The Phonetic Manifestation of *-ile* Suffix across Bantu Languages: The Case of Nyasa-Tanganyika Corridor

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Abstract

This paper investigates the phonetic manifestation of -ile suffix across three selected Bantu languages forming the Nyasa-Tanganyika corridor. The study is guided by the Theory of Utterance selection whose underlying thesis vests on the assumption that speakers subconsciously change linguistic forms towards simplified ones. Data were collected from written texts, narrative stories and interviews. The findings indicate that three phonetic forms of the suffix which are ***-ite, -ile*** *and* ***-ie*** *exist across these languages. In Ndali the suffix manifests itself into* ***-ite*** *and* ***-ile*** *under varying conditions. It is also indicated that the suffix acquires irregular phonetic shape as a result of its suffixation to irregular verbs which are defined differently across the languages under investigation.*

Key words: *Phonetic manifestation, -ile suffix and Nyasa-Tanganyika corridor*

Introduction

This paper seeks to investigate the phonetic properties of *ile* suffix resulted from its historical development and suffixation across three Bantu languages forming the Nyasa-Tanganyika corridor[24]. The languages are Nyakyusa (M31), Ndali (M301) and Malila (M24). These languages are appropriate for this investigation because they are genetically so closely related that makes possible to study language change (in *-ile*) through a comparative method (Campbell, 2006).

The suffix *-ile* is a common inflectional category of the verb across many Bantu languages (Botne, 2010). The suffix started its life as an aspect marker since it is traditionally called perfective *-ile* (Mkude, 1974: Kahigi, 1989; Nurse, 2008; Asheli, 2013; Lusekelo, 2013). But according to Nurse and Philippson (2006), the suffix has undergone an interesting change as it is associated with either tense or aspect. Studies such as Hyman (1995) and Botne (2010) regard the suffix as

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[24] The Nyasa-Tanganyika Corridor is a geographical stretch that was named by a social anthropologist; Monica M. Wilson in 1958 after the two lakes (Nyasa and Tanganyika) defining it to the south and north; involving Bantu languages of South-West Tanzania, North-East Zambia and North Malawi. The corridor has three subgroups namely, Nyakyusa (Nyakyusa and Ndali), Nyika group (Nyiha, Safwa, Malila, Iwa), and Mwika group (Rungwa, Fipa, Rungu, Mambwe, Manda and Nyamwanga) (Persohn, 2017).

either a tense or an aspect marker in some Bantu languages. But Kotzé (2004) regards the suffix as a tense marker in Lobedu and Northern Sotho. Therefore, the role of the suffix is not clear unless close attention is paid to an individual language. But in the same view of its change, the suffix's phonetic shape manifests differently as a result of its historical development and/or its suffixation.

Historically, the suffix is said to be originated from the Proto-Bantu perfective suffix *-ida* (Mazrui, 1883) and/or *-ide* (Meessen, 1967; Hyman, 2007). But in languages such as Ruhaya (Hewson & Nurse, 2000), Runyambo (Rugemalira, 2005), Ruzinza and Runyankore (Muzale, 1998) the suffix assumes the *-ire* form for perfective. The data presented by Swilla (1998) and Botne (2003) show the existence of *-ile* and *ite* forms in Ndali. Given the focus and scope of the aforementioned studies in this paragraph, they could not attempt to reconstruct phonetic forms of the suffix to account for its disappearance across Bantu languages. This paper adopts *-ile* form out of the aforementioned forms (*-ida, -ite, -ile, -ire, -ie*) since it is the most common form across selected languages and it is widely used in the contemporary Bantu linguistics.

The fact that *-ile* suffix manifests itself into different phonetic shapes implies that phonetically, this suffix is evolving. The evolution of this suffix indicates the danger of its partial/total disappearance across Bantu languages. For instance, the data provided by Mreta (1998) show that in Chasu the suffix undergoes partial and/or total disappearance. In this language, the suffix undergoes partial disappearance as it involves loss of [l] leaving behind a (diphthong) sequence of two vowels [ie] as exemplified in 1 (a). This occurs mainly when *-ile* suffix co-occurs with a pre-root T/A formative to mark past tense. But the suffix undergoes total disappearance when it marks anterior as exemplified in 1 (b).

(1). (a). *bhé-im-íe* they cultivated
(b). *bhá-im-á* they have cultivated

Also the perfective marker *-ile* has totally disappeared in Swahili. This conclusion has been made following the presence of *-ile* suffix in Swahili dialects, namely Kiamu and Kibajuni as they use *-me/-ile* and *-indo/-ile* respectively for perfective aspect (Mazrui, 1983). According to Mazrui, the perfective prefix *-me-* originated from the word mala 'finish' whose underlying form was *malile* 'has finished'. Muzale

(1998) demonstrates below the stages in which the Swahili perfective *-me-* has passed from its Proto-form *malile.*

(2). Underlying form *tu-mal-ile kusoma* "we have finished to read"

Stage 1:	Loss of [l]	*tu-maile kusoma*
Stage 2:	Vowel coalescence	*tu-meele kusoma*
Stage 3:	Loss of [l]	*tu-meee kusoma*
Stage 4:	Vowel shortening	*tu-me kusoma*
Stage 5:	Loss of the infinitive	*tu-me-soma*
	Surface form	*tu-me-soma*
		"we have read"

