become disyllabic when borrowed into Ibibemba due to word-final vowel epenthesis. This satisfies the Ibibemba disyllabic word requirement, which demands that all Ibibemba words (except locatives and conjunctions) have at least two syllables (Doke, 1931; Fortune, 1955; Kadenge, 2007).

Segmental Adaptation

English segments not present in the Ibibemba inventory are substituted with native counterparts considered articulatorily or perceptually closest to them. This process affects consonants, vowels, and diphthongs.

Ibibemba has no diphthongs; English diphthongs are therefore adapted as sequences of vowels that conform to the native vowel system. Kangwa (2019) observes that English diphthongs entering the language through loanwords show adaptation patterns similar to those exhibited by monophthongs.

Morphological Integration

Once phonological adaptation is complete, loanwords undergo morphological integration into the Ibibemba system.

This involves assignment to noun classes (for borrowed nouns) or verb categories (for borrowed verbs).

For nouns, class assignment is determined on the basis of initial syllable resemblance to a class prefix, semantic content, or the zero prefix in some classes. For verbs, borrowed items acquire the appropriate verbal morphology, including infinitive prefixes and extensions. Once this morphological integration is complete, loanwords are indistinguishable from native words in terms of their morphological behaviour and become subject to all morphological processes, including reduplication.

Total Reduplication in Loanwords

Total reduplication applies to English loanwords in Ibibemba in the same way it applies to native words. The process involves copying the entire stem, and it serves the same grammatical and semantic functions. This section presents data from several word categories.

Numerals

Borrowed English numerals participate in total reduplication to express distributive meaning, just like native numerals.

Table 4: Total Reduplication in Numerals

Base Form	Reduplicated Form	Meaning
wanu 'one' (native)	wanu-wanu	'one by one'
tu 'two' (native)	tu-tu	'two by two'
fashiti 'first' (loan)	fashiti-fashiti	'kind of hurry'

The loanword *fashiti* (from English 'first') reduplicates to express a distributive or intensive meaning. The form *fashiti-fashiti* describes hurried or rushed action, reflecting how the borrowed item has extended its meaning within the Ibibemba system.

Adverbs

Borrowed adverbs also undergo total reduplication for emphasis or intensification.

Table 5: Total Reduplication in Adverbs

Base Form	Reduplicated Form	Meaning
bwino 'well' (native)	bwino-bwino	'very well'
posa 'quickly' (native)	posa-posa	'very quickly'

Nouns and Adjectives

Total reduplication with borrowed nouns and adjectives expresses emphasis, distributivity, or augmentation.

Table 6: Total Reduplication in Nouns and Adjectives

Base Form	Reduplicated Form	Meaning
shati 'shirt' (loan)	shati-shati	'many shirts'
suka 'sugar' (loan)	suka-suka	'much sugar'

The data show that loanwords participate in total reduplication without restriction, copying the entire stem regardless of its length. This pattern mirrors the behaviour of native words and provides initial evidence that loanwords have been fully integrated into the Ibibemba morphological system.

Partial Reduplication in Loanwords

Partial reduplication in loanwords follows the same pattern as in native words: the first CV syllable of the stem is copied and prefixed to the base. The process is subject to the bisyllabic constraint, which operates identically on borrowed and native forms.

Verb Reduplication

Borrowed verbs participate in partial reduplication to express frequentative or habitual aspect.

Table 7: Partial Reduplication in Verbs

Base Verb	Partial Reduplication	Meaning
ukusaina 'to sign' (loan)	ukusaina-saina	'to sign repeatedly'
ukufundisha 'to teach' (loan)	ukufundisha-fundisha	'to teach repeatedly'
ukulanda 'to speak' (native)	ukulanda-landa	'to speak often/repeatedly'

The loanword *ukusaina* (from English 'sign') reduplicates as *ukusaina-saina*, with the first CV syllable /sa/ copied and prefixed to the stem. The pattern is identical to that observed with native verbs such as *ukulanda*.

The Bisyllabic Constraint in Loanwords

The bisyllabic constraint applies to loanwords exactly as it does to native words. Only bisyllabic stems (CV.CV) can undergo partial reduplication; monosyllabic and multisyllabic stems cannot.

