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7 to 5 Vowel Shift: Scars of the Lost Vowels in Runyambo

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Abstract: This paper relates diachronic to synchronic properties of the languages. The structural features in most of today's languages are a result of the diachronic processes of language change. Most of the phonological changes especially the 7 to 5 vowel shift (in Bantu) left the remnants which still affect the languages today. This paper discusses this process in Runyambo which is among the languages which have shifted from 7 to 5 vowels. The evidence that Runyambo had 7 vowels is reflected from the phonological changes which are seen from Guthrie's reconstructed terms to what we have today in Runyambo. Though the behavior seems diachronic, it is still seen synchronically today in the language. From the lexical data, it was realized that synchronic spirantization is similar to the diachronic spirantization. This suggests that we still have the remnants of the phonological environment which triggered the diachronic spirantization. Such remnants */ị/* are found on the perfective *–ịre*, the nominalizing *-ị,* and causative *–ị/ -isị*. However, the super close back vowel */ụ/* was not found to cause the synchronic alterations in Runyambo. Its shifts are diachronic. The paper concludes that, though the two sounds got lost, their remnants still exist and are in complementary distribution with the remaining */i/* and */u/*. Hence, though not found in the vowel inventories of Runyambo, their behavior especially that of */ị/* are still found in some phonological contexts especially those on the said morphemes. Therefore, the shift from 7 to 5 vowels in Runyambo left out the same on the morphemes resulting into the synchronic phonological alterations we see today in Runyambo.

Keywords: Spirantization, Synchronic, Reconstruct, Vowels, Causative, Perfective

1. Introduction

This paper presents one of the main typological features which identify Bantu languages as unique from other languages. Phonologically, Bantu languages are said to have 7 or 5 vowels. The reconstructed Proto Bantu vowels are 7, 2 of which merged making some languages to have 5 while others have 7 vowels. Runyambo is among the languages that lost two super close vowels. Hence, this paper discusses the remnants of the super close vowels /ị/ and /ụ/ which are suggested to have been part of vowels in Runyambo before the shift from 7 to 5 vowels which affected many Bantu languages.

Runyambo is a Bantu language spoken by more than 88% of all the inhabitants of Karagwe and Kyerwa districts in north-western Tanzania. This makes a total of 614,522 speakers. The speakers of Runyambo language are known as Banyambo.

The language has two dialects namely Runyamabhira which is referred to by Rugemalira as Marungu [30], spoken mostly in Kyerwa district, and Runyamigongo which he refers to as Migongo [30] dialect spoken in the East; mostly in Karagwe district. The two dialects; Runyamigongo and Runyamarungu differ on how they underwent the sound changes caused by the super close vowels. The phonological differences between the two dialects as they changed from the reconstructed proto forms [12] with the two super close vowels are presented in 1.

The data in 1 show how Bantu spirantization has affected Marungu dialect than Migongo in which palatalization which is said by Bhat; and Cléments as a change that appears prior to spirantization is revealed [3, 8]. Spirantization in Migongo is seen in cases of the front super close vowel /ị/ in the last 2 examples.

1) *Differences in Sound Systems*

Proto Bantu	Marungu	Migongo	Gloss
*-gụta	-zuta	-ʤuta	'oil'
*-ǰụda	-zura	-ʤura	*'rain'*
*-gụnd	-zunda	-ʤùnd-a	'became rotten'
*-dụb-	zuβa	-ʤuβa	'to fish'
*-dịuŋgu	-zungu	-ʤungu	'white man'
*-dịba	-ziβa	-ziβa	'pool'
*-djan-	-zan-a	-zan-a	'dance'

2. Bantu Vowels

Different linguists have different views on the shift from 7 proto vowels to the present 5 vowels which are evidenced in many Bantu languages. Maddieson; and Meeussen argue that Proto Bantu is assigned 7 contrastive vowels and most Bantu languages today have 7 or 5 vowels [21, 22]. They argue that 4 among 7 are high vowels including 2 super close vowels /ị, ụ/. A few Bantu languages are said to have nasalized vowels. It is also argued that some languages especially those with the original seven vowels retain the features including clusters of nasal and homorganic stops (*mb, mp, nt* etc.) and general lack of fricatives. Some languages which have undergone spirantization or affrication before the two highest vowels and the subsequent 7 to 5 vowel shift have expanded the system and developed fricatives.

It is evident in different literature that Runyambo has 5 vowels [28, 29, 4]. However, the phonological process of imbrication cannot be accounted for using the 5 vowels. It seems from the evidence to be given in this paper that the 2 reconstructed super close vowels especially /ị/ left the scars on some morphemes in Runyambo. Vowel */i/* in the morphemes like perfective *–ire*, and nominalizing *–i* seem to be realized as the super close *[i,]* because of the effects it has on the consonants of the stem to which it is attached.

Therefore, the purpose of this paper is to present the evidence that Runyambo, a Bantu language (E21) spoken in the northwestern part of Tanzania had 7 vowels two of which got lost leaving some evidence referred to as scars in the title of this paper. The remnants of the vowels result into synchronic phonological processes which affect the sounds surrounding the two vowel scars.