Based on its suffixation the suffix *-ile* has a phonological impact to the verb base where it is attached (Mould, 1972; Kahigi, 1989; Kula, 2001; Kotzé, 2008; Robinson, 2015; Harford & Malambe, 2017). This impact poses descriptive and analytical challenges in terms of predictability of the suffix's phonetic shapes across Bantu languages. While Mould refers to as 'modified base' the phonological impact of *-ile*, Bastin (1983) refers to as 'imbrication'[25] (it is the key term of the title). So far as predictability of the *-ile* form is concerned there are incidences when we can predict the phonetic shape of the suffix (technically called regular suffixation) and when we cannot even if we know its base (irregular suffixation[26]). Kula mentions regular verb roots in Bemba as CV-roots, ØVC- as in *ak-a* light, ØVCV- as in *úmfu-a* 'hear', CVC- as in *pet-a* 'fold' CV:C- as in *paal-a* 'bless', CGV:C- as in *fyuuk-*a 'escape', CV(CV)NC- as in *béleng-a* 'read, whereas extended verbs involve irregular suffixation. Also, Kotzé mentions simple verbs that are regular whereas complex verbs (extended verbs) are irregular.

Generally, the reviewed studies suggest that the conditions for regular and irregular suffixation vary within and across languages. For instance, while Hyman (1995) and Morrison (2012) mention extended verbs that are irregular in Bemba, Northern Sotho and Bena respectively, Kula (2001) mentions some simple verbs and all extended verbs to be irregular. Following this variation, this paper suspects that the concept of regularity is language specific.

[25] This paper adopts the term imbrication as it has been widely used by several Bantuists such as Kula (2001), Rugemalira (2005), Asheli (2013), Robinson (2015).
[26] Imbrication is associated with irregular *-ile* suffixation.

The irregularity of the phonetic shapes of *-ile* suffix can be described under the framework of the Theory of Utterance Selection developed by Croft (2000). The theory states that speakers change their respective languages as they use through innovation and propagation. In the course of this change, users subconsciously impose simplification strategies and rules (Hayes, 2009). Therefore, this paper systematically investigates the change involving the phonetic shapes of *-ile* suffix by way of identifying simplification strategies and/or phonological processes (rules) shaping this change across three Bantu languages forming the Nyasa-Tanganyika corridor.

Methodology

Data collection process began by reviewing written texts particularly portions of Bible translated by SIL[27] into the selected languages. From these translated Bible portions and narrative stories, some phonological changes of *-ile* suffix were noticed. To supplement the data from these texts, interviews were done to at least one informant; a native speaker of each of the languages under study; living in Ilembo (M24), Isongole (M301) and Talatala (M31). Therefore, written texts, narrative stories and interviews were the main data collection strategies involved in triangulation.

Results and Discussion

Historical Manifestation of the *-ile* Phonetic Forms

This subsection seeks to present phonological change involving *-ile* by way of reconstructing its forms as a result of its historical development since Proto Bantu. Findings show that three forms of the suffix exist across languages under study. These forms are *ile, -ite and -ie* existing under varying conditions across these three languages. In Ndali and Nyakyusa two forms exist under varying conditions whereas in Malila only one form exists. For this reason, the following subsections present the forms and contexts in which these forms are used in an individual language.

The *-ite*/*-le* Forms in Ndali

In Ndali, two forms, namely *-ile* and *-ite* are used under varying condition or domain of use. The findings show that in Ndali, *-ite* is widely used as opposed to *-ile* suffix. The condition that restricts the use of these forms is the nature of the verb root. For instance, the *-ile* form is attached to CV-roots in Ndali. In this language and other

[27] They can be accessed on www.malilalanguage.com, www.ndalilanguag.com and www.nyakyusalanguage.com

many Bantu languages, the verbs with CV-roots are very few as they do not exceed twenty in number (Kula, 2001). In this view, *-ile* form has a very limited domain of use in Ndali. It was established from the data collected that the rest of the regular verbs in this language such as CVC- roots, CV:C-roots and CVCV(NC)-roots attract *-ite* form. Table 1 provides examples for verbs that allow suffixation of *-ile* in Ndali.

Table 1: Suffixation of -ile Form to CV-roots in Ndali

Stem	-ite	-ile	Gloss
fu-a	*fwite	*Fwile*	died
li-a	*liite	*Liile*	ate
lu-a	*lwite	*Lwile*	fought
si-a	*syite	*Syile*	grinded
ng'u-a	*ng'wite	*ng'wile*	drank
gu-a	*gwite	*Gwile*	fell
pi-a	*piite	*Piile*	bunt

The fact that *–ite* form is widely used and *–ile* suffix having restricted domain of use in Ndali implies that the language has retained the earlier form and a little change has occurred on the suffix.

Forms *-ile/-ie* in Malila and Nyakyusa

In Malila and Nyakyusa the *-ile* form is used throughout to mark tense and/or aspect. But in some environments, *-ie* form is used in Nyakyusa. In a connected speech, particularly in spoken discourse, Nyakyusa speakers tend to drop the consonant of the suffix. Example 3 illustrates how Nyakyusa speakers drop [l].

(3). a). *abhaanangu bha -gon -ie ninjala*
My children SM VB Prf with hunger
'My children slept without eating'

This dropping of [l] has phonetic motivation as it occurs in the phonetic environment where it is preceded by the high front vowel [i] but not otherwise. Table 2 provides examples to illustrate the dropping of [l] when occurring after the high front vowel [i] in Nyakyusa.