Table 8: Partial Reduplication in Bisyllabic Stems

Stem Type	Example	Reduplication	Status
Bisyllabic	ukusaina 'to sign'	ukusaina-saina	Allowed
Monosyllabic	—	—	Blocked
Multisyllabic	ukufundisha 'to teach'	ukufundisha-fundisha	Allowed (but copies only first CV)

That loanwords obey the bisyllabic constraint confirms they are subject to the same phonological restrictions as native words. This is strong evidence that loanwords have been fully nativised at the phonological level.

Direction of Reduplication in Loanwords

The direction of reduplication in Ibibemba loanwords follows the same patterns observed in native words and across Bantu languages more generally. Verb reduplication is prefixal, while noun reduplication may be suffixal.

Prefixal Verb Reduplication

Verb reduplication in Ibibemba is prefixal, with the reduplicant appearing at the left edge of the verb stem. This is consistent with the suffixing nature of the Bantu verb stem: since grammatical markers typically appear at the right edge, reduplication places the copy at the left edge so as not to interfere with inflectional morphology.

Table 9: Prefixal Verb Reduplication

Base Verb	Reduplicated Form	Direction
ukusaina 'to sign'	ukusaina-saina	Prefixal
ukufundisha 'to teach'	ukufundisha-fundisha	Prefixal
ukulanda 'to speak'	ukulanda-landa	Prefixal

Suffixal Noun Reduplication

Noun reduplication in Ibibemba may be suffixal, with the reduplicant appearing at the right edge of the noun stem. This pattern is observed with both native and borrowed nouns.

Table 10: Suffixal Noun Reduplication

Base Noun	Reduplicated Form	Direction
shati 'shirt' (loan)	shati-shati	Suffixal
suka 'sugar' (loan)	suka-suka	Suffixal

The direction of reduplication in loanwords thus mirrors the patterns observed in native words, providing further evidence of full morphological integration.

Semantic Functions of Reduplication in Loanwords

Reduplication in Ibibemba loanwords serves the same grammatical and semantic functions as in native words — marking repetition, intensity, frequency, and distributivity.

Repetition

Reduplication marks repeated action or state. With borrowed verbs, partial reduplication indicates that the action is performed repeatedly or habitually.

- ukusaina-saina 'to sign repeatedly'
- ukufundisha-fundisha 'to teach repeatedly'

Intensity

Reduplication can intensify the meaning of the base. With borrowed adverbs and adjectives, total reduplication emphasises or amplifies the quality expressed.

- fashiti-fashiti 'kind of hurry' (intensive)

Frequency

Reduplication marks frequentative aspect, indicating that an action is performed frequently. This function is particularly common with verb reduplication.

- ukulanda-landa 'to speak often'
- ukusaina-saina 'to sign often'

Distributivity

With numerals and nouns, total reduplication expresses distributive meaning, indicating that items are distributed individually or in groups.

- wanu-wanu 'one by one'
- tu-tu 'two by two'
- shati-shati 'shirts distributed individually'

The semantic functions of reduplication in loanwords are identical to those in native words, indicating that borrowed items have acquired the full range of semantic associations available to native lexical items.

Discussion

The data in the preceding sections allow us to draw several conclusions about the morphological integration of English loanwords in Ibibemba.

Full Morphological Integration

That loanwords undergo reduplication exactly as native words do is strong evidence of full morphological integration. Loanwords do not simply retain source-language characteristics after borrowing; they become fully native lexical items that participate in all morphological processes.

This goes against the view that loanwords remain peripheral to the morphological system of the recipient language. The Ibibemba evidence suggests that once phonological adaptation is complete, loanwords are indistinguishable from native words with respect to morphological processes.

The integration shows up in several ways:

- Phonologically: Loanwords conform to CV syllable structure.
- Morphologically: Loanwords acquire class prefixes and verb morphology.
- Prosodically: Loanwords acquire tonal specifications.
- Behaviourally: Loanwords participate in all morphological processes.

Productivity and Regularity

The reduplication patterns observed in loanwords demonstrate the productivity of the process in Ibibemba. New lexical items, including loanwords, are automatically subjected to the same rules as native words. Reduplication is a regular, productive process in the language.

Productivity is a key characteristic of morphological processes, and the participation of loanwords in reduplication provides evidence that the process is indeed productive. The patterns are not limited to a closed set of native words; they extend to newly borrowed items.

The regularity of the process is also evident in the consistent application of constraints: the bisyllabic constraint applies to all forms; vowel harmony operates uniformly; tone preservation is systematic.

