

# An Analysis of Phonological Nativisation of English Loanwords in *Olunyole*: An Optimality Theoretic Approach

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## ABSTRACT

This study aims to explain how *Olunyole* nativises English loanwords into its phonological system. The specific objectives are to describe the phonological strategies involved in the nativisation of English loanwords in *Olunyole*, and to provide an Optimality theoretic account of the phonological strategies involved in the nativization of English loanwords in *Olunyole*. The study is anchored within the Optimality theoretic framework (OT). OT is a constraints-based approach which argues for competition between inputs that are parsed through universal and language specific constraints to arrive at a well-formed output in a language. A corpus of 170 English loanwords in *Olunyole* forms the basis of analysis in this study. This data was collected from native speakers of *Olunyole* in Luanda Township and Wamasiole sub-location in Luanda Sub-County-Kenya. Data was collected using Semi-Structured Interviews, Note Taking, and Audio Recording. The findings of this study show that English loanwords are fully nativized into *Olunyole* grammar through four main ways. First, English sounds that lack a counterpart in the *Olunyole* sound system are replaced by native *Olunyole* sounds through substitution. Secondly, vowel epenthesis is used to resolve the incidence of syllable codas in English loanwords. Additionally, consonant clusters in syllable onsets are banned, and such occurrence is resolved through vowel epenthesis. Finally, phonotactic gaps native to *Olunyole* are maintained in loanwords through segment preservation strategies. The findings of this study show that that *Olunyole* grammar heavily constrains the nativization of English loanwords. The implications of this study from the analysis of data indicate that the nativisation process in *Olunyole* is motivated by the phonological system of *Olunyole* and thus peculiar to *Olunyole* language, and has little to do with the internally motivated phonological rules of the source language, in this case, English.

**Keywords:** Constraints; Epenthesis; Nativisation; *Olunyole*; Optimality theory

## INTRODUCTION

Phonology is a sub-field of linguistics that analyses the systematic and functional properties of sounds in a language (Crystal, 1980). The term phonology is also used in the description of languages to refer to the production and systematic use of sounds to create linguistic communication. It describes what sounds are in a language, how they do and can combine into words, and explains why certain phonetic features are important to the identification of words. In addition, according to Katamba (1989), phonology goes beyond merely looking at the physical characteristics of speech sounds. It focuses on speech sounds and their function in different languages as a communicative system. This implies that phonology emphasizes those properties of sounds that are significantly involved in forming words and utterances (Katamba, 1989).

*Olunyole* is one of the languages of the larger Luhya speech community, who are the inhabitants of Western Kenyan Counties of Kakamega, Busia, Bungoma and Vihiga. *Oluluyia* is classified as a “macro language” in the ISO 639 standard and is assigned to [luy] as its three-letter code (Ethnologue, 2024). Macro languages were introduced into the standard in order to reconcile the fact that some encoded languages are subdivided into two or more individual languages, each of which has its own code (Eberd & et al, 2024). Fundamentally,

Grimes (1988:246) lists NYORE as one of the world languages spoken in Kenya and makes an entry: NYORE: (OLUNYOLE, LUNYORE, NYORE, NYOOLE, NYOLI, NYOLE). Indeed, Olunyole is assigned as ISO 639-3 language and [nyd] as its three letter code (Ethnologue, 2024).

Olunyole, like any other natural language, has a unique set of sounds governed by its grammar (Crystal, 1991). However, when speakers of Olunyole come in contact with speakers of English language, they tend to borrow words from English language. The foreign words borrowed contain alien sounds to Olunyole linguistic grammar. The borrowed words must then undergo at least some degree of integration to acquire a position of social acceptance in Olunyole language (Forth, 2006). This process is called nativisation.

Nativization, in linguistics, is the process of adapting a loanword to the structure of the native language. This process involves words borrowed being crafted or remodeled in a totally different or somehow different way depending on the linguistic structure of the receiving language instead of merely being carried over as a unit into the recipient language. The borrowed lexical item takes up the phonological and morphological structure of the receiving language.

