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An Analysis of Lukabaras Borrowed Verbs from English

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Abstract
English as an official language, has come in contact with indigenous languages in Kenya. English has therefore become one of the major donors of loanwords to these indigenous languages, Lukabaras being one of the beneficiaries. This study investigated the morpho-phonological constraints that English loan verbs encounter when adapting into Lukabaras. The research utilized Lukabaras native speakers as respondents to elicit data. A purposive sampling technique was employed to select a sample of 15 English loan verbs, which were then analyzed descriptively based on the tenets of Optimality Theory which states that constraints are universal and are fixed in their ranking and apply to all languages. The loan verbs were transcribed, and the study first analyzed the morphological constraints, followed by the phonological constraints. The findings reveal that English and Lukabaras have different morphological and phonological structures, leading to modifications of English loan verbs to fit the morphological and phonological patterns of Lukabaras. Additionally, the study identifies specific morpho-phonological constraints affecting the adaptation of English loan verbs into Lukabaras, including NOCODA, COMPLEX C, MAX IO, ONSET, DEP IO, IDENT IO, DEP-PREF, DEP-SUFFIX, and ALIGN left edge. Furthermore, faithful constraints are ranked higher than markedness constraints in Lukabaras. The study's findings contribute to the understanding of morpho-phonological adaptation processes in language contact scenarios. Overall, the study's findings align with the theoretical framework provided by OT, illustrating how languages manage the integration of foreign elements through a balance of faithfulness and markedness constraints. These findings not only enhance the understanding of loanword adaptation in Lukabaras but also contribute to the broader field of language contact and borrowing, providing a detailed case study of how specific constraints operate in a real-world linguistic context.

Introduction

When two languages come in contact, the speakers of such languages are bound to influence each other in one linguistic aspect or the other (Ochillo, 2018). Studies on borrowing, such as those by Bender (2000), Winford (2018), and Mavoungou (2005), indicate that borrowing words is an attempt to deal with new concepts, technology, and products. These loanwords are adjusted to reconcile to the receiving language's phonological and morphological systems (Mose, 2020; Sasala et al., 2019; 2023). As observed by Winford (2013), the main reasons for borrowing are need and prestige, and the

direction of lending goes from the dominant language to the socially subordinate one. As both a national and official language in Kenya, English is a donor of most loanwords to the Kenyan indigenous language (Owino, 2003).

Scholars such as Jika (2013), Mutua (2013), Anyona (2017) and Mose (2020) studied morphophonological adaptations of borrowed words into their native languages. They established that these borrowed words undergo different adaptation processes to fit in the receiving language structure. Mukulo (2016) asserts that nouns borrowed from English into Lukabaras are integrated inversely depending on the Lukabaras noun class to which the borrowed verb belongs. For instance, according to Mukulo, nouns borrowed from English adapt in Lukabaras by adding prenominal [e] or [o] at the beginning and [i] and [u] at the final position of the word. The current study consequently explored the morpho-phonological constraints English loan verbs undergo when adapting to the Lukabaras language based on the Optimality Theory by Prince and Smolensky (2004), who assert that all languages have a set of universal constraints which are part of universal grammar. Three significant constraints to express faithfulness as proposed by Mc Cathy (1995) are: first, all input segments in the output (Max-IO) are 'maximally' represented in the production, and the constraint is therefore violated if a piece is removed.

Secondly, the dependent output segments have an input (Dep-IO), which requires all pieces in the production form to have a matching piece in the output structure. Thirdly, the Identity of the voice specification (Ident) needs each feature (F) of the output piece to be 'identical 'to every feature in the output piece. This constraint is contravened if a piece change from voiceless /k/ to voiced/g/. The free generation of potential output forms is handled by a function called GEN (for generator), subject only to very general constraints of well-formedness. All linguistic structures consist of 'marked and 'unmarked' principles. The unmarked values are cross-linguistically favoured and fundamental to grammars, while the marked values are cross-linguistically evaded and utilised by grammars only to generate distinction (Kager, 1999).