2.1. A Shift from 7 to 5 Vowels

According to the historical arguments of Guthrie; and Meeussen, PB had a seven-vowel system with four high vowels, including two 'super-close' vowels usually notated /i7, u7/ in addition to 'normal' high /i, u/ [12, 22]. Guthrie, in his historical compilation of Common Bantu forms adopts the same convention [12]. The seven vowel system (î i e a o u û) was first reconstructed for Bantu by Carl Meinhof between 1899-1910 before the circumflex accent was replaced by a diacritical cedilla (ị i e a o u ụ) when the tone was added to Bantu reconstruction. Meeussen reconstructed the following Proto Bantu vowels [23];

ị, ụ

i u

e o

a

This change has been referred to by Hyman as a merge in Bantu languages with 5 vowel system [16]. That is, the vowels * *ị* and **ụ* merged with *u* and *i* respectively. However, since merger can turn phonemes into allophones; that is, the sounds which were independent phonemes can be merged into one or allophones of the same phoneme. It is likely that the super close vowels are realized as allophones in some Bantu languages. This is discussed by Hyman when discussing about asymmetry vowel height harmony which he divides into two including;

i. Front height harmony: /i/ > e /{e, o} C__
ii. Back height harmony: /u/ > o / o C__

Vowel */i/* in i) is affected after both */e/* and */o/* while */u/* is lowered only after /o/. Hyman asserts that this VHH asymmetry is observed directly in many languages which have preserved the original 7 vowel system of PB as in Nyamwezi [19] data in 2.

2) *(a)* *-Bon-él-a* 'see + Appl *-hong-ol-a* break off
(b) *–zeeng-el-a* build + Appl *-zeeng-ul-a* build

The examples in 2 present the situation in Nyamwezi and many other Bantu languages where by both */i/* and */u/* are lowered after */o/* while only */i/* is lowered after */e/*. This happens in the 5 vowel system languages in which the merge has taken place. Therefore, this feature among others presents the fact that the language has shifted from 7V to 5V system. This paper looks at this feature in Runyambo to show the evidence that the language had 7 vowels in which 2 got lost and now the language has 5 vowels.

While many Bantu languages lost 2 vowels, some have added 2 vowels including Tswana which has 9 vowels instead of the 7 Proto Bantu vowels. Discussing about the reflexes of Proto Bantu consonants before a vowel sequence beginning with /**ị/* and */*u/* in different Bantu languages, Maddieson argue that most of the Proto Bantu plosives including */*p/, /*b/, /*t/* and */*d/* changed to fricatives when they preceded the super close vowels [21].

Meddieson gives the transcriptions of the 5 vowels system as */i, e, a, o, u/* and the 7 vowel systems as */i, e, ɛ, a, ɔ, o, u/* [21]. However, he agrees with the fact that the transcriptions

differ between languages. This happens mostly with vowels */e/* and */o/*. Schaderberg, on the other had presents two possible proto Bantu vowel systems as follows [31];

3) (a) i, ị, e, a, o, ụ, u

(b) i, e, ɛ, a, o, ɔ, u

Schadeberg suggests that the system in (3a) appears to have a wider (and non-contiguous) geographical spread than the system in (3b). He adds that it is a system that one would reconstruct for proto-Bantu on internal evidence. Maganga and Schadeberg prefer a different transcription in 7 vowel system languages specifically Nyamwezi which is /i, ɪ, e, a, o, ʊ, u/ [31]. Looking at Runyambo, the system in 3a) will be taken into consideration as the proto vowels of the language. This is because the synchronic effects we are looking at in this paper are a result of attaching morphemes with sounds /*i*/ and /*u*/ not /*e*/ and /*o*/. Since the system in a) appears to be a system in many Bantu languages, it is believed with some evidence of spirantization referred to by Bosteon (2008), as a particular type of assibilation in front of certain Bantu morphemes. In Guthrie's reconstructed Proto Bantu terms, the changed sounds are those preceding the super close vowels */ị/, /ụ/* as in reconstructed Proto Bantu [12] and their reflexives in Runyambo in 4.

4) *(a) */-gụ̀tà/ > [-ʤút-à/zut-à]* 'oil'

*(b) */-gụ̀nd/ > [-ʤùmd-a/zumd-a]* 'rotten

An intermediate step may have been affricates not necessarily homorganic such as */ps/, /pf/, /ts/, /tf/, /ks/, /kf/* spirantization and vowel merger in Bantu. Elegant as it is, there are two problems with this solution. First, the assumed initial phase of the change, in which the first-degree vowels have been broken into glide-vowel sequences, is not attested. Even the second phase has only rarely survived, and almost exclusively in the north-western part of the Bantu area. This paper seeks among other things to see what is happening in Runyambo in which one of the two dialects reveals the intermediate stage without the synchronic morphological alterations while the other underwent the last stage of spirantization and the synchronic morphological alteration.

It is assumed that the noisy release of a stop into a high vowel is a trigger of BS accompanied by aspiration which may give rise to affrication which may result through de-affrication into fricatives. For instance, possible evolution of **dị/*tị* sequences are as presented in 5.

5)	PB		Noisy Release/aspiration		Affrication		De-affrication
	**dị*	>	$d^{h}i$	>	*dzi*	>	*zi*
	** tị*	>	$t^{h}i$	>	*tsi*	>	*si*

De-affrication is believed to be too common in Bantu languages than affrication hence, affrication is believed to have taken place before de-affrication. As argued by many historical linguists including Jacob Ludwig Karl Grimm (1785-1863), Karl Adolph Verner (1846-1896), and the Neogrammarians that language change is regular and systematic, Bantu Spirantization (henceforth BS) is not far from being systematic. This supports the fact that changes follow certain patterns and steps hence, the argument that affrication preceded de-affrication. This paper looks at these justifications in the two dialects of Runyambo.

The two vowels */i, u/* are transcribed by many linguists including Guthrie; and Hyman as super close vowels */ị, ụ/* [12, 16]. While the two are mid in character in Xhosa (S41); a five vowel system language, in Kalanga (S16), they are close to the high vowels /*i, u/* and far from */a/* [16, 20]. These are said to be the 2 reconstructed Proto Bantu vowels which are also said to have striking diachronic effects on consonants preceding them.