Table 2: No Dropping of [l] in CV- root Dtructure in Nyakyusa

Stem	Gloss	-ile Suffixation	Dropping	Surface Form
fua	Die	Fuile	*fuie	*fwile*
lia	Eat	Liile	*liie	*liile*
sia	Grind	Siile	*siie	*siile*
kua	Pay dowry	Kuile	*kuie	*kwile*
pia	Burn	Piile	*piie	*piile*

Generally, across the languages under investigation the suffix *-ile* is phonetically evolving as it assumes different phonetic shapes which are *-ite, -ile* and *-ie.* But the basic question behind these three forms of the suffix is which one can be reconstructed as the earlier form? To answer this question, two strategies as adopted from Campbell (2006) have been taken into account. The first strategy vests in the principle which states; any reconstruction should involve as few changes as possible between the daughter languages and the proto-languages. In this view, *-*ite* is reconstructed here as an earlier form of the suffix since it involves a relative fewer change from the proto-form *-*ide.* The change involved so far is only the voicing feature that is from the voiced alveolar stop [d] of the proto-form to the voiceless alveolar stop [t] in the daughter languages. The change that involves -*ide (proto form) to *-*ile* one of the form existing in languages under investigation does not conform to this principle since there is a wider gap of change between them.

The second strategy vests on the principle of directionality. This principle states that sound changes that recur in independent languages typically go in one direction. In this view, it is very common for [d] of *-ide* (the proto Bantu) to change into [t] of *-ite.* It is also common for [t] of *-ite* (the cognate) to change to [l] of *-ile* (cognate) in many languages and the vice versa is very rare. Therefore, the principle of directionality also reconstructs *–ite* to be the earlier form.

So far, considering the two aforementioned strategies, *-ite* form is the earlier form, followed by *-ile* and eventually *-ie* form. In terms of the rate of change of the suffix among the three languages, Ndali is said to have the lowest rate. This conclusion has been reached because *-ite* form which has been reconstructed as the earlier one, have a wider domain of use in the language than *-ile* form in Ndali.

After having presented the phonetic manifestation of *-ile* suffix resulted from its historical development, the next section, therefore presents the changes involving the phonetic forms of *-ile* suffix as a result of its suffixation in the realm of imbrication.

Imbrication

Imbrication is a morpho-phonological change in many Bantu languages in which the morpheme *-il-/-ir-*, which may be glossed as perfective, stative or past fuses with the verb stem producing relatively opaque differences between input and output forms (Hyman 1995; Rugemalira, 2005). This phonological change is expressed under different environment within a language and/or across the selected languages. For that reason, the following subsections describe imbrication with its triggering environment and set of phonological processes shaping the output forms in individual languages.

Imbrication in Nyakyusa

Imbrication in Nyakyusa depends on the structure of the verb root/stem. The CV-, CVC- and CVCV(NC)-verb roots are regular verbs in Nyakyusa as they involve predictable *-ile* form and therefore, they involve no imbrication. Table 1(a & b) illustrate regular *-ile* suffixation in Nyakyusa.

Table 3a: -ile Suffixation to CV-roots in Nyakyusa

Stem	ile Suffixation	Gloss
fu-a	*Afwile*	He has died
si-a	*Asiile*	He has grinded
ku-a	*Akwile*	He has paid dowry
lu-a	*Bhalwile*	They have fought

Table 3b: -ile Suffixation to CVC- roots in Nyakyusa

Stem	*-ile* Suffixation	Gloss
lim-a	*a-lim-ile*	He has cultivated
kom-a	*a-bha-kom-ile*	He has beaten them
jobh-a	*a-jobh-ile*	He has said
sond-a	*a-sondile*	He has put something in a (bottle)
som-a	*a-som-ile*	He has read

Table 3c: -ile Suffixation to CVCV(NC)- roots in Nyakyusa

Stem	-ile	Gloss
kasing-a	*Kasingile*	Has fried (maize)
kalang-a	*Kalangile*	Has fried (food)
bhulung-a	*Bhulungile*	Has rolled up
bheleng-a	*Bhelengile*	Has counted
fulumb-a	*Bhulumbile*	Has unpurified water
pamand-a	*Pamandile*	Has slapped

However, when both CV- and CVC- roots have been extended by verb extension suffixes they become irregular as it is not possible to predict the *-ile* phonetic forms. The following paragraphs demonstrate irregularity of the verbs with verb extension suffixes in Nyakyusa.

First, *-ile* suffix triggers imbrication to verbs extended with the reciprocal suffix *-an-* such as *kom-an-a* 'beat each other'. When *-ile* suffix is attached to *kom-an-a* the expected form would be *komanile*, but the resulting word is *komeene* 'have beaten each other'. The word *komeene* therefore is the surface form which has been shaped by several phonological processes from its underlying form. Example 4 illustrates the change from *komanile* (underlying form) to *komeene* (the surface form) with stages and accompanying phonological process shaping the change.

(4)	Underlying form	/komanile/
Stage 1:	Deletion of [l]	/*komanie/*
Stage 2:	CV metathesis	/*komaine/*
Stage 3:	Vowel coalescence	/*komeene/*
	Surface form	[komeene]

Imbrication to verbs with reciprocal suffix in Nyakyusa is shaped by three phonological processes which are; deletion [l]; consonant of tense/aspect suffix, consonant-vowel (CV) metathesis; the process involving position swap of the adjacent sound segments [n i], and vowel coalescence; the process involving assimilation of two adjacent segments affecting each other, making a juxtaposition of two [a, i] to disappear and be replaced by new compromised vowels [ee] (Massamba, 2010). Table 4 illustrates more about this imbrication and the asterisk [*] has been used throughout this paper to indicate that the word is ill-formed as it no longer used in the respective language.