According to Kager (1999), the Markedness restraint called NOCODA is arranged to show that syllables have no codas. The idea of Markedness is intrinsically balanced as some structures are favoured over others. Kager further asserts that Markedness heeds the output form; faithfulness constraints concentrate on both input and output. Markedness constraints dictate the well-formedness of structural Markedness of output representations, while faithfulness constraints dictate that output representation is the same as the input (underlying representations). The powerful constraint is satisfied at the cost of the less powerful. Grammars of language control clash amidst universal constraints to select the most harmonic form, and OT holds that to satisfy one restraint means violating another. Since English and Lukabaras have different morphological and phonological structures, the borrowed verbs from English undergo some constraints to fit into Lukabaras language structure.

According to Marlo (2009), Lukabaras is one of the Luhya groups of speakers. Luhya is an umbrella term for the nineteen language groups of Western Kenya with varying degree of mutual intelligibility. These are; *Lubukusu, Luwanga, Lunyore, Lutura, Luloogoli, Lutirichi, Lwisukha, Lutachoni, Lutsotso, Lwitakho, Lumarama Lukabaras, Lukhayo, Lushisa, Lumarachi, Lusamia, Lusonga, Lunyala East and Lunyala West.*

According to the Constitution of Kenya (2010), English is used as a medium of communication in areas such as administration, courts, the media and learning Institutions. Therefore, English has come in contact with the Kenyan indigenous language, making it a donor of most loan words in this indigenous language. Against this background, the study analyses the morpho-phonological constraints English loan verbs undergo when adapting to Lukabaras language.

Morpho-phonological constraints that govern the nativisation of Lukabaras loan verbs from English were discussed based on Optimality Theory (OT) by Prince (2004). According to OT, universal constraints are violable, meaning that rules governing word formation can be violated, and there are two constraints: faithfulness and markedness constraints. Regarding faithfulness constraints, the input and the output are mainly identical. The properties of the input correspond to the properties of the output (MAX). Markedness constraints demand unmarked configurations such as ONSET and PEAK or prohibit marked configurations such as NOCODA and COMPLEX. Concerning syllable structure universals, many Bantu languages designate CV as the syllable template; therefore, sequences like C, CV and (C)VC are never defined (Nurse & Phillipson, 2003). The contrast is characterised by four universal constraints: ONSET, PEAK, NOCODA and COMPLEX. The morpho-phonological constraints will be discussed in two sections: morphological and phonological.

Methodology

The study adopted a descriptive research design to analyse the morpho-phonological constraints of loan verbs from English experience when adapting to the Lukabaras language. The study employed a purposive sampling technique to sample fifteen verbs as units of analysis. Ten (10) respondents who were Lukabaras native speakers were also purposively sampled. The verbs were generated through Focus Group Discussions (FGDs) with ten respondents. The respondents comprised Lukabaras native speakers residing in Kakamega North Sub-County, which Lukabaras native speakers majorly inhabit. The focus was on the morpho-phonological constraints loan verbs from English undergo when adapting to Lukabaras.

Results

The study sought to analyse the morpho-phonological constraints that English loan verbs undergo when adapting to the Lukabaras language. The following findings were revealed.

Morphological constraints

Morphological constraints, according to Booij (2011), entail constraints on the segmental makeup of a language's morphemes. This study established that loan verbs from English add the prefix—la to show modality when adapting in Lukabaras. This insertion violates some constraints. The candidates in the tableau below were generated to get the ideal candidate acceptable in Lukabaras and the constraints involved.