Phonological Constraints

The bisyllabic constraint applies equally to native and borrowed forms, confirming that loanwords are subject to the same phonological restrictions as native words. This is evidence that loanwords are fully nativised at the phonological level.

The fact that this constraint operates on loanwords demonstrates that phonological constraints are not restricted to native vocabulary but apply to all lexical items in the language. Phonology is a system of constraints that applies across the board, regardless of a word's origin.

The constraint also tells us something about the structure of loanwords:

- Loanwords must conform to the bisyllabic minimality condition.
- Monosyllabic loanwords cannot undergo partial reduplication.
- Loanwords that do not conform must be adapted further.

Semantic Extension

The semantic functions of reduplication — repetition, intensity, frequency, distributivity — apply to loanwords just as they apply to native words. Borrowed words do not simply retain their source meanings; they acquire the semantic nuances associated with native words. The fact that borrowed numerals undergo reduplication to express distributive meaning, for example, shows that they have been fully integrated into the semantic system.

Implications for Language Contact Studies

These findings matter for how we understand language contact and the integration of borrowed words into recipient languages. The full morphological integration of loanwords shows that lexical borrowing is not merely a matter of adopting new words but of integrating them into the morphological and phonological system of the recipient language.

Several implications follow:

- Degree of integration: The extent to which loanwords participate in morphological processes is a measure of their integration.
- Time course: The integration of loanwords takes time and may proceed gradually.
- Systematicity: Morphological processes apply systematically to loanwords.
- Predictability: The behaviour of loanwords can be predicted based on native patterns.

Prediction of Future Patterns

Based on the patterns observed, we can predict how future English loanwords will behave with respect to reduplication:

- Nouns and adjectives will undergo total reduplication for emphasis or distributivity.
- Verbs will undergo partial reduplication for frequency or repetition.
- Numerals will undergo total reduplication for distributive meaning.
- All loanwords will be subject to the bisyllabic constraint for partial reduplication.
- Loanwords that do not conform to the CV.CV structure will not undergo partial reduplication.

These predictions can be tested as new loanwords enter the language, providing further evidence for the patterns identified in this study.

Conclusion

This study has examined how English loanwords in Ibibemba participate in reduplication, and the evidence points clearly to full morphological integration. Borrowed lexical items do not simply coexist alongside native vocabulary; they become subject to the same morphological processes, governed by the same constraints, and used with the same semantic functions.

Two types of reduplication apply to loanwords: total reduplication (full stem copy) and partial reduplication (CV syllable copy). Both operate identically on native and borrowed forms. The participation of loanwords in both confirms that they have been fully incorporated into the morphological system of Ibibemba.

A particularly telling finding is that loanwords undergo the same bisyllabic constraint as native words in partial reduplication. This constraint, which requires that stems have a CV.CV structure, applies uniformly to all lexical items regardless of their origin. That English loanwords comply with this constraint demonstrates full phonological nativisation. The phonological integration of loanwords through repair strategies such as vowel epenthesis, segmental substitution, and deletion is a prerequisite for their participation in morphological processes.

Reduplication serves consistent grammatical and semantic functions in loanwords — marking repetition, intensity, frequency, and distributivity. These functions are identical to those observed with native words, indicating that loanwords have acquired the full range of semantic associations available to native lexical items. The functional convergence across native and borrowed forms is strong evidence that loanwords are treated as native lexical items in the semantic system as well.

The Lexical Phonology and Morphology framework accounts well for the application of reduplication to loanwords, explaining how morphological processes and phonological rules interact. It provides a principled account of level ordering, cyclic application, and the phonology-morphology interface. The findings are consistent with the predictions of LPM, lending further support to this theoretical approach.

The patterns observed are productive and regular, suggesting that loanwords are fully integrated into the morphological system. The productivity of reduplication is evident in its application to newly borrowed items, and the regularity of the patterns is reflected in the consistent application of constraints.

What this study contributes, more broadly, is an understanding of how languages accommodate new lexical items while maintaining their structural integrity. The Ibibemba reduplication system can incorporate loanwords without modification, which says something about the flexibility of the morphological system. The study also adds to the growing body of research on Bantu linguistics, documenting reduplication patterns in a language that has received relatively little attention in the scholarly literature.