During the process of nativization, the source language experiences linguistic readjustments at the orthographical, phonological, morphological, syntactical, semantic, and prosodic levels. All these levels have distinguishing features. This study focuses on the phonological levels of nativization. The phonological level of nativization happens when speakers of the target language find it difficult to reproduce phonemes of the source language that do not exist in their own language. They, therefore, adopt the alien phonemes to suit their pronunciation. During phonological change, the target language nativizes the illicit phonemes through various means.

The nativization process is premised on sound change (Crawley, 1987). Many sound changes are due to the influence of one sound on another. Crawley (1987) refers to this process as assimilation and describes it as the process where one sound causes another sound to change so that the two sounds end up being more similar in some way. According to Katamba (1989), assimilation is the modification of sound to make it more similar to some other sound. Assimilation is the most common sound change (Crawley, 1987). During assimilation, the changed sound may retain at least one of the original features by which it is distinguished from the unchanged sound. This phenomenon is referred to as partial assimilation. However, on the rare occasion when the changed sound loses all its earlier features, the assimilation process is said to be total assimilation.

There is much literature on nativization in linguistics, with more attention given to the nativization of the English language by various indigenous languages that have ultimately led to the phenomenon of world Englishes (Crystal, 1997; Kachru, 1983; Pandharipande, 2007; Pennycook, 1997; & Phillipson, 1992). Some scholars like Kachru (1993) view the aspect of nativization regarding English as an innovation on the side of the indigenous languages. Other scholars describe nativization in linguistics using a variety of terminologies and expressions, including pluralization, diversification, hybridization, localization, indigenization, decolonization, dehegemonization, and liberation.

One important empirical study that lends insight into nativization processes is by Uffmann (1993), which focuses on epenthesis in Shona loanwords from English. Uffmann (1993) concludes that vowels are used in the declusterization of unacceptable consonant sequences. According to this study, languages with a CV syllable structure often use vowel epenthesis to break up illicit consonant clusters and make them acceptable in the target language.

This study reviewed literature related to the phonological nativisation of English loans in the Tonga language of Zimbabwe (Zivenge, 2009). Tonga speakers accommodate English sounds like diphthongs, triphthongs, cluster consonants, and syllable structure. Further, the study examines how Tonga repairs illicit sequences and sounds borrowed from English. The researcher appreciates that native Tonga speakers have robust intuitions on the proper way to nativize words. During phonological change, a language nativises the illicit phonemes

through various means. Illicit consonant clusters are broken up with vowels; alien phonemes not found in the target language are either substituted with licit phonemes or deleted altogether (Hoffer, 1990).

Another study that interests the current study is the inquiry carried out by Khaecha (2016) on the phonological adaption of English loanwords in Lukabras. In her study, Khaecha (2016) describes the Lukabras phonetic inventory and makes a comparison with the English phonetic inventory. The study concludes that English loanwords adapt in Lukabras by being nativised through phonological processes such as vowel lowering, devoicing of consonants, continuant strengthening, stop weakening, monophthongization of diphthongs, reduction of long vowels, and vowel epenthesis. Insights from the phonological nativization processes adopted by Lukabras in nativising English loans that she describes also help to describe the various phonological nativization processes in this study.

The theory underlying the description of Olunyole phonological nativisation of English loanwords in this study is derived principally from the constraints based approaches, particularly those provided by Optimality theoretic framework (henceforth OT) outlined by Alan Prince and Paul Smolensky (1993) through their widely-circulated paper, *Optimality Theory: Constraint Interaction in Generative Grammar* (Prince & Smolensky, 1993). Primarily, OT is a constraint-based theory of language which proposes that the output forms of language are a result of the interaction between conflicting constraints used to evaluate the wellformedness of the input forms of grammar. The theory was later expanded by McCarthy and Prince (1993a, 1995) and McCarthy (2001).

### Olunyole Consonant inventory

Olunyole language has 24 consonant sounds (Angongo, 1983). The inventory of Olunyole consonants follows that of other Luhya languages such as: Olumarachi (Akwala, 2008), Oluwanga (Akinda, 2000), Lwidakho (Shidiavai, 2015), Lukabras (Khaecha, 2016), Kisa (Ondondo, 2013), and Olumarama (Nanjira, 2013). This categorisation is based on two parameters: manner of articulation and place of articulation (Ladefoged & Maddieson, 1996). The Olunyole consonant sounds are set out in table 1, while the orthographic representation of Olunyole consonant sounds is presented in table 2.