Table 4: Imbrication to Verbs with the Reciprocal Suffix in Nyakyusa

Verb	Gloss	-an-	-ile Suffixation	Surface Form
koma	beat	*kom-an-a*	*komanile	*komeene*
manya	know	*many-an-*	*manyanile	*manyeene*
seka	laugh	*sek-an-a*	*sekanile	*sekeene*
jabha	Serve/divide	*jabh-an-a*	*jabhanile	*jabheene*
guta	push	*gut-ana*	*gutanile	*guteene*
tuula	help	*tuul-ana*	*tuulanile	*tuuleene*
ega	Marry/take	*eg-ana*	*eganile	*egeene*

Secondly, the suffix *-ile* triggers imbrication to verbs extended with applicative suffixes; *-il-* /*el-* which harmonize depending on the vowel of the verb root. This is demonstrated below using the verb stem *limila* 'cultivate for/use something to cultivate, changing from *limilile* to *limiile* and the verb *komela* 'beat for' changing from *komelile* to *komiile.* Stages and phonological processes shaping these changes vary as illustrated in 5(a & b).

(5). a). Underlying form / limilile/
Stage 1: Deletion of [l] /*limilie/*
Stage 2: CV metathesis /*limiile/*
Surface form [limiile]

b). Underlying form */komelile/*
Stage 1: Deletion /*komelie/*
Stage 2: CV metathesis /*komeile/*
Stage 3: Deletion of [e] /*komile/*
Stage 4: Compensatory lengthening /*komiile/*
Surface form [komiile]

Imbrication to the verbs with applicative suffix *-il-* involves two phonological processes, namely deletion of *l and consonant-vowel metathesis. But imbrication to verbs with applicative -el- is shaped by four processes, namely deletion of [l], CV metathesis, deletion of the mid vowel and vowel lengthening. Normally the rule for vowel deletion in this context is stated as the mid vowel is deleted before a high vowel. The rule is presented using features as follows.

(6). 1 2 3

$$\begin{bmatrix} +syllabic \\ +mid \\ -back \end{bmatrix} \rightarrow [\theta] / \_\_\_\_\_ \begin{bmatrix} +syllabic \\ +high \\ +back \end{bmatrix}, \quad 1 \neq 3$$

The compensatory lengthening occurs after the loss of the mid vowel [e] occurring before another dissimilar vowel. Then the remaining vowel [i] lengthens to compensate the lost one.

The third condition involves verbs extended with causative and passive suffixes; however, the phonological processes shaping changes in these verbs vary significantly. The suffixation of causative (*-esi-/-isi-)* and passive (*-igu-*) suffixes in Nyakyusa, necessitate *-ile* suffix to induce a phonological change as elaborated in the following paragraphs.

As pointed in the paragraph above, two causative suffixes are involved depending on the nature of the vowel of the verb root. The verb root which consists of a mid vowel attracts *-esi-* suffix whereas the suffix *-isi-* is applied elsewhere. When *-ile* suffix is attached to verbs with causative suffix such as from the *word kom-esy-a* 'cause to beat', the expected form would be *komesyile.* But this word changes into *komiisye* under several phonological processes. Also *lim-isy-a* was expected to be *limisyile* after *-ile* suffixation, but it has changed into *limiisye*. Therefore, example 7 (a) illustrates stages and phonological processes that have shaped the change from *komesyile* to *komiisye* and example 7 (b) illustrate the change from *limisyile* to *limiisye*.

(7). a).	Underlying form	/komesyile/
Stage 1:	Deletion of [l]	/komesyie/
Stage 2:	CV metathesis	/komeisye/
Stage 3:	Vowel deletion	/komisye/
Stage 4:	Vowel lengthening	/komiisye/
	Surface form	[komiisye]

b)	Underlying form	/*limisyile/*
Stage 1:	Deletion of [l]	*/limisyie/*
Stage 2:	CV metathesis	/*limiisye/*
	Surface form	[limiisye]

From two illustrations presented above, we have observed variation of phonological processes shaping the verbs with the causative suffix *-esi-* from that of causative suffix *-isi-.* With the former four phonological processes are involved, they include deletion of the consonant of the tense/aspect suffix, CV metathesis, deletion of the vowel preceding another vowel and compensatory vowel lengthening. While that with the causative suffix *-isi-* involves only two

phonological processes which are deletion of the consonant of the tense/aspect suffix and CV metathesis. But the verbs extended with the passive suffix *-igu-* are shaped by two processes; deletion of [l] and metathesis involving a sequence of a consonant and a glide (CG) with a vowel as illustrate below using the verb *tumigu-a* 'be sent' changing from *tumigwile* to *tumiigwe.*

(8).	Underlying form	*/tumigwile/*
	Deletion [l]	*/tumigwie/*
	(CG) V metathesis	/tumiigwe/
	Surface form	[tumiigwe]

Apart from extended verbs, there are longer verbs than two syllables. These verbs over time have undergone lexicalization with extension suffixes such as applicative suffix *-il-* and stative *-ik-*. In this paper, these verbs have been grouped differently from other extended verbs since we cannot separate the extension suffixes without meaning distortion. The suffix *-ile* induces imbrication to these verbs. For instance, when *-ile* suffix is attached to the word *bhotoka* the expected form would be *bhotokile* but the word has changed into *bhotwike.* Example 9 illustrates stages in the change of *bhotokile* into *bhotwike*.