Tableau 1: Lukabaras realisation of [will plan]

Input/will plan/	*COMPLEX-C	NOCODA	ALIGN [la]	DEP-PREF	IDENT-IO
a./apulan/		*		*	*
b./lapulana/				*	*
c./plan/	*	*	*		*
d./pulan/		*	*		*

Results in Tableau 1 show that the Lukabaras realisation of the verb phrase /will plan/ is expressed by:

a./apulan/. This candidate has dishonoured contenders NOCODA since it has consonant /n/ at the end of the syllable, ONSET as it has vowel /a/ at the beginning of the syllable and IDENT IO since the input is not alike to the output.

b./lapulana/The candidate has dishonoured the contender DEP-PREF for inserting the prefix /la/ and IDENT IO since the output and the input are dissimilar.

c./plan/. The candidate has dishonoured the contender *COMPLEX C for maintaining consonant group /pl/, NOCODA as there is a consonant at the end of the syllable, ALIGN [la] since it lacks prefix /la/ and IDENT IO since the input and output are not similar.
d./upulana/. The candidate has dishonoured the contender NOCODA for having a consonant at the end of the syllable, ALIGN [la] for lacking the prefix /la/ and IDENT IO since the input and output are not similar.

Candidate (b), therefore, is the most optimal since it has remained faithful to the NOCODA, ONSET, and COMPLEX C. The constraints will be ranked as;

NOCODA>>ALIGN [la]>>ONSET>>IDENT-IO>>DEP IO.

Suffixation with -nga
English loan verbs add the suffix—nga to show past tense as they adapt to the Lukabara language. The possible candidates for this are shown in tableau 2 below.

Tableau 2. Lukabaras suffixation with -nga

Input[growing]	*COMPLEX-C	NOCODA	DEP-SUFFIX
a.[groing]	*	*	
b. [krow]	*	*	
c. [kurowanga]			*

Results in Table two reveal that Lukabaras borrowed verbs are suffixed with -nga to show the present tense as in the example below;

a./groing/. This candidate dishonoured the *COMPLEX as it has maintained the consonant group /gr/, NOCODA, as it has consonant /ng/ at the syllable-final position.

b./krow/. This candidate has dishonoured the constraint *COMPLEX C since it has the consonant group /kr/ and NOCODA as it has the consonant /w/ at the end of the syllable.

c./kurowanga/. This contender has dishonoured the DEP-SUFFIX constraint by inserting the suffix -nga.

From tableau 2 above, it is noted that candidate (c) is the winning candidate because it has very minimal violations. It has only violated DEP-SUFFIX by inserting the suffix—nga. Candidates (a) and (b) have violated the *COMPLEX C by maintaining the consonant clusters/gr/ and /kr/, respectively, and NOCOA since they don't have codes. The ranking of the constraints is COMPLEX-C, NOCODA>>DEP-SUFFIX.

Phonological Constraints
According to Nordquist (2020), Phonological Constraints refer to rules and restrictions concerning how syllables can be created in a language. The different phonological constraints governing English borrowed verbs into Lukabaras have been discussed in the examples below;

Example 1**; left>>lefuta**

Lukabaras, being a Bantu language, designates a CVCV syllable and, therefore, does not allow consonant clusters and codas. Thus, loan verbs from English adapt in Lukabaras by inserting vowels [u] and [a] to break the consonant clusters and to break codas as in Example 1: /left/ to /lefuta/

Tableau 3: Lukabaras realization of the input /left/

Input/left/	*COMPLEX C	NOCODA #	ONSET	MAX-IO	DEP-IO
a./lefta/	*				*
b./lefuta/					*
c./left/	*	*			

The results in Tableau 3 above reveal that:

a./lefta/; This candidate violates *Complex C because it has allowed consonant cluster /ft/.it has also violated DEP-IO since there is an insertion of vowel/a/ at the final syllable.
b./left/: This candidate violates IDENT-IO(F) because the final consonant cluster /ft/is simplified to /t/ in the output. It also violates ONSET because the second syllable has no onset. The NO CODA is also violated since the first syllable has a coda.
c./Lef; ut/; This candidate violates IDENT-IO(F) because the vowel /e/ is inserted between the consonants /l/ and /f/ in the output. It also violates DEP-IO, because the vowel /u/ is inserted in the output that is not present in the input. It also violates NO-CODA because the final syllable has a coda.
d./lefuta/: This candidate violates IDENT /l/ and /f/ in the output. It also violates DEP-IO, because the vowels /u/ and /a/ are inserted in the output that are not present in the output.