Table 1: IPA Representation of Olunyole Consonantal Sounds (Ondondo, 2013)

Manner/Place	Bilabial	Labio-Dental	Alveolar	Palato-alveolar	Palatal	Velar	Glottal
Stop	p		t			k	
Fricative	b	f	s			x	h
Affricate			ts	tʃ			
Nasal	m		n		ɲ	ŋ	
Nasal Consonant	mb		nd nz		ɲj	ŋg	
T rill			r				
Lateral			l				
Flap			r				
Glide	w				j		

Table 2: Orthographic Representation of Olunyole Consonantal Sounds (Ondondo, 2013)

Manner/Place	Bilabial	Labio-dental	Alveolar	Palato-Alveolar	Palatal	Velar	Glottal
Stop	p		t			k	
Fricative	b	f	s			kh	h
Affricate			ts	ch			
Nasal	m		n		ny	ng'	
Nasal Consonant	mb		nd nz		ɲj	ng	

<b>Tril</b>			r				
<b>Lateral</b>			l				
<b>Flap</b>			ɾ				
<b>Glide</b>	w				y		

### Olunyole Syllable Structure and Phonotactics

The most preferred syllable structure in Olunyole is the open syllable structure. The Olunyole open syllable structure is manifested in a variety of ways. The most common open syllable type is the CV syllable. Consider the syllables in the word in (1). Syllable boundaries are marked by a dot (.).

(1)	<b>Olunyole</b>	<b>Gloss</b>
	Si	What?

In (1), an onset C is obligatory. The rhyme minimally contains a monophthongal nucleus. The second syllable structure manifested in Olunyole is the V structure. In such a structure in Olunyole the syllable is made of a single vowel sound (V) as seen in the first syllable  $\sigma_1$  in (2).

(2)	<b>Olunyole</b>	<b>Gloss</b>	<b>e. li. no</b>
	e-. li-.no	tooth	$\sigma_1. \sigma_2. \sigma_3$

Another type of syllable structure that occurs in Olunyole is CVV as illustrated by the second syllable  $\sigma_2$  in (3).

(3)	<b>Olunyole</b>	<b>Gloss</b>	<b>a-. baa-. na</b>
	a-. baa-. na	children	$\sigma_1 \sigma_2 \sigma_3$

No consonants occur at the word-final position in Olunyole, which points to an absence of a coda position in the Olunyole syllable structure. This is different from English which has both onset and coda consonant clusters. There are notable gaps when comparing Olunyole sound inventory to that of English. The English consonants which do not occur in Olunyole are the bilabial stop /b/, the dental fricatives /θ/ and /ð/, the labio-dental fricative /v/, the voiced palatal alveolar affricate /dʒ/, the voiced alveolar stop /d/, the voiced velar stop /g/, the voiced alveolar fricative /z/, voiced palatal alveolar fricatives /ʒ/, and /ʃ/, and the glottal stop /h/. Similarly, some consonant sounds unique to Olunyole are not found in the English sound inventory. These are: the voiced bilabial fricative /β/, the velar fricative /x/, the palatal nasal /ɲ/, and the nasal consonants /mb/, /nd/, /nz/, /ɲj/, and /ŋg/.

### METHODOLOGY

The study adopted qualitative survey study where 170 English loanwords in Olunyole form the basis for the analysis in this study. This data was collected between July 2021 to July 2022 from a sample size of 22 subjects selected from native speakers of Olunyole in Luanda Sub-County using purposive and snowball sampling techniques. The accessible population from which the data on English loans in Olunyole was elicited for the study was 17, 148 Olunyole speakers in Luanda Township and 2, 457 Olunyole speakers from Wamasio sub-location. The data collected is analysed through interpretive and descriptive processes.

### RESULTS AND DISCUSSIONS

The English consonants are nativised to fit into the Olunyole syllable structure through vowel epenthesis, substitution, lenition, and fortition processes.