There are several directions future work could take. Comparative studies with other Bantu languages could show whether the patterns observed in Ibibemba are typical of the wider family or represent language-specific developments. Looking at reduplication in other word categories — ideophones and adverbs, for instance — could reveal additional patterns not examined here. And investigating whether any loanword-specific reduplication patterns deviate from the native system could shed light on the limits of morphological integration.

Research on the semantic and syntactic aspects of loanword adaptation could deepen our understanding of how borrowed words are integrated at all levels of linguistic structure. Looking at how loanwords broaden or narrow in meaning within the recipient language would complement the phonological and morphological analysis presented here.

Finally, studying how Ibibemba adapts words from languages other than English — Kiswahili and Nyanja, for instance — would give a more complete picture of loanword adaptation in this Bantu language. That research would show whether the patterns observed with English loanwords are specific to

that donor language or reflect general principles of loanword adaptation.

References

1. Chomsky, N. (1965). *Aspects of the theory of syntax*. MIT Press.
2. Clements, G. N., & Keyser, S. J. (1983). *CV phonology: A generative theory of the syllable*. MIT Press.
3. Doke, C. M. (1931). *A comparative study in Shona phonetics*. University of the Witwatersrand Press.
4. Finlayson, R. (2002). Reduplication in Bantu languages. In R. Finlayson (Ed.), *African linguistics: Essays in memory of M. W. K. Mwangi* (pp. 115-133). University of South Africa Press.
5. Fortune, G. (1955). *An analytical grammar of Shona*. Longmans, Green and Co.
6. Hyman, L. M., Inkelas, S., & Sibanda, G. (1998). Morphological and prosodic constraints on verb stem reduplication in Ndebele. In L. M. Hyman & C. W. Kisseberth (Eds.), *Theoretical aspects of Bantu tone* (pp. 165-197). CSLI Publications.
7. Kadenge, M. (2007). The adaptation of English loanwords in Zezuru. *Zambezia*, 34(1), 45-64.
8. Kangwa, N. K. (2019). *The phonology and morphology of Ibibemba loanwords from English* [Masters dissertation, University of Zambia]. UNZA Repository.
9. Kashoki, E. (2012). *Keeping in step with modern times: A comprehensive account of lexical adoptives in Ibibemba*. BookWorld Publishers.
10. Katamba, F. (1989). *An introduction to phonology*. Longman.
11. Kauffman, A. C. (n.d.). *Reduplication reflects uniqueness and innovation in language, thought and culture*. York College of Pennsylvania.
12. Kiparsky, P. (1973). Abstractness, opacity and global rules. In O. Fujimura (Ed.), *Three dimensions in phonological theory* (pp. 57-86). TEC Company.
13. Kiparsky, P. (1982). From cyclic to lexical phonology. In H. van der Hulst & N. Smith (Eds.), *The structure of phonological representations: Vol. 1* (pp. 131-175). Foris Publications.
14. Lusekelo, A. (2008). A descriptive account of the Bantu verbal extensions in Kinyakyusa. *Journal of Research in African Languages and Linguistics*, 8, 83-116.
15. McMahon, A. (2000). *Lexical phonology and the history of English*. Cambridge University Press.
16. Miti, L. M. (2001). The phonological adaptation of English loanwords in Ibibemba. *Zambia Journal of Language and Literature*, 2, 25-42.
17. Mutaka, N., & Hyman, L. M. (1990). Syllables and morpheme integrity in Kinande reduplication. *Phonology*, 7, 73-119.
18. Mwita, L. C. (2008). *Verbal tone in Kuria* [Doctoral dissertation, University of California, Los Angeles].
19. Ngunga, A. S. A. (2001). The verb stem reduplication in Ciyao. *Afrikanistische Arbeitspapiere*, 66, 147-165.
20. Odden, D. (1996). *The phonology and morphology of Kimatumbi*. Clarendon Press.
21. O'Grady, W., & Archibald, J. (2000). *Contemporary linguistic analysis* (4th ed.). Addison Wesley Longman.
22. Repetti, L. (2011). Epenthesis and its role in loanword adaptation. In M. J. Ball, M. R. Perkins, N. Müller, & S. Howard (Eds.), *The handbook of clinical linguistics* (pp. 151-165). Wiley-Blackwell.
23. Tak, J. (2007). Three cross-linguistic tendencies in reduplication revisited. *Journal of Universal Languages*, 8, 105-122.
24. Van der Hulst, H., & Smith, N. (Eds.). (1982). *The structure of phonological representations* (Vol. 1-2). Foris Publications.