Such phonological effects are referred to as Bantu Spirantization. This process has been discovered in many Bantu languages some of which have 5 vowel systems. When such happens I am of the idea that this language had 7 vowels which actually resulted into the effects we are seeing now in the language. While in other languages the change seems to be diachronic, in other languages including Runyambo, the alternation happens even synchronically when some morphemes are attached to the stems. Such morphemes result into what Rugemarila calls imbrication in Runyambo [30]. This paper presents such evidence suggesting that some morphemes still maintain the super close vowels that seem not to exist as independent phonemes in the language.

After the 7>5 vowel change, the two highest vowels are retained in some morphemes. More recently, Maddieson presents a number of synchronic phonetic facts which would combine to suggest that the distinctive characteristics of these original vowels were indeed an unusually narrow constriction, nearly consonantal in character [21]. Connell suggests that the PB high vowels were fricative vowels similar to those currently observed in Mambila (Bantoid) [9]. The major objection against these theories is the fact that such 'super close' vowels are no longer attested in Bantu today. Phonetically speaking, the highest vowels in all present-day 7V languages are always */i/* and */u/*, and their entire vowel system is much closer to the one in (2b) [2, 15, 31, 32].

Unlike what the advocates of the 'super close vowels' hypothesis tend to believe, it is not the vowels responsible for BS which disappeared in 5V languages, but the second height vowels. The highest degree vowels of today's 5V languages phonetically correspond to the highest degree vowels of the remaining 7V languages, and not to their second height vowels. On the other hand, one needs to assume that BS was blocked once the vowel merger had taken place. Otherwise, the original **Ci/*Cɪ* and **Cu/Cʊ* oppositions would have entirely vanished in the 5V languages. 7>5V did not turn BS into a fully unproductive sound shift that just left diachronic morpheme-internal traces. While BS initially was an across-the-board phonological process, it has acquired varying

morphological restrictions in current-day languages.

It is suggested that Bantu phonology is highly sensitive to morphological considerations [16]. This leads to the fact underlying the distribution within specific morphological slots and morphological or prosodic domains which is highly restricted in both 7V and 5V languages. In the reconstructed Proto Bantu vowels, the seven vowels contrast in the initial and final syllables of the stem while only four /ɨ, i, u, a/ contrast in prefixes, extensions or stem internal position. This paper looks at what is happening with the present 5 vowels in Runyambo which shows the behavior of the lost vowels especially on some verbal suffixes referred to by Rugemarila as imbrication [30]. It looks at imbrication as a special morphophonological process that reflects the historical linguistic facts of Runyambo. It exposes the remnants of the two lost vowels of the language.

According to Schadeberg, the five vowel systems are historically almost always a result of merger of the two highest front and back vowels. He believes that *ɨ/*i and *ʉ/*u merged hence 7 to 5 vowel merger. He presents the effects of the two highest vowels on the obstruents that preceded them. The change is called BS which he claims that it occurs in the 7 vowel languages and affects obstruents in the environment preceding them [31]. Since this seemed diachronic, it was expected to have disappeared with the two lost vowels which affected the obstruents. The fact that spirantization is realized in some languages today reflects an observation that there are still some scars of the lost vowels. This paper sets out to look at the circumstances in which spirantization is reflected in Runyambo and suggest whether we can say we still have such vowels or they exist as allophones or they don't exist at all.

2.2. Synchronic Spirantization

Hyman argue that consonants are frequently realized differently before high vs. non high vowels. He justifies this fact by presenting the process of frication which affects consonants when they are followed by */ɨ/* and */ʉ/* [15]. As argued earlier, such changes are referred to as spirantization. Bosteon argues that while 7>5V was irreversible; BS was not entirely wiped out in all languages. Its effects can still synchronically be observed as morphophonological alterations. He presents 4 contexts in which spirantization can still be observed including in front of [5];

i. Adjectival derivational affix *-u*; as in Nyakyusa *kib-a* 'be brave' > *kif-u* 'brave'
ii. The causative affix *-i* as in Jita *okulira* 'to cry' >*okulis-y-a* 'to cause to cry'
iii. The agentive suffix *-i* as in Hunde *i-kol-a* 'to work' >*mu-kots-i* 'worker'
iv. The perfect or past tense *-ide* as in Rundi *vug-* 'say' >*vuz-e* 'has said'

The above argument was earlier suggested by Bastin who identifies four potential contexts provided by Proto Bantu for frication in the daughter languages including [1];

a) +...Cɨ... +: before tautomorphemic
b) C + ɨ+ FV: before causative suffix *-ɨ
c) C + ɨ]: before nominalizing suffix *-ɨ
d) C + ɨd-e: before perfective suffix *-ɨd-

She argues that the most conducive environment for frication is when C and /*ɨ/ occur sequentially inside the same morpheme as in a). The next most conducive environment in b) concerns the causative suffix *-ɨ- followed by the inflectional final vowel morpheme (FV). The third environment concerns the nominalizing suffix *-ɨ- which forms agentive nouns from verbs in c), as in Ganda *mu-lez-i* 'nurse, guardian (of child)' from PB *-*ded-,* Ganda *-lel-* 'raise, nurse (child)'and the perfective *-*ɨd-,* which is accompanied by the FV *–e*. This presents the need to see if Runyambo still have these features even though it lost the two vowels which are the main triggers of BS.

These instances of spirantization suggest the existence of the lost vowels in some contexts which suggests that they either exist as independent phonemes, allophones of the existing vowels or just the scars left by the two vowels */ɨ/* and */ʉ/*. Hence, it may be said that the phonemes got lost in some contexts but did not in some.

Creissels argues that in the language, there are morpho-phonological alterations traceable to the influence of ancient vowel sequences on consonants [10]. He opines that the modification of the consonant with a vowel sequence beginning with */ɨ/* is the only trace of the ancient presence of */ɨ/*. He presents some alternations including *k* > *s*; *b*>*ts*; and *k*>*χ*. Bosteon and Goes argue that the irregular application of BS within the stem in several Kikongo Language Cluster varieties and in the Proto Kikongo reflex of PB *-*ɨde* suggests that the merger had not reached all possible targets and the common ancestor language was still 7V language [6]. In support of this fact, this paper looks at alterations of consonants preceding the morphemes with the vowels /*i*/ and /*u*/ to find out the remnants of /*ɨ*/ and /*ʉ*/ in the language which now has a 5 vowel system.