## Vowel Epenthesis

Vowel epenthesis is a process in which one or more vowels are added to a morpheme (Crowley, 1997). In most cases, the function of vowel epenthesis is to repair an input that does not meet a language's structural requirements (Crowley, 1997). This study found that Olunyole has two standard epenthetic vowels, /i/ and /u/ that are used to resolve illicit consonant clusters in English loanwords. This is also the case in other Bantu languages such as Yoruba (Pulleyblank, 1988) and Shona (Uffmann, 2004). Other languages that also have the epenthetic vowels /i/ and /u/ are Japanese (Katayama 1998, Shinohara1997) and Korean (Lee, 2003). Vowel epenthesis at the onset is illustrated (4a) and (4b) using the English loanword: **tractor**

(4) a **træ. ktə**

σ1 σ2

(6) b. e. **li. tu. ra. ki. Ta**

σ1 σ2 σ3 σ4 σ5 σ6

The resultant nativised word is re-syllabified to allow for formation of simple onsets as permitted by Olunyole language as shown in 4b. In (5a) and (5b), we show vowel epenthesis at the coda position.

(5) a. English Loanword: **Laptop**

**lap. top**

σ1 σ2

(5) b. Olunyole nativised form: **Elaputopu**

**e. la. pu. to. pu**

σ1 σ2 σ3 σ4 σ5

The second syllable σ2 in (5a) ends in a consonant thus pointing to a coda position of the syllable. This is not permissible in Olunyole. The epenthetic vowel /u/ is added to cure this ill-formed structure thus resulting in the creation of a new syllable σ5 as seen in (5b) above. Further examples showing vowel epenthesis in Olunyole are presented in table 3.

Table 3: Vowel Epenthesis in Olunyole

English Loanword	Olunyole Form
program	Epurokuramu
referendum	Eriferendamu
chief	Chiifu
block	Elipuloku
<i>block</i>	Elipuloku
<i>cream</i>	Ekurimu
sacrament	Esakuramendi
<i>tractor</i>	Eliturakita
<i>textbook</i>	Etekisitipuku

(data from the survey for this study, 2024)

The quality of the epenthetic vowel in Olunyole is determined by the re-ranking of markedness constraints. The general Olunyole syllable typology ranks the markedness constraint NOCODA higher than the faithfulness constraints which means that only syllable structures of the unmarked CV or V type are permissible in the syllable coda. Further, Olunyole syllable structure only permits simple onsets. The onset in Olunyole is obligatory. The study invokes the \*COMPLEXONSET to ensure that the optimal candidate exhibits simple syllable onset and, lastly, the faithfulness constraint DEP-IO to militate against epenthetic segment in the output which does not have a correspondent in the input. Given that epenthesis introduces a new segment in the output, the DEP-IO constraint is lowly ranked to permit epenthesis in the optimal candidate.

There are two universal markedness constraints that influence the choice of epenthetic vowels that can be applied to Olunyole language: the context-free constraints and the contextual markedness constraints (Kager, 1999). The context-free constraints account for the presence of a default epenthetic vowel in languages, thus correctly predicts that in Olunyole, the featurally unmarked vowel /i/ is often selected as an epenthetic vowel (Kager, 1999). The Olunyole epenthetic /i/ is the least intrusive, the most unmarked, and perceptually the closest to zero silence, in the Olunyole vowel system as in other languages (Hirayama 2003). According to Lehiste (1970), Carr (1999) and Blevins (1995), high vowels are less sonorous and shorter in duration than low vowels. Also, Lombardi (2002) states that front vowels are more marked than back vowels, a view also shared by Kager (1999) who stipulates that [-low, + back, -round] vowels are the most unmarked values for epenthetic vowels.

Based on these studies, this study proposes the constraints of HIGH, \*LOW, BACK, \*FRONT and \*ROUND. These are ranked in the order that generates the default epenthetic vowel /i/.

HIGH: The epenthetic vowel should be high.

\*LOW: The epenthetic vowel should not be low.

BACK: The epenthetic vowel should be back.