Tableau 3 above therefore indicates that (b) /lefuta/is the most optimal candidate as it is optimally syllabified, faithfull to the high ranked constraints *COMPLEX C, NOCODA and ONSET. The violation of which results in the losses of candidates;(a), (c) and (d). Since vowel epenthesis in Lukabaras is preferred over consonant deletion as a repair strategy to avoid codas in English, borrowed words, DEP-IO(V) is violable and ranked lowest. The ranking of the five constraints is as follows; *COMPLEX C, NOCODA#, ONSET>>MAX IO(C)>>DEP-IO(V).

Example 2. /beik/>>/peka/

Loan verbs from English delete diphthongs as they adapt in Lukabaras. This is because Lukabaras vowel inventory does not have diphthongs. Therefore, /i/ is deleted in the diphthong /ei/as in /beik/ to /peka/. The constraints involved in the selection of the ideal candidate are outlined in the tableau below:

Tableau 4. The Lukabaras realization of the English borrowed verb is /peka/

Input /beık/	MAX-C	NOCODA	ONSET	Align-L	DEP-V
a./peka/					*
b./eika/	*		*		*
c./Pek/	*	*			
d./eka/	*		*	*	*

The results from Tableau 4 above show that Lukabaras output of the English input /bake/ is /peka/. The possible candidates for this word are;

a./peka/. This candidate has infringed one constraint DEP IO which does not allow insertion.
b./eika/. This candidate has infringed constraint MAX IO which probits deletion by deleting consonant /p/, ONSET since there is a consonant at the beginning of the syllable and DEP V by allowing the insertion of vowel a/.

c./pek/. This candidate has infringed MAX IO by deleting consonant /k/, NOCODA for having a consonant at the verb syllable final position.
d.This candidate has infringed constraint MAX-C by deleting the consonant /p/, ONSET, by lacking a consonant at the beginning of the syllable, Align L, because the left edge of the output is not similar to the left edge of the output.

The findings indicate that /peka/ is the optimal candidate since it has minimal violations. It has only violated DEP-V which prohibits insertion. Candidate (b) /eika/ violates NOCODA, MAX-C and ONSET. Candidate (c)/pe/ violates the highest ranked constraint MAX-C and NOCODA while candidate (d) violates the MAX-C, ONSET, Align L and DEP-V constraints. Violation of the highest ranked constraint disqualifies a candidate from being optimal, thus eliminating candidates (b), (c), and (d). The constraints can be ranked as;

MAX-C, NOCODA>>ONSET>>Align-L>>DEP-IO

Example 3 record-> rekota

Loan verbs from English adapted in Lukabaras by reducing the vowel /ɔː/ to /o/ since the vowel /ɔː/ does not exist in Lukabaras language. The constraints involved in getting the most acceptable candidate in Lukabaras are shown in table 5 below:

Tableau 5: Lukabaras realization of the verb /record/

Input /rekɔːd/	MAX-c	ONSET	NOCODA#	DEP-V
a./rekota/				*
b./rekti/	*			*
c./rek. oti/			*	*
d. /rek/	**		*	

Results in Table 5 above reveal that the English verb /record/ when borrowed into Lukabaras language is realised as /rekota/. The possible candidates as illustrated above are;

/a/.b./rekti/. The candidate has violated condition MAX IO by deleting vowel /o/ and DEP-V by inserting vowel /i/.

c./rek; oti/The candidate has infringed the restraint NOCODA# because it has a consonant at the end of the verb and DEP-V by inserting vowel /i/.

d./rek/ This candidate has infringed the MAX IO by deleting vowel /o/. NOCODA# for having a consonant at the verb-final position.