Bosteon shows the common and archaic manner of deriving agent nouns from verbs in Bantu [5]. Agent nouns are derived from verbs in many Bantu languages by attaching noun class 1 prefix **mu-* and the agentive suffix **-i* which affects the roots' final consonants as in Taabwa.

6)	*(a) e-nd-a*	'to travel'	*mu-enz-i*	'traveler'
	(b) lind-a	'to watch'	*mu-linz-i*	'watchman'
	(c) land-a	'to talk'	*mu-lanz-i*	'a talkative woman'
	(d) bumb-a	'make clay ports'	*mu-bunv-i*	'a potter'

The examples in Taabwa show the synchronic spirantization which is a result of attaching the suffix *–i* which as seen affects the final consonant of the verb root. This process is referred to by Bosteon as Agent-Noun-spirantization. However, this kind of alteration does not systematically apply in the same environment in the same

language. This vowel seems to have the same phonological effect as that of the proto Bantu super close vowel /*ɨ/ which seems to no longer exist in the language. Hyman argues that in many Bantu languages, synchronic alterations are conditioned by one or more of the three suffixes reconstructed with /*ɨ/ including the one which derives agentive nouns from verbs [15]. This being the case, if such alterations happens in a language which no longer have the two super close vowels, it is argued in this paper that the alterations are caused by an incarnate of the lost vowel, This paper aims at investigating these alterations in Runyambo to see what features they possesses in relation to synchronic spirantization which from the literatures above is caused by the remnants of the features of the lost vowels /*ɨ/ and /*ʉ/.

In Addition, Hyman argues that these mergers have significant morphophonemic effects on verbs when frication is conditioned by the causative suffix *-*ɨ*- [16]. He shows instances in which the causative suffix *–i* results into synchronic spirantization. The same argument is given by Bosteon who contend that the causative suffix triggers frication of the last consonant of the verb root to which it is attached [5]. To justify this, he shows some instances of the phonetically similar morphemes from the same paradigm of verbal derivational suffixes which do not result into spirantization including the applicative suffix *–ir* which despite having a phonetically similar vowel to that of the causative, it never triggers BS.

Some patterns of theses alterations are referred to by Bosteon as morphologization and lexicalization. Such patterns are synchronically distributed across Bantu in a way that is diachronically relevant to historical Bantu subgrouping. His claim suggests that the present spirantization resulted from the super close vowels which no longer exist in many Bantu languages including Runyambo.

Looking at different reconstructed Proto Bantu constructions, BS is not reconstructed. Bosteon claims that even though it did not occur in Proto Bantu, its phonetic seeds were already present as allophonic variation of stops in front of super close vowels [5]. Hence, the merger from 7V to 5V implicates that it irreversevely turned BS from allophonic variation into a phonological variation. This is reflected in the examples given by Kabuta from Ciluba in 7) [17]:

7)	PB		Ciluba
	**bɨta*	'war	*m-vita*
	**bid*	'to call'	*-bil*
	**bʉd*	'to become plentiful'	*-vʉl-*
	**bʊd*	'to break, smash'	*-bʉl-*

The examples from Ciluba suggest that not all high vowels resulted into BS but only super close vowels. This paper looks at the synchronic occurrence of BS in relation to the two super close vowels which are said to no longer exist in Runyambo.

It is suggested by Bosteon and Goes that BS can only stop to be a morphophonological alteration as part of the productive phonological system when a Bantu language reduces its vowel system from 7-5 phonemes [6]. Only then is the phonological contrast lost between the vowels of suffixes starting with a Proto Bantu close front vowel /*ɪ/ such as applicative *-*ɪd*-. They argue that BS can be morphologized as a signal of morphological structure only after the BS merger. Despite being morphologized, this paper still argue that it is a result of the remnants of the two super close vowels which seems to have not merged in some environment including on the perfective *-*ɨde*. They continue arguing that there is a clear hierarchy of morphological contexts for the heteromorphemic application of BS in front of PB /*ɨ/.

It is believed by Bosteon that it is not the vowels responsible for BS which disappeared in 5V but the second height vowels /i/ and /u/. He claims that the highest degree vowels in todays' 5V languages phonetically correspond to the highest degree vowels of the remaining 7V languages [5]. In relation to this, Hyman show some of the more widely attested effects of frication before *ɨ in different Bantu languages [14]. This paper looks at this claim to see if what is seen in Runyambo confirms his claim or the alterations are just caused by the remnants of the highest vowels.

This suggests that it may be the same case that the remnants of the two super close vowels still exist in Bantu languages today as allophones leading to synchronic BS. This paper discusses the synchronic Bantu Spirantization in Runyambo as a result of the remnants of some features of super close vowels.

Both Cléments; and Bhat study palatalization in which Spirantization caused by front and back high vowels is just a marginal phenomenon [8, 3]. This paper looks at the remnants of the two vowels which are part of the reconstructed vowel sounds but seem to no longer exist in many Bantu languages.

2.3. Imbrication as the Effect of ɨ

Different literature show that in many Bantu languages the incarnates of the super close front vowel do not only cause spirantization but also other alterations like deletion and vowel harmony. These are mostly caused by /ɨ/ in the perfective *–ɨre*. Chebanne argue that suffixes of the perfect stem have the particularity of appearing in a discontinuous form due to the rule of imbrication. She adds that in Setswana imbrication operates evidently when the verbal base bares a passive morpheme. In this case, the passive *–w-* is inserted between the two parts of the perfective *–ile* as in *rek-il-w-e* > *rekilwe*. To her, morphemes can constitute two fragments that are susceptible to be found disassociated by the imbrication rule [7]. This feature is seen in the agentive noun morpheme in Taabwa which constitutes noun class one prefix and suffix *–i.* Bastin gives the examples from Taabwa including *mu-end-i* > *muenzi* 'traveler' from *enda* 'go [1]'.