\*FRONT: The epenthetic vowel should not be front.

\*ROUND: The epenthetic vowel should not be rounded. (McCarthy & Prince, 1995, Juhee, 2008)

This study ranks the optimality of /i/ in Olunyole in the following manner: HIGH, \*LOW, \*ROUND >> BACK, \*FRONT, as illustrated in tableau 1.

Tableau 1: Ranking of Constraints for the Optimality of Epenthetic Vowel /i/

CVC	HIGH	*LOW	*ROUND	BACK	*FRONT
☐CVCi				*	*
CVCu			*!	*	
CVCe	*!			*	*
CVCo	*!		*		
CVCa	*!	*		*	

The tableau 1 above presents a hypothetical ranking of constraints based on specific features of epenthetic vowels and the conventional characteristics of epenthetic vowels. The above ranking produces an optimal candidate for epenthesis in Olunyole. Let us focus on the nativisation of the English loanword ‘skirt’ in Olunyole as a specific example. The English loanword ‘skirt’ is nativised into Olunyole as [esikati] through insertion of the default epenthetic vowel /i/ to cure the CC sequence at the onset and to avoid the complex onset that is not permissible in Olunyole. The \*COMPLEXONSET constraint is incorporated to militate against the occurrence of consonant clusters in the onset and dominates the feature specific constraints. This is illustrated in tableau 2.

Tableau 2: Default Epenthesis of /i/ at the Onset /sk3:t/ → [esikati]

/sk3:t/ → [esikati]	*COMPLEXONSET	HIGH	*LOW	*ROUND	BACK	*FRONT	DEP-IO
a. ☐esikati					*	*	*
b. esukati				*!	*		*
c. esikati		*!			*	*	*
d. esokati		*!		*			*

e.	esakati		*!	*		*		*
f.	eskati	*!						

In the tableau 3, the NOCODA constraint is introduced to show how Olunyole treats loanwords with syllable coda positions during epenthesis. This study observes that the general Olunyole syllable typology ranks the markedness constraint NOCODA higher than the faithfulness constraints which means that only syllable structures of the unmarked CV or V type are permissible in the syllable coda. The same ranking of constraints produces the epenthetic vowel /i/ thus curing the coda position in English loanwords as illustrated in Tableau 3.

Tableau 3: Default Epenthesis of /i/ at the Syllable Coda /sev: n/ → [seeɛeni]

/sev: n/ → [seeɛeni]	NOCODA	HIGH	*LOW	*ROUND	BACK	*FRONT	DEP-IO
a. $\text{seeɛeni}$					*	*	*
b. $\text{seeɛenu}$				*!	*		*
c. $\text{seeɛene}$		*!			*	*	*
d. $\text{seeɛeno}$		*!		*			*
e. $\text{seeɛena}$		*!	*				*
f. $\text{sev: n}$	*!						

It is the understanding of this study that the epenthesis of /u/ receives a direct phonetic motivation. Specifically, the choice of the vowel /u/ as an epenthetic vowel in Olunyole points to the fact that there is consonant-vowel assimilation, most notably labial attraction in Olunyole. The epenthetic vowel /u/ appears only in contexts where the backness or labial feature is required to distinguish it from /i/; consequently, it is contextually motivated. This study aligns itself with the descriptions of the patterns of epenthetic vowel /u/ in words borrowed from English or Afrikaans into the southern Bantu language Sotho, as described in Rose and Demuth (2006). This study observes that in Olunyole vowel epenthesis, the crucial fact is that after a labialised consonant the insertion of the default vowel is overridden by the spread of the place of articulation of the preceding consonant. Examples of this phenomenon are presented in table 4.