According to the findings in Table 5 above, the optimal candidate is (a); /rekota/, because it satisfies the highest-ranked constraint, which is MAX-C because there is no deletion of segments, NOCODA# because it has no coda and ONSET because it has an initial consonant sound. Candidate (b) does not qualify as an optimal candidate because it has violated NOCODA because it has a coda in the second syllable and DEP-IO by inserting DEP-IO. The ranking of the constraints are as follows;

MAX-C >> ONSET, NO-CODA>>DEP=V

This ranking reflects the phonological pattern of Lukabaras, which prefers to preserve the segments of the input, even if it means changing or inserting vowels to avoid, even if it means changing or inserting vowels to avoid consonant clusters or syllable structure violations.

Example 4. block -> puloka

Lukabaras consonant inventory does not have voiced sounds; therefore, voiced sounds in verbs borrowed from English are rendered voiceless, as in/blɑ:k/ to /polka/. The voiced /b/ has been devoiced to /p/. The constraints involved are illustrated in Table 6.

Tableau 6: Lukabaras realization of the verb /blɑ:k/

Input /blɑ:k/	*COMPLEX ONSET	NOCODA	MAX -c	DEP-V	IDENT-VOICE
a./blocka/	*!			*	
b./plok/	*	*!			*
c./boka/			*!	*	*
d./pulok/		*		*	*
e./puloka/				** * **	*

Results in Tableau 6 above show that Lukabaras borrowed form of the English verb /block/ is /puloka/. Some constraints govern this verb for it to fit in Lukabaras phonological structure.The possible candidates, as illustrated above, are;

a./blocka/. This candidate has infringed constraint *COMPLEX ONSET, for having cluster consonants/bl/ at the beginning of the syllable and DP-V for inserting vowel /a/.

b./plok/. This candidate has violated constraint *COMPLEC ONSET, for having consonant cluster /bl/at the onset, NOCODA for having consonant /k/ at the syllable final position and IDENT IO for devoicing consonant /b/ to /p/.

c.//poka/.This candidate has infringed the constraint *MAX c, for deleting consonant /l/, *DEP-V for inserting vowel /a/ and IDENT IO for devoicing /b/ to /p/.

d./pulok/. This candidate has violated constraint NOCODA because it has a consonant at the syllable-final position, DEP-V because there is the insertion of vowel /u/ and IDENT VOICE because there is a change in voice. That is, voiced /b/ is rendered to the voiceless /p/.

e./pulok/. This candidate has infringed on constrain NOCODA because there is a vowel at the syllable end, DEP-V because of multiple vowel insertion and IDENT VOICE because the voiced bilabial stop /b/has been devoiced to the voiceless bilabial stop /p/.

f./pula/. This candidate has violated constraint MAX C because of deleting vowel /o/ and consonants /ck/, DEP IO for inserting vowel /u/ and /a/ and IDENT IO since the output and the input are not identical.

According to the results in Table 6 above, the optimal candidate /puloka/ satisfies both *Complex Onset and *Coda, which are the highest-ranked constraints. This is achieved by substituting /b/ with /p/ as well as /l/ and inserting /u/ and /a/ at the middle and end of the word. On the other hand, the candidate puloka violates DEP-IO, which is the lowest-ranked constraint, by inserting /a/ at the end of the word, but this violation is tolerated because it allows the satisfaction of the higher-ranked constraints. The optimal candidate /puloka/ differs from the input /block/ by two operations: substitution and insertion, which are both motivated by the constraints. Therefore, /puloka/ is the most harmonic output that can be derived from the input /block/, given the ranking of the constraints below;

*COMPLEX ONSET, *CODA>>MAX-C>>DEP-V

Discussion

This study explored the morpho-phonological constraints English loan verbs encounter when adapting into Lukabaras, utilizing Optimality Theory (OT) to understand the processes involved. The findings revealed that English loan verbs undergo significant morphological and phonological adjustments to fit within the structure of Lukabaras, a Bantu language with distinct linguistic rules. These adjustments are influenced by various constraints identified in the study, such as *COMPLEX C*, *NOCODA*, *MAX-IO*, *ONSET*, *DEP-IO*, *DEP-PREF*, *ALIGN [la]*, and *DEP-SUFFIX*.