Since, imbrication seems to be caused by the incarnate of

the super close front vowel */*į/,* we should state the conditions that triggers imbrication. The morphophonological effects of the morphemes differ depending on the verb to which they are attached. Hyman asserts that in Cibemba, verb stems that permit imbrication must be at least two syllables long [14]. Supporting this, Bastin gives the conditions which determine the effects of the perfective *–ire* on the verb to which it is attached including [1];

a) The number of syllables in the verb stem;
b) The final consonant of the verb stem;
c) The vowel proceeding the final consonant of the verb stem;
d) The identity of the last morpheme of the verb stem.

Bastin shows the effect of fusing the suffix with verb stems belonging to a morphophonologically defined subclass. In justification of this, Harford and Malambe give the following examples from siSwati [13].

8) (a) */ngi-phahpam-il-e/* > *ngiphaphe:me* 'I am awake'
(b) */ba-hlek-sn-il-e/* > *ba-hleke:ne* 'they laughed at each other'

The underlying perfective *–il-* in the examples in 8) from siSwana is omitted with the vowel in the sylable before the final consonant of the verb root changing from */a/* to */e:/*. The vowel is also lengthened. Explaining what happens in the examples, Harford and Malambe believe there is metathesis of the vowel */i/* of the suffix and the final consonant of the verb stem resulting into *ngi-phaph[a]im[l]e.* the metathesis results into *–i* being closer to *–a* and *-m* closer to *-l*. This process influences the other alterations including vowel coalescence and consonant deletion in which two vowels */a/* and */i/* become *[e:]* and */i/* is deleted making the perfective verb *ngi-phaphe:me.*

Morrison argue that imbrication in Bena interacts with spirantization, resulting in a mutated consonant in many imbricated forms. To him, imbrication is not triggered by the applicative suffix *–il-* even if it is followed by the final vowel *–e* [24]. This argument is complimented by Downing who identify that the applicative suffix *–ir-* does not affect the preceding consonant in many Bantu languages though it seems to have the same vowel as causative and perfective suffix [11]. This suggest that the high front vowel in the applicative differs from that in the perfective hence, the argument of this paper that */i/* in the perfective is the remnant of the super close front vowel */į/*. He gives an example of the verb *ndiigwe /ndi-gu-il-e* 'I fell'. What happens in this example from Bena is not different from the examples in 8) from siSwati except that in this example we see gliding which results from the deletion of *-i* making the sequence of *guie* to become *-gwe* and lengthening the vowel in the prefix. He gives a schematic of imbrication in Bena as in 9).

9) /…C-VC-il-e/ → …C-V-il-C-e → …C-ViC-e
Ndi-pulih-idz-il-e *ndipulih-iildz-e* *ndipulih-iidz-e*
1SG-hear-CAUS-FV *ndipulihiidze* 'I heard'

In the schema in 9), the rightmost extension merges with the inflectional suffix *–il-e* with /i/ of *–il-* moving before the final stem consonant which in this case is */dz/* and deleting the /l/ from the *il-e*. While this is reported to be not the case with passives in Bena it is reported in Bemba in which Kula calls it irregular suffixation. He gives the example of *pululuk-a* 'fly away' to *pululu-il-k-e* > *pululwiike* 'had flown away' from Bemba which suggests the same process as in Bena in 9). He gives other examples from Bembe in 10) to justify the presence of what he calls irregular suffixation [18].

10) (a)	CVC[G]	*filw-a*	'be unable'	*fil-il-w-e*	'had been unable'
(b)	C[G]V:C-	*byaal-a*	'plant'	*byéel-e*	'had planted'
		shaal-a	'remain'	*shéel-e*	'had remained'
(c)	CV:C-	*kaan-a*	'refuse'	*kéen-e*	'had refused'
(d)	CVCV:C	*longaan-a*	'gather'	*longéen-e*	'had gathered'
(e)	[C]VCVC[VC]	*ikat-a*	'catch'	*íke-éet-e*	'had caught'
		kálip-a	'pain'	*kál-íip-e*	'had pained'

The examples in 10) suggest that super close vowels do not only result into spirantazation but also deletion and vowel coalescence with metathesis. This does not only affect the basic verb roots but also the extended bases in Bemba as in 11):

11) (a)	CV	*pí- il-*	*píil*	*piil-il-e*	'had burnt for'
(b)	CVC-	*sek- il*	*sekel*	*sek-éel-e*	'had laughed for'
		pet- uluk-il-an-	*petulukilan-*	*petulukil-éen-e*	'be unfolded for'
(c)	CVCVC-	*kálip- il-*	*kálipil*	*kálip-iil-e*	'had been angry'

In Kirundi, the presence of */*į/* deletes the */l/* and turns *–i-* into a glide as it palatalizes into */j/*. This however does not prevent spirantization from taking place. The verbs ending in consonants like the voiced bilabial plosive */b/* and the voiced alveolar plosive /d/ changes their final consonants into */v/,* and */z/* respectively as in 12) presented by Mould [25].