Table 4: Epenthesis of Olunyole Vowel /u/

English Form	Gloss	Olunyole
klɪp	Clip	ekilipu
klʌb	Club	ekilapu
tʃɪf	Chief	chiifu
stʊv	Stove	esitofu
ti:m	Team	etiimu
kɒn.dəm	Condom	ekoondomu

(data from the survey for this study, 2024)

Feature spreading is enforced by markedness constraints (Smolensky, 1993). This study invokes the constraints proposed in the Generalised Alignment Approach (GAA) to segmental features (McCarthy & Prince 1993a). This study also invokes the AGREE (F) faithfulness constraint to account for the specific vowel features that are used by alignment constraints. According to Pulleyblank (2004), if a segment bears a feature value (F), then the immediately preceding or following segment must bear that feature value. Specifically, this study attempts to account for the choice of the vowel /u/ at the expense of /i/ based on the labial attraction of

its +back feature. There are, however, two +back vowels in Olunyole: /u/ and /o/. To explain the optimality of /u/ and not /o/, this study ranks the features of the epenthetic vowel with the vowel not only being +back, but also +high, thus High Back. Therefore, in every sequence of a [labial] consonant the epenthetic vowel must bear the features [ + High] vowel, [ + Back] vowel as explained below.

**HIGH:** The epenthetic vowel should be high.

**BACK:** The epenthetic vowel should be back.

This study observes that Olunyole shows preference for epenthesis over deletion. In our ranking of constraints, we postulate that the DEP-IO constraint must be low-ranked with respect to the AX-IO constraint that permits epenthesis as presented in tableau 4.

Tableau 4: Epenthesis of /u/ at the Onset: /træktə/→/eliturakita/

ALIGN-R[Lab],V:/træktə/→/eliturakita/	*COMPLEXONSET	HIGH	BACK	MAX-IO	DEP-IO
a. $\text{ɛ}^{\text{h}}$ eliturakita					*
b. Elitirakita			*!		*
c. Elitorakita		*!			*
d. træktə	*!				

The next example shows the optimality of /u/ at the syllable coda.

Tableau 5: Epenthesis of /u/ at the Coda: /kɫip/→/ekilipu/

ALIGN-R [Lab], V: /kɫip/→/ekilipu/	NOCODA	HIGH	BACK	MAX-IO	DEP-IO
a. $\text{ɛ}^{\text{h}}$ ekilipu					*
b. Ekilipi			*!		*
c. Ekilipo		*!			*
d. Ekilip	*!				*

The question as to why Olunyole language entertains more than one strategy when it comes to epenthesis is answered by Uffmann (2002). There are three possible strategies in vowel epenthesis: Default Vowel Epenthesis, Vowel Feature Spreading and Consonant Feature Spreading, which are used as epenthesis strategies in loanword adaptation. These strategies are not only found cross-linguistically but also within one language (Uffmann, 2002).

### Substitution

In substitution, sounds present in the origin language but missing in the target language are replaced with sounds present in the target language that are close to the sounds of the origin language in terms of their features. According to Antila (1972), an absent segment will always be assigned the closest bundle from the native language (L1). Therefore, substitution is a nativisation tool where a linguistic structure is replaced by another linguistic structure in a specific segment and place (Crystal, 2008).

The English consonant sounds /b/, /d/, /z/, /dʒ/, and /g/ belong to a special class of consonants called obstruents. The class is characterized by complete or partial occlusion of the airstream mechanism during articulation (Kent, 1987). Olunyole language lacks voiced obstruents. All the obstruents in Olunyole are voiceless: the plosive obstruents /p/, /t/, /k/; the fricatives /f/, /s/, /x/, /ʃ/, and the affricate /tʃ/. The voiced obstruents in English loanwords are thus substituted by their voiceless counterparts in Olunyole. Voiced obstruents are therefore disallowed in Olunyole in all word positions, that is, word initial, median and word final positions.



Table 5: Substitution Nativisation Process

English Form	Gloss	Form in Olunyole
dɪdʒ.ɪ.təl	Digital	Tichito
fɪɪdʒ	Fridge	Efurichi
zɪə.rəʊ	Zero	Siro
dʌz.ən	Dozen	Etaasani
glɑ:s	Glass	Ekilasi
greɪd	Grade	Ekureti
dɪ.zaɪn	Design	Etisayini
dʒɜ:.məni	Germany	Chaamani
dɪdʒətəl	Digital	Tichito
kʌb.əd	Cupboard	Ekabati
kəʊ.vɪd	Covid	Ekobiiti

(data from the survey for this study, 2024)