The morphological constraints observed in the adaptation process align with the findings of Mukulo (2016), who noted that English nouns in Lukabaras change to fit the noun class system of the language. Similarly, the study found that English loan verbs are adapted morphologically, which reflects the broader pattern of linguistic borrowing discussed by scholars like Edinah (2020) and Jika (2013). Constraints such as *DEP-PREF* and *DEP-SUFFIX* play crucial roles in determining how loan verbs are integrated. For instance, *DEP-PREF* indicates that prefixes from the original language are often omitted or altered, while *DEP-SUFFIX* highlights the adjustment of suffixes to match Lukabaras morphological norms.

The adaptation processes observed in this study are consistent with previous research, which suggests that borrowed words are adjusted to conform to the receiving language's morphological system (Bender, 2000; Winford, 2018). This process involves the application of constraints that prioritise preserving the integrity of the loanword while adapting it to the structural requirements of Lukabaras.

Phonologically, the study identified several constraints such as *NOCODA*, *ONSET*, and *COMPLEX C* that influence how English loan verbs are adapted into Lukabaras. These constraints align with Kager's (1999) discussion on markedness, which posits that languages favour unmarked, less complex structures. *NOCODA* and *ONSET* ensure that syllables conform to the preferred structure of Lukabaras, which avoids codas and favours open syllables. This is consistent with Nurse's (2003) observation that Bantu languages often favour CV syllable structures. The constraints *COMPLEX C* and *MAX-IO* further elucidate the phonological adjustments required. *COMPLEX C* addresses the avoidance of complex onsets in the adaptation process, while *MAX-IO* ensures that as much of the input structure as possible is preserved in the output. These findings reflect the universal constraints proposed by Prince and Smolensky (1993/2004), where languages balance between faithfulness to the input and markedness in the output.

The findings also support the notion that adapting loanwords involves a negotiation between preserving the original form and conforming to the phonological and morphological rules of the receiving language (Owino, 2003; Winford, 2010). This process is influenced by the donor language's dominance and the recipient language's structural constraints. The constraints identified in this study—*COMPLEX C*, *NOCODA*, *MAX-IO*, *ONSET*, *DEP-IO*, *DEP-PREF*, *ALIGN [la]*, and *DEP-SUFFIX*—demonstrate how Lukabaras adjusts English loan verbs to fit within its linguistic framework. This adjustment process highlights the broader linguistic phenomenon where languages modify borrowed elements to adhere to their structural norms (Edinah, 2020; Ndambuki, 2013; Mudogo, 2017).

Conclusion

In conclusion, this study provides valuable insights into the intricate process of language contact and borrowing, focusing on adapting English loan verbs into Lukabaras through the lens of Optimality

Theory. By analysing a selected set of loanwords and their transformation within the morpho-phonological framework of Lukabaras, the research highlights the complex interplay between morphological and phonological constraints in this language contact scenario. The findings underscore the distinct structural differences between English and Lukabaras, which necessitate significant modifications to accommodate the loanwords within Lukabaras' linguistic patterns. The identified constraints, such as NOCODA, COMPLEX C, and MAX IO, reveal how Lukabaras navigates integrating foreign elements while maintaining its phonological and morphological integrity. Notably, the study demonstrates that in Lukabaras, faithfulness constraints generally outweigh markedness constraints, reflecting a preference for preserving the core features of the loanwords. These insights contribute to a deeper understanding of language adaptation mechanisms and offer a framework for further research on language contact and borrowing dynamics. Future studies could expand on these findings by exploring additional loanword categories or investigating similar processes in other languages, enriching our comprehension of linguistic interactions.

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