12) *a)*	*ba*	'be'	*baay-e*	'had been'
(b)	*laab-*	'look'	*laavy-e*	'had looked'
(c)	*som-*	'read'	*somy-e*	'had read'
(d)	*gend-*	'go'	*genz-e*	'had gone'

In the verbs where we have */l/* as the final consonant of the verb root in Kirundi, the final consonant */l/* is also deleted along with the suffixical */l/* as in 13):

13) *ugulul-* 'open' *ugulul-ile* *uguluy-e* 'had opened'

This example presents what is said by many linguists to be the case in many Bantu languages including Runyambo. This paper looks at this trait from the historical linguistics perspective. These alterations are not just a result of synchronic morpho-phonological conditions but they have their roots in the Proto Bantu super close vowels which though they no longer exist, their incarnates can still be traced in some environments causing the same effects they caused in the diachronic changes of the languages from Proto Bantu.

The discussion above is complemented by Kula when discussing imbrication in Bemba. He gives three processes involved in imbrication including [18]:

a) Vowel fusion or gliding triggered by the affixal *–i-* (in this paper Proto Bantu */*į/*) when it comes in contact with the vowel preceding the root final consonant;
b) Loss of segmental content with the perfect suffix, i.e. the consonantal */l/* and;
c) A discontinuous flow of the perfect suffix since the initial *–i-* and the final *–e* of the suffix are separated by the root final consonant which is non-suffix material.

This paper presents what is happening in such environments in Runyambo as caused by the remnants of the super close front vowel */į/*.

3. Methodology

The data were collected from the available literature on Runyambo including reference [28, 30] and 2 speakers of the language. The proto terms were extracted from reference [12] in which the reconstructed Proto Bantu terms are presented. The analysis is totally descriptive with natural parsed examples from Runyambo.

4. The Scars of the Super Close Vowels in Runyambo

Runyambo is identified as a five vowel system language [28]. It is among many Bantu languages which shifted from 7 to 5 vowels in which the two super close vowels got lost. The five vowels in Runyambo include */i, e, a, o, u/* which are lengthened in some words hence, long and short vowels. The evidence that Runyambo lost the two vowels is guaranteed by Bantu spirantization which seems to affect the language diachronically and synchronically. This paper looks at the synchronic spirantization which suggests that the loss of two super close vowels left some remnants especially on the morphemes including the nominalizing suffix *-į,* the causative affix **-į,* the *perfect or past* tense *–įre*. The same is reflected in the arguments by Rugemarila who argue that a high front vowel */¡/* which is phonetically not different from */i/* brings about significant consonant alterations [28]. This is similar to Guthrie's super close vowel */į/* which got lost in many Bantu languages including Runyambo. Rugemarila agrees with the fact that it is the same vowel that brings about the alterations though it is not among the vowel inventory in Runyambo. This paper investigates on what is happening in Runyambo where the synchronic effects of the super close front vowel /į/ and the dialectical differences (diachronic) caused by /ų/ are encountered despite the fact that they are not among the vowels of the language.

In Runyambo, the phonemes */r/*, and */d/* becomes */z/* while */t/* becomes */s/* when attached to the high front vowel */į/* which, as said earlier is phonetically similar to */i/*. Also, the attachment of tense high vowels /į/ and /ų/ to velar plosives changes them into palatals */č/* and */ǰ/* (palatalization). However, palatalization of */k/* and */g/* in Runyamabira dialect of Runyambo seems to be influenced by all high vowels including /i/ as in the applicative **-id-* and */į/*. The applicative suffix however does not affect */t/, /d/* and */r/*. It is suggested that */*į/* incarnates in the agentive, perfective and causative affixes in Runyambo.

4.1. The Nominalizing Suffix -/į/

In Runyambo, most of the agentive nouns are formed from verbs by attaching the augment *–o,* the noun class 1 prefix *-mu-* or class 14 prefix */-bu/* and the sufix *-i*. In a few cases, the nouns are formed by the augment *e-* and noun class 7, 9, prefixes *–ci-, -N-* and augment *a-* with class 12 prefix *–ka-*. The agentive suffix results into synchronic spirantization of the final consonant of the root as in the examples in 14):

14)	(a) *gura*	'buy'	*o-mu-gur-į*	*omuguzi*	'buyer'
	(b) *twara*	'lead'	*o-mu-twar-į*	*omutwazi*	'leader'
	(c) *sagara*	'escort'	*o-mu-sagar-į*	*omusagazi*	'escort'
	(d) *ragura*	'seek divination'	*o-mu-ragur-į*	*omuraguzi*	'witch doctor'
	(e) *rambura*	'inspect'	*o-mu-rambur-į*	*omuranbuzi*	'inspector'
	(f) *ramura*	'settle disputes'	*o-mu-ramur-į*	*omuramuzi*	'a judge'
	(g) *hakura*	'reap honey'	*o-mu-akur-į*	*omwakuzi*	'honey reaper'
	(h) *rera*	'bring up'	*o-mu-rer-į*	*omurezi*	'a nanny'
	(i) *nura*	'be sweet'	*o-bhu-nur-į*	*obhunuzi*	'sweetness'
	(j) *twara*	'lead'	*o-bu-twar-į*	*obutwazi*	'leadership'
	(k) *ramura*	'decide'	*o-bhu-ramur-į*	*obhuramuzi*	'decision'

The phoneme */r/* in the verbs in 14) becomes *[z]* when the nominalizing suffix *-i* is attached to the verb to form a noun.