(9).	Underlying form	/*bhotokile* /
Stage 1:	Deletion of [l]	/*bhotokie/*
Stage 2:	CV metathesis	/*bhotoike/*
Stage 3:	Gliding:	/*bhotwike/*
	Surface form;	[*bhotwike*]

Three phonological processes have been shaping the change that involves *-ile* suffixation to extended verbs with stative and applicative suffixes which in this language the verbs are lexicalized. The processes are deletion of [l], Consonant-Vowel (CV) metathesis and gliding; the process where the vowels; [i] and [o] glides. Based on the examples illustrated above and more examples provided below, the gliding rule can be stated as the vowels; [i] and [o] glides before another dissimilar vowel. The same rule stated is presented below using features.

(10). 1 2 3

$$\begin{bmatrix} +syllabic \\ -low \\ -back \end{bmatrix} \rightarrow \begin{bmatrix} +approximant \\ +labial \end{bmatrix} / \_\_\_\_\_ [+syllabic],\ 1 \neq 3$$

Table 5 (a): Imbrication to Lexicalized Verbs (with gliding) in Nyakyusa

Stem	-ile	-ile	Surface Form
Bhotoka	become plenty	**bhotokile*	*bhotwike*
Putuka	bend	**putukile*	*putwike*
Satuka	fall down	**satukile*	*satwike*
Saaguka	Separate	**saagukile*	*saagwike*
Tumula	Cut	**tumukile*	*tumwike*
Bhapula	Slap	**bhapulile*	*bapwile*
Bhututuka	walk aimlessly	**bhututukile*	*bhututwike*

The changes involving *-ile* suffix to lexicalized extended verbs in Nyakyusa can be grouped into two, namely those words shaped by gliding (Table 5a) and those shaped by vowel coalescence (Table 5b).

Table 5(b): Imbrication to Lexicalized Verbs (Vowel Coalescence) in Nyakyusa

Stem	-ile	-ile	Surface Form
Bhugala	become fat/recover	**bhugalile*	*bhugeele*
Bhungaana	Gather	**bhungaanile*	*bhungeene*
Gasama	Gape	**gasamile*	*gaseeme*
Fugama	kneel down	**fugamile*	*fugeeme*
Lusama	Gaze	**lusamile*	*luseeme*
Kangala	become old	**kangalile*	ka*ngeele*
Angala	be in a good company	**angalile*	a*ngeele*

Also *-ile* induces imbrication to C(G) VC- roots whose nucleus is a low vowel [a]. Examples of these verbs are *fwala* 'dress', *twala* 'bring' and *bhyiala* 'plant'. Table 6 provides more examples for imbrication to C(G) VC-roots in Nyakyusa.

Table 6: Imbrication to C(G)VC- Roots in Nyakyusa

Stem	Gloss	-ile Sufixation	Surface Form
fwala	Dress	*?fwalile*	*fweele*
twala	Bring	**twalile*	*tweele*
bhyala	Plant	**bhyalile*	*bhyeele*
syala	Remain	** syalile*	*syeele*
syasya	Cause to remain	**syasyile*	*syeesye*

Imbrication to these verbs is shaped by three processes; deletion of [l], CV metathesis and vowel coalescence as illustrated below using the word *twala* 'bring'.

(11).	Underlying form	/*twalile*/
Stage 1:	Deletion of [l]	/*twalie*/
Stage 2:	CV metathesis	/*twaile*/
Stage 3:	Vowel coalescence	/*tweele*/
	Surface form	[tweele]

It has been illustrated above that the condition for *-ile* suffix to induce imbrication is the low vowel [a] constituting the nucleus in C(G)VC- roots. Otherwise, no imbrication is attested to the same verbs with the same verb root structure (C(G)VC-roots) when the nucleus is not a low vowel [a]. Table 7 demonstrates the exception of the verbs with C(G)VC-roots in Nyakyusa.

Table 7: -ile Suffixation to C(G)VC-roots whose Nucleus is not a Low Vowel

Stem	Gloss	Regular -ile Suffixation
fwima	Hunt	*fwimile*
fyuka	go up hill	*fyukile*
syula	unbury	*syulile*
syuta	Swing	*syutile*
syoka	don't agree	*syokile*
bhoola	Slaughter	*bhoolile*
toola	get something by chance	*toolile*
tuula	Help	*tuulile*

In Nyakyusa some verbs with CV:C- root structure whose nucleus is a long low vowel [a:], create the condition for *-ile* to induce imbrication. For instance, when *-ile* suffix is attached to the verb *bhaala* 'increase' the expected form would be *bhaalile* but in Nyakyusa the form changes into *bheele.*

However, exception has been noticed as far as these conditions demonstrated in table 6 and that has been pointed out in the paragraph above. There are verbs whose stems satisfy the mentioned conditions, yet the *-ile* suffix does not induce imbrication. The examples in table 8 illustrate this exception in this language.

Table 8: -ile Suffixation to C(G)VC-root and CV:C roots (exception)in Nyakyusa

Stem	Stem + -ile	Gloss	ill Formed
laata	*Laatile*	has confessed	**leete*
gaala	*Gaalile*	has become drunkard	**geele*
fyata	*Fyatile*	has tightened	**fyeete*
nywama	*Nywamile*	has become fat	*?nyeeme*
paala	*Paalile*	Has invited	**peele*
pyata	*Pyatile*	Has peeled	**pyeete*
kwabha	*Kwabhile*	has married/pulled her	**kweebhe*

These exceptions provide a proof for the theory of language change which takes its inspiration from the neo-Darwinian evolution theory by underlying four key concepts. One of these key concepts is 'selection' which fits in the description of this exception involving *-ile* suffix in Nyakyusa. The concept of selection implies the process where replicators (entities possessing structure that can be passed on) are different in that some are more successful than the other in the course of change. Therefore, not all entities in languages change or rather change in the same direction or at once, this means some structures may be retained and others are innovated into change.