To account for the substitution of this class of consonants in Olunyole, we propose the following constraints: The MAX IO - This constraint demands that every segment in the input (I) has a correspondent segment in the output (O). This constraint prohibits deletion of segments. The other constraint is the IDENT VOI: a faithfulness constraint that militates against change in voicing, meaning that the IDENT F-[voice] in the input must be preserved faithfully in the output. Lastly, is the \*OBSVOI markedness constraint that prohibits voiced obstruents in general. This means that the marked feature [+voice] in the input must be unmarked in the output. The following tableaux provide the OT account of substitution of different Obstruents in English loanwords. (Derived from Prince & Smolensky, 1993).

This study therefore stipulates that Olunyole ranks constraints in relation to voicing in the manner to indicate that markedness constraint banning voiced obstruents dominate any faithfulness constraints, thus: \*OBSVOI»MAX-IO» IDENT VOI. This re-ranking of the constraints does not only produce an output that is a voiceless obstruent but one that also observes the maximum input-output correspondence as shown in tableau 6.

Tableau 6: Substitution of the English Alveolar Stop /d/

INPUT-digital	*OBSVOI	MAX-IO	IDENT VOI
a. tɪtichitoli			*
b. ɪchito		*!	*
c. dɪgɪtəl	*!		

Though voiceless obstruents are cross linguistically preferred as substitutes for voiced obstruents (Larry & Frank, 2018), Olunyole substitutes the voiced labio-dental fricative /v/ with the voiced bilabial fricative /β/. The two sounds share both voicing feature [+voice] and manner feature [+fricative]. It is the place feature that is different during nativization process. In accounting for the substitution of the English consonant /v/ with Olunyole consonant /β/, this study invokes the IDENT PL- A faithfulness constraint that demands input segments keep the same specification for place of articulation feature in the output thus prohibiting debuccalisation and changing place of articulation. This study also invokes the \*/V/ that bans the English labiodental fricative /v/ in Olunyole. The Olunyole consonant sound inventory does not have the voiced labiodental fricative /v/, thus the \*/V/ markedness constraint prohibits the occurrence of this consonant sound in Olunyole.

Tableau 7: Substitution of the Consonant Sound /v/

INPUT-seven	*/V/	MAX-IO	IDENT VOI	IDENT PL.
a. seβeni				*
b. sefeni			*!	
c. seeni		*!		
d. seven	*!			

The Olunyole sound system does not have the voiced bilabial stop /b/. This consonant is thus considered alien to the Olunyole sound system and is substituted with the voiceless bilabial stop /p/. Further, the voiceless palato-alveolar fricative /ʃ/ found in English is not present in Olunyole consonants inventory and is substituted with the voiceless alveolar fricative /s/ which is found in Olunyole. The two sounds; the palato-alveolar fricative /ʃ/ and the alveolar fricative /s/ share both the voicing and manner of articulation features. Therefore, we propose the \*/ʃ/ markedness constraint for this specific analysis. This is presented in tableau 8.

Tableau 8: Consonantal Substitution of the Consonant Sound /ʃ/

INPUT-shirt	*/ʃ/	MAX-IO	IDENT VOI	IDENTPL.
a. eliisati				*
b. elizati			*!	
c. eliati		*!		
d. ʃɜ:t	*!			

### Lenition

Lenition is a phonological nativisation process in which a consonant sound changes from one that is considered to be strong to one that is considered to be weak (Bauer, 1988). One example of lenition is stop weakening where a stop is changed to a fricative through intervocalic spirantisation (Cser, 2003). Generally, the English voiced bilabial stop /b/ undergoes substitution and is replaced by the Olunyole voiceless bilabial stop /p/. However, in some instances during nativization, the English voiced bilabial stop /b/ instead of being substituted with /p/ as we have seen in the preceding discussion, undergoes lenition instead in specific environments, to become the weaker voiced bilabial fricative /β/. First, it is important to note that lenition does not apply word-initially, after a nasal and after a lateral (Chong, 2011). In Olunyole, lenition mostly occurs between vowels (V\_V) as the examples in table 6 below.