This phonological alteration is a result of a remnant of the super close vowel /ị/ which seems to no longer exist in Runyambo. The suffix *-i* in 14) is argued to be a vowel different from */i/* which is found for example in the applicative *-ir-* as in *gurira* 'buy for', *rerera* 'bring up for' etc. as the latter do not affect the consonants preceding it. Also */t/* becomes */s/* and */d/* becomes *[z]* when followed by a nominalizing suffix */i/* as in 15);

15) (a)	*Ita*	'kill	*omwit-ị*	*omwisi*	killer
(b)	*Hata*	'peel	*omuhat-ị*	*omuhasi*	one who peels
(c)	*Iguta*	'be full	*a-ka-igut-ị*	*akeigusi*	a full being
(d)	*Juunjuta*	'buzz'	*enjunjuut-ị*	*enjunjuusi*	'type of a bee'
(e)	*Kwaata*	'catch'	*e-ci-kwat-ị*	*ecikwasi*	'pin'
(f)	*Tagata*	'be warm'	*o-bu-tagat-ị*	*obutagasi*	'warmth'
(g)	*ronda*	'find'	*o-mu-rond-ị*	*omuronzi*	'a finder'
(h)	*tonda*	'create'	*omutond-ị*	*omutonzi*	'creator'
(i)	*rinda*	'watch'	*omurind-ị*	*omurinzi*	'watch man'
(j)	*ʤenda*	'go'	*omuʤend-ị*	*omuʤenzi*	'traveller'
(k)	*sinda*	'be drunk'	*omusind-ị*	*omusinzi*	'a drunkard'

The examples of the synchronic spirantization in 15) continue to suggest the fact that the causative suffix *-i* is not the same */i/* in the five vowels of Runyambo. It is rather a special */i/* and incarnate; in this study a scar left by the super close front vowel /ị/ that is no longer part of Runyambo vowels. What we see in the language are some morphophonologized behaviours of the lost vowel.

The other alteration is found on the verbs ending in velar stops */k/* and */g/* which by the attachment of the nominalizing suffix *-i* become */ʤ/* and */ʧ/* respectively. This alteration is specific to Runyamabira dialect. It is not found in Runyamigongo, the act that suggests the differences in the changes that happens in the language as a wave. This fact is reflected in the examples in 16):

16)	**Stem**		**Runyamabira**	**Runyamigongo**	**Gloss**
(a)	*ruka*	'weave'	*omuruʧi*	*omuruki*	'weaver'
(b)	*teeka*	'cook'	*omuteʧi*	*omuteeki*	'a cook'
(c)	*suka*	'plait'	*omusuʧi*	*omusuki*	'the one who plaits'
(d)	*hiiga*	'hunt'	*omuhiiʤi*	*ohuhiigi*	'a hunter'
(e)	*huunga*	'run for refuge'	*omuhunʤi*	*omuhungi*	'a refugee'
(f)	vuga	'drive'	*omuvuʤi*	*omuvugi*	'a driver'

The differences between the two dialects of Runyambo suggest how the two went through different phases of spirantization with Runyamabira being more affected than Runyamigongo. The stops */k/* and */g/* are not spirantized in Runyamigongo in all the areas where the remnant of the super close vowel */ị/* is found. Only */t/, /d/,* and */r/* are affected.

Runyambo is said to possess a closed class of adjectives with only two adjectives *-kuru* 'old' and *ruunʤi/ruungi* 'good' derived from verbs [26, 27]. This being the case, the adjective forming suffix *-i* is not productive in the language. This is evidenced in the adjective *ruunʤi* which is identified as the only adjective formed by attaching the suffix *-i* to *ruung-* resulting into the change from /g/ to /ǰ/ forming *ruunʤi* in Runyamabira which remains */g/ (ruungi)* in Runyamigongo. While in some languages like Mongo [5] only three consonants *(/t, l, nd/)* fricate, in Runyambo, particularly Runyamabira, five consonants including */k/, /g/, /t/, /r/,* and */d/* spirantize with */k/* and */g/* becoming affricates and the remaining becoming fricatives. However, the stops */k/* and */g/* seem to be affected by many morphemes attached to the root ending in them in Runyambo.

*4.2. The Causative Affix *-ị/ isị-*

The other scar of */ị/* is found on the causative suffixes *-i* or *–is-* from the Proto Bantu **ị* and **-isị-* which are attached to the verb to mark causation. In this paper, we argue that the proto vowels incarnate in today's suffixes and are referred to in this paper as scars. Runyambo has a complex way of forming causatives which result into several senses depending on the context of use. Our concern however is on the phonological alterations caused by the causative suffix. When attached to verbs, the two morphs result into different verbs which are not synonymous. Some of the verbs can only receive */ị/* especially those ending in */r/* as in 17).

17) (a)	*Sara*	'cut'	*sar-ị-a*	*saza*	'cause to cut'
(b)	*Harura*	'weed'	*harur-ị-a*	*haruza*	'cause to weed'
(c)	*Semera*	'look good'	*semer-ị-a*	*semeza*	'cause to be good'
(d)	*Sarira*	'prune'	*sarir-ị-a*	*sariza*	'cause to prune'
(e)	*Ramura*	'settle dispute'	*ramur-ị-a*	*ramuza*	'bargain'
(f)	*Gutura*	'cut'	*gutur-ị-a*	*gutuza*	'cause to cut'
(g)	*Mira*	'swallow'	*mir-ị-a*	*miza*	'cause to swallow'
(h)	*Cingura*	'open'	*cingur-ị-a*	*cinguza*	'cause to open'
(i)	*Rira*	'cry'	*rir-ị-a*	*riza*	'cause to cry'

The verbs in 16) can only receive **-ị* as a causative suffix. The suffix changes the final consonant of the root into *[z]*

before it is deleted. Such verbs cannot receive *-*isį* hence the ungrammaticality of *sarisa*, *harurisa, semeresa* etc. Also, most of Runyambo verbs ending in /t/ receive *-*į* which spirantizes the final consonant of the verb root into *[s]* as in 18):

18)	(a) *Horoota*	'grow thin'	*horoot-į-a*	*horoosa*	'cause to become thin'
	(b) *Hugıta*	'go bad (fruits)'	*hugut-į-a*	*hugusa*	'cause to go bad (fruits)'
	(c) *Hiringita*	'roll'	*hiringit-į-a*	*hiringisa*	'cause to roll'
	(d) *Cumita*	'spear, pierce, stab'	*chumit-į-a*	*chumisa*	'cause to spear, pierce'
	(e) *Kwata*	'catch/hold'	*kwat-į-a*	*kwasa*	'cause to touch/hold'
	(f) *Haragata*	'scrape'	*haragat-į-a*	*haragasa*	'cause to scrape'

Most of the verbs ending in the voiceless alveolar plosive */t/* change into voiceless alveolar fricative */s/* when the causative suffix *-į* is attached to them. This is also reflected in Kiswahili in which the final */t/* in some verbs *(pita-piʃa, pata-paʃa*) becomes voiceless palatoalveolar fricative /ʃ/ as exemplified by Rugemarila [28]. In Runyambo, the voiced alveolar plosive */d/* becomes *[z]* when the causative *-į* is attached to it. The attachment of *-į* to most of the verbs ending in */d/* changes */d/* into *[z]* as in 19).