Moreover, *-ile* suffix induces a phonological change in Nyakyusa when it is attached to the verbs with CV:C(G)-root as in the word *leefi-a* 'cause trouble'. The expected word after –ile suffixation would be *leefyile*. But this word has changed into *leefifye*.

Example 12 illustrates the change from *leefyile* to *leefifye.*

(12).	Underlying form	leefyile
Stage 1:	Deletion of *l	*/leefyie/*
Stage 2:	CV metathesis	/*leeifye/*
Stage 3:	consonant insertion	/*leefifye/*
	Surface form	[leefifye]

The phonological processes involved in shaping this change are; deletion of [l] the consonant of the suffix, CV metathesis, insertion of a ghost consonant which normally is a copy of the last consonant in the word and vowel coalescence. More examples are shown in table 9.

Table 9: Imbrication to CV:C(G)- roots in Nyakyusa

Stem	Stem+ile	Surface Form	Gloss
leefya	**leefyile*	*Leefifye*	has made us angry/annoyed
leesya	**leesyile*	*Leesisye*	has peeled (tomato)
puufya	**puufile*	*Puufifye*	has warmed the food
gaasya	**gaasile*	*tu-gaasisye*	made us become drunkard
paasya	**paasile*	*Paasisye*	has feared
teesya	**teesile*	*Teesisye*	has mounted (a hen)

The last structure that attracts phonological change is the CVC(G)- root as in the word *tolw-a* 'become in need/sick'. This kind of structure attracts only one phonological process called metathesis where a glide [w] interchanges position with the vowel [i] of the suffix. Table 10 provides more examples to illustrate this change in Nyakyusa.

Table 10: Imbrication to CVC(G)-roots in Nyakyusa

Stem	-ile	GV-metathesis	Gloss
tolwa	*tolwile	*Tolilwe*	Has become weak/sick/in need
milwa	*milwile	*Mililwe*	Has drowned
gogwa	*gogwile	*Gogilwe*	Has dreamt

Imbrication in Ndali

In this language, there are two groups of verbs, namely regular and irregular verbs. The concept of the irregularity of verbs in Ndali is somewhat different from that of Nyakyusa. Unlike in Nyakyusa where the irregular verbs constitute all extended verbs and some unextended verbs, Ndali defines all extended verbs with a reciprocal suffix *-an-* and the stative suffix *-ik-* to be regular as they involve predictable forms of *-ile* suffix. Table 11 provides more examples for verbs that involve regular *-ite/-ile* suffixation in Ndali.

Table 11(a): -ile Suffixation to CVC-roots in Ndali

Stem	-ite/-ile Suffixation	Gloss
lim-a	*Limite*	cultivated
ghan-a	*Ganite*	loved
many-a	*Manyite*	knew
ghon-a	*Ghonite*	slept
bhomb-a	*Bhombite*	worked
taagh-a	*Taghite*	threw
sobh-a	*Sobhite*	lost

Table 11(b): -ile Suffixation to Verbs Extended with Reciprocal and Stative Suffixes in Ndali

Stem	-ite/-ile Suffixation	Gloss
kom-an-a	*Komanite*	beat each other
gan-an-a	*-gananite*	loved each other
jabh-an-a	*-jabhanite*	divide each other
gog-an-a	*-goganite*	killed each other
Manyana	*-manyanite*	Know each other
tuul-an-a	*-tuulanite*	helped each other
nyatuka	*Nyatukite*	went'
ghomoka	*Ghomokite*	returned'
lembuka	*Lembukite*	woke up'

However, in Ndali the suffix *-ile* induces imbrication under different conditions. The first condition is when the verbs are extended with the applicative suffix *-il-/el-.* Applicative suffixes in Ndali involve a vowel harmony that is it becomes *-el-* when the verb root consists of a mid vowel and *-il-* is applied elsewhere. For this reason, the phonological processes that shape the change vary accordingly. Example 13 illustrates changes involving *-ile* suffixation to verbs with applicative suffixes.

(13). a).	Underlying form	/limilile/
Stage 1:	Deletion of l	/limilie/
Stage 2:	CV metathesis	/limiile/
	Surface form	[limiile]
b).	Underlying form	/komelile/
Stage 1:	Consonant deletion	/komelie/
Stage 2:	CV metathesis	/komeile/
Stage 3:	Vowel deletion	/komile/
Stage 4:	Vowel lengthening	/komiile/
	Surface form	[komiile]

From the examples provided above, the word *limila* 'cultivate for' was expected to be *limilile* after *-ile* suffixation. But this expected word has changed into *limiile*. The change involving *-ile* suffixation to verbs extended with applicative suffixes is shaped with several phonological processes. For the verb that is extended with *-il-* suffix involves two phonological processes, namely deletion of [l] and (CV) metathesis. But the applicative suffix *-el-* involves four processes; deletion of [l], CV metathesis, vowel deletion and compensatory vowel lengthening which happens after deletion of the vowel. Table

12 provides more examples to illustrate imbrication to verbs with applicative suffixes in Ndali.