Table 6: Lenition of the Bilabial Stop /b/

English Form	Gloss	Form in Olunyole
kæbɪdʒ	Cabbage	elikaβichi
kʌb.əd	Cupboard	ekaaβati
sʌbtʃi:f	sub-chief	saβuchifu

(data from the survey for this study, 2024)

To account for lenition in Olunyole, this study proposes a markedness constraint based on Kingston (2008) using the feature [sonorant] since Olunyole specifically employs sonority increasing lenition. This study therefore invokes the generalised surface constraint Sonority Preservation (SONPRES) and will assign one violation mark for every segment with the feature [-sonorant] that falls in between two sonorants, in this case, \*[-SON]/ [V] \_\_ [V]. This markedness constraint prohibits [-sonorant] segments from appearing in a particular segmental context and predicts that stops would lenite to fricatives. The markedness constraint SONPRES dominates a faithfulness constraint IDENT-SON which militates against change in the value of the feature

[sonorant] between the input and the output (McCarthy & Prince, 1995). This study also incorporates the \*OBSVOI markedness constraint to militate against the occurrence of obstruents with the feature +voice in the output. This study arrives at the following ranking of constraints leading to the lenition of stops to fricatives in Olunyole: \*OBS-VOI >> \*[-SON]/ [V] \_\_ [V] >>IDENT-SON.

Tableau 9: Lenition of the English Bilabial Stop /b/ to the Olunyole Voiced Bilabial Fricative /β/

INPUT-cabbage	*OBS-VOI	*[-SON]/ [V] __ [V]	IDENT- SON
a. $\text{elika}\beta\text{ichi}$			*
b. Elikapichi		*!	
c. $\text{k}\alpha\text{bid}\zeta$	*!	*	

## FORTITION

Fortition is a consonantal change that increases the degree of stricture thus leading to consonantal strengthening (Joan & Shelece, 2019). Olunyole carries out fortition of the voiceless dental fricative /θ/ to the almost universal corresponding alveolar stop /t/ as seen in the table 7 below.

Table 7: Consonant Fortition of the English Consonant / θ/

English Form	Gloss	Form in Olunyole
$\theta\text{z:m}\alpha\text{s}$	Thermos	etamosi
$\text{k}\alpha\theta\alpha\text{lik}$	Catholic	ekatoliki
$\theta\alpha'\text{m}\theta\text{mit}\alpha$	Thermometer	etamometa

(data from the survey for this study, 2024)

This study invokes the following constraints to account for fortition within the OT framework.

\*/θ/- The Olunyole consonant sound inventory does not have the voiceless inter-dental fricative /θ/. This Olunyole markedness constraint therefore prohibits the occurrence of this consonant sound.

IDENT PL- A faithfulness constraint that demands that input segments keep the same specification for place of articulation feature in the output.

IDENT M- A faithfulness constraint that demands that the input specification for manner of articulation be faithfully preserved in the out segments.

MAX-IO- This is a faithfulness constraint that insists on the maximum representation of all the input segments in the output, thus militating against deletion of segments. (McCarthy & Prince, 1995).

Tableau 10: Fortition of the English Consonant / θ/.

INPUT-thermos	*/θ/	MAX-IO	IDENTPL.	IDENT-M
a. $\text{etamosi}$			*	*
b. Amosi		*!		
c. $\theta\text{z:m}\alpha\text{s}$	*!			

## CONCLUSION

Phonologically, English loanwords are fully nativised into Olunyole language grammar through four main ways. First, English sounds that lack a counterpart in the Olunyole sound system are replaced by native

Olunyole sounds rather than their counterparts in the English language through substitution. Secondly, vowel epenthesis is used to resolve the incidence of syllable codas in English loanwords. Additionally, consonant clusters in syllable onsets are banned, and such occurrence is resolved through vowel epenthesis. Finally, phonotactic gaps native to Olunyole are maintained in loanwords through segment preservation strategies. The strategies employed by the Olunyole language to nativise illicit sounds and syllable structures from English loanwords are, in a general sense, motivated by the phonological system of Olunyole and thus peculiar to Olunyole language, and have little to do with the internally motivated phonological rules of the source language, in this case, English.

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