Table 12: Imbrication to Verbs with Applicative Suffixes in Ndali

Stem	Gloss	-ile	Surface Form
kom-ela	beat for	*komel-ile	*komiile*
lim-il-a	cultivate for	*limil-ile	*limiile*
bhal-li-a	count for	*bhalil-ile	*bhaliile*
jugh-il-a	speak for	*jughil-ile	*jughiile*
bhyal-il-a	plant for	*bhyalil-ile	*bhyaliile*

The second condition in which *-ile* induces imbrication is when the verbs are extended with the passive suffix *-ighu-*. This kind of change is shaped by two phonological processes, namely deletion of [l] and CV metathesis. Example 14 illustrates stages in the change involving *-ile* suffixation to verbs with the passive suffix in Ndali that is, from the expected word *komighwile* to *komiighwe.*

(14).	Underlying form	/komighwile/
Stage 1:	Deletion of [l]	/komighwie/
Stage 2:	CV metathesis	/komiighwe/
	Surface form	[komiighwe]

Table 13 also provides more examples to illustrate the change involving *-ile* suffixation to verbs with the passive suffix in Ndali.

Table 13: Imbrication to Verbs with Passive in Ndali

Stem	Passive	-ile	Surface Form	Gloss
lima	limibwa	Limibhwile	*limiibhwe*	has been cultivated
tuma	tumibhwa	Tumibhwile	tu-a-*tumiibhwe*	We were sent
bhyala	bhyalibhwa	Bhyalibhile	ga-a-*bhyaliibhwe*	They were planted
bhala	bhalibhwa	Bhalibhwile	tu-a-*bhaliibhwe*	We were counted

The third condition through which *-ile* suffixation induces phonological change is when the verbs are extended with causative suffixes *-esh/-ish*. In this condition the suffix does not trigger imbrication rather it causes the so-called distant (non-adjacent) progressive assimilation. According to Campbell (2006) this kind of assimilation is not as common as adjacent assimilation, though some changes having to do with vowels or consonants in the next syllable are quite common. So far as this language is concerned, this

assimilation involves a sound change in which the consonant of the *-ile* suffix which in principle appears after a vowel becomes more similar to the causative suffix as exemplifies in table 14.

Table 14: Imbrication to Verbs with the Causative Suffix in Ndali

Stem	Gloss	-ile Suffixation	Assimilation
bhomb-esh-a	cause to work	bhombeshi*l*e	bhombeshi*sh*e
bhol-esh-a	cause to decay	bholeshi*l*e	bholeshi*sh*e
lim-sh-a	cause to cultivate	limishi*l*e	limishi*sh*e
kol-esh-a	cause to touch	koleshi*l*e	koleshi*sh*e
pon-esh-a	Heal	poneshi*l*e	poneshi*sh*e

Imbrication in Malila

Like in Nyakyusa and Ndali, in Malila, as far as *-ile* suffixation is concerned, there are verbs with which we can predict the *-ile* forms when we already know the base (regular verbs) and those verbs which we cannot predict the *-ile* forms (irregular verbs). However, these concepts of regularity and irregularity may slightly become different from that of Nyakyusa and Ndali. The CVC-roots in Malila are regular as exemplified in Table 15.

Table 15: Regular Verbs in Malila

Stem	Gloss	-ile	Gloss
bhomba	work	bá-*bhombile*	They worked
manya	know	á-mu-*manyile*	He knew him
lima	cultivate	á-*limile*	He cultivated
toonya	rain	yá-*toonyile*	It rained
waala	plant	bhá-*waalile*	They planted

However, irregular verbs in this language are of different kinds. The first kind of verbs to which the suffix induces imbrication in Malila includes short verbs with CV-roots such as *lu-a* (lwa) 'fight'. The expected form after *-ile* suffixation to the word *fu-a* would be *fuile* but it has changed into *fuuye*. Example 15 illustrates stages in the change of *fuile* into *fuuye* in Malila.

(15).	Underlying form	/luile/
Stage 1:	Deletion of [l]	/luie/
Stage 2:	Gliding of [i]	/luye/
Stage 3:	Vowel lengthening	/luuye/
	Surface form	[luuye]

From the example illustrated above, three phonological processes that have been shaping the change resulted from *-ile* suffixation, have been identified. They include deletion of [l], gliding of the high vowel occurring after another dissimilar vowel, and vowel lengthening after gliding. Table 16 provides more examples to demonstrate imbrications to short verbs with CV-roots in Malila.

Table 16: Imbrication to Verbs with CV Root Structure in Malila

Stem	-ile	Surface Form	Gloss
gwa	*gwile	águuye	He fell down
fwa	*fwile	áfuuye	He died
lwa	*lwile	bháluuye	They fought
kwa	*kwile	ákuuye	He paid dowry

The second kind of verbs to which the suffix *-ile* induces a phonological change, involves the longer verbs which are extended with applicative suffixes *-el-/-il-*. Some of these verbs are lexicalized with the extension suffixes as we cannot separate the extension suffixes without distorting the meaning of the base. Example 16 illustrates phonological change involving *-ile* suffixation to verbs with applicative suffixes in Malila.

(16).	Underlying form	fumilile
Stage 1:	Deletion of [l]	/fumilie/
Stage 2:	CV metathesis	/fumiile/
Stage 3:	Deletion of [l]	/fumiie/
Stage 4:	Insertion of ghost consonant	/fumiiye/
	Surface form	[fumiiye]
(17).	Underlying form	dumulile
Stage 1:	Deletion	/dumulie/
Stage 2:	CV metathesis	/dumuile/
Stage 3:	Deletion	/dumuie/
Stage 4:	Gliding	/dumuye/
Stage 5:	Vowel lengthening	/dumuuye
	Surface form	[dumuuye]

From the example illustrated above, five phonological processes have been shaping the change as a result of *-ile* suffixation. These include deletion of [l], CV metathesis, deletion of the consonant of the applicative suffix [l], gliding and vowel lengthening. Table 17 provides more examples to illustrate imbrication to verbs with applicative suffixes in Malila.

Table 17: Imbrication to Verbs with Applicative Suffixes in Malila

Stem	Gloss	-ile Suffixation	Surface Form
tungula	pick	*tungulile	*tunguuye*
sogola	leave	*sogolile	sogooye
dumula	cut	*dumulile	*dumuuye*
supiila	oversleep	*supiilile	supiiye
lim-ile	cultivate for	*limilile	*limiiye*
bhomb-ela	work for	*bhombelile	*bhombeeye*
khom-ela	beat for	*khomelile	*homeeye*

The third condition under which *-ile* suffix induces imbrication in Malila involves verbs extended with causative suffixes -esi-/-isi-, -ezi-/-izi- or verbs that have been lexicalized with causative suffixes. Table 18 shows examples of imbrications resulted from *-ile* suffixation to verbs with causative suffixes in Malila.

Table 18: Imbrication to Verbs with Causative Suffixes in Malila

Stem	Gloss	-ile	Surface Form
bhuuzya	Tell	*bhuuzyile	*bhuuziizye*
sundamaizya	cause to kneel down	*sundamizyile	*sundamiziizye*
lol-esy-a	Show	*lolesyile	*lolesiizye*
many-izya	Teach	*manyizyile	*manyiziizye*

The fourth condition for *-ile* to induce phonological change involves verbs extended with reciprocal suffix *-an-* such as *khomana* 'beat each other'. The expected word as a result of *-ile* suffixation to the word *khomana* would be *khomanile* but it has changed into *khomiine*. Example 18 illustrates stages in the change of the word *khomanile* into *khomiine* in Malila.

(18).	Underlying form	/khomanile/
Stage 1:	Deletion of [l]	/khomanie/
Stage 2:	CV metathesis	/khomaine/
Stage 3:	Vowel deletion	/khomine/
Stage 4:	Compensatory lengthening	/khomiine/
	Surface form	[khomiine]

The phonological change that involves *-ile* suffixation to verbs with the reciprocal suffix is shaped by four phonological processes, namely deletion of [l], CV metathesis, Vowel deletion and compensatory vowel lengthening. Table 19 provides more examples for this change in Malila.

Table 19: Imbrication to Verbs with the Reciprocal Suffix in Malila

Stem	Gloss	-ile Suffixation	Surface Form
khom-an-a	beat each other	*khomanile	*khomiine*
long-an-a	talk to each other	*longanile	*longiine*
say-an-a	bless each other	*sayanile	*sayiine*

The fifth condition involves verbs extended with the passive suffix *-u-* or any word whose ending resembles passive suffixation such as *pootwa* 'fail' and *limwa* 'be cultivated'. The expected form resulted from *-ile* suffixation to the word *limwa* would be *limwile* but the form has changed into *limiilwe*. Example 19 illustrates stages in the change of *limwilile* into *limiilwe* in Malila.

(19)	Underlying form	/limwile/
Stage 1:	AV metathesis	/limilwe/
Stage 2:	Vowel lengthening	/limiilwe/
	Surface form	[limiilwe]

The phonological change involving *-ile* suffixation to verbs extended with the passive suffix is shaped by two phonological processes, namely non-adjacent approximant-vowel (AV) metathesis and vowel lengthening. Table 20 provides more examples to illustrate imbrication to verbs extended with the passive suffix in Malila.

Table 20: Imbrication to Verbs with the Passive Suffix in Malila

Stem	Passive	-ile	Surface Form	Gloss
simba	simbwa	*simbwile	*zyá-simbiilwe*	They were written
saya	saywa	*saywile	*bhá-sayiilwe*	They were blessed
paapa	paapwa	*paapwile	*á-paapiilwe*	He was born
kunga	kungwa	*kungwile	*á-kungiilwe*	s/he was tied

Conclusion

The evidence from the three selected languages suggests that the suffix is undergoing loss as historically, in Nyakyusa it ends up in dropping its consonant. But based on its suffixation under varying conditions, the shape of *-ile* suffix is blurred. Basically, the suffix is made up of three segments, namely the high vowel [i], the consonant [l] and the final vowel [e]. But in observing stages through which imbrication takes place, the first stage across the languages begins with deletion of the consonant of the suffix [l], then its preceding vowel [i] fuses with adjacent segments through coalescence or deletion and lengthening or both. But the final vowel of the suffix [e] is only the segment that is retained. Therefore, through imbrication -

ile suffix acquires indefinite phonetic shape which in turn indicates that the suffix is subject to disappearance across Bantu languages. The triggering conditions for imbrication are not self-sufficient within and/or across Bantu languages. For instance, *-ile* triggers imbrication to CV-roots in Malila whereas in Nyakyusa and Ndali it does not. Also *-ile* does not trigger imbrication to extended verbs with reciprocal and stative suffixes in Ndali whereas in Nyakyusa and Malila it triggers.

Concerning the Theory of Utterance Selection which advocates a change moving towards simplified forms, the change that involves *-ile* suffix under the umbrella of imbrication makes the imbricated words to sound relatively simplified. The words are reduced in terms of the number of syllables. For instance, the word *komana* 'beat each other'; would be expected to be *komanile* (with four syllables). But when a change has occurred resulted from *-ile* suffixation the resulting word is reduced into (*komeene*) three syllables.

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