19)	(a) *Henda*	'break'	*hend-į-a*	*henza*	'cause to break'
	(b) *Honda*	'hit'	*hond-į-a*	*honza*	'hit with'
	(c) *ʧunda*	'shake'	*ʧund-į-a*	*ʧunza*	'cause to shake'
	(d) *Kwenda*	'want'	*kwend-į-a*	*kwenza*	'to demand'
	(e) *Funda*	'fail to fit'	*fund-į-a*	*funza*	'make small'
	(f) *heenda*	'break/snap'	*heend-į-a*	*heenza*	'break with'
	(g) *ʤenda*	'go'	*ʤend-į-a*	*ʤenza*	'go on/by'

The examples in 19) reveals the fact that the Proto Bantu super close front vowel */*į/* left its remnants on morphemes. This is because when such morphemes are attached to the verbs they spirantize the final consonants. However, not all consonants can undergo this alteration. In Runyambo, consonants like */β/, /p/* and the nasals do not spirantize when */į/* is attached to the verb ending in them.

On the other hand, the final consonants of the verbs ending in velar plosives */k/, /g/* change into palatoalveolar affricates */ʧ/, /ʤ/* when the causative suffix *-į* is attached to them. In Runyambo, as said earlier, in almost all cases, the attachment of morphemes on the verbs ending in */k/* and */g/* changes them into */ʧ/* and */ʤ/* respectively particularly in Runyamabira. Different from other morphemes, the causative *-į* turns them into affricates without adding any other morph. Also, this trait is found in both Runyamabira and Runyamigongo dialects. This can be reflected in the examples in 20):

20)	(a) *Haruka*	'diarrhoea'	*haruk-į-a*	*haruʧa*	'cause to diarrhoea'
	(b) *Guruka*	'jump'	*guruk-į-a*	*guruʧa*	'cause to jump'
	(c) *Yaka*	'catch fire'	*yak-į-a*	*yaʧa*	'lit fire'
	(d) *Yambuka*	'cross (a river)'	*yambuk-į-a*	*yambuʧa*	'take across (a river)'
	(e) *Hiiga*	'look for/hunt'	*hiig-į-a*	*hiiʤa*	'influence trouble
	(f) *Bhorooga*	'cry out laudly'	*bhoroog-į-a*	*bhoroоʤa*	'cause to cry out loudly'
	(g) *Bhunga*	'wander, loiter'	*bhung-į-a*	*bhunʤa*	'cause to wander, loiter'

The examples in 20) present the trait that */k/* and */g/* change into affricates; the first stage of spirantization different from */t/, /d/* and */r/* which becomes fricatives indicating the final stage of spirantization as suggested by Hyman [15]. The examples in 20) are found in the two dialects of Runyambo different from the other morphemes like causative *-*isį-*, perfective *-*įd-*, applicative *–ir-* and others which although they affricate */k/* and */g/* in Runyamabira, they don't do so in Runyamigongo as in *ruka* 'weave' *rukisa* 'cause to weave', *teeka* 'cook', *teekesa* 'cause to cook', and *handiika* 'write' *handiikisa* 'cause to write', 'use an instrument to write' in Runyamigongo with *ruʧisa, teeʧesa*, and *handiitʃisa* in Runyamabira. This shows how the differences in the intensity of the diachronic changes in a language affect the synchronic behaviour of the language/dialect in question. In this case, Runyamigongo dialect seems to have few scars of the super close vowel /*į/ on */k/,* and /g/ than Runyamabira.

Runyambo verbs with CV roots receive *-isį* in which *-į* is not realized as it is deleted before the final vowel. In such cases, the remnant of the super close vowel is not realized hence no phonological alterations are seen as in 21);

21)	(a) *Gwa*	'fall'	*gu-is-į-a*	*gwisa*	'cause to fall'
	(b) *Rya*	'eat'	*ri-is-į-a*	*riisa*	'cause to eat'
	(c) *Fa*	'die'	*i-is-į-a*	*fiisa*	'cause to die'
	(d) *Sya*	'be burnt'	*hi-is-į-a*	*hiisa*	'cause to burn/ripen'
	(e) *Sa*	'grind'	*sa-is-į-a*	*seisa*	'cause to grind'
	(f) *Ca*	'dawn'	*ca-is-į-a*	*ceisa*	'cause to dawn'

It is seen in 21) that when *–isį* is attached to the verb, the super close vowel *-į* is deleted/not realized. This happens in

all verbs to which only a causative *-isį* is attached. They may lead someone into a conclusion that the causative suffix is *-is*. The *–isį-* suffix is seen in longer verb roots not ending in *r/d* presented in 22).

22) (a)	*Tiina*	'fear'	*tiin-is-į-a*	*tiinisa*	'cause to fear'
(b)	*Haata*	'peel'	*haat-is-į-a*	*haatisa*	'cause to peel'
(c)	*Roota*	'dream'	*root-is-į-a*	*rootesa*	'cause to dream'
(d)	*Maɲa*	'know'	*maɲ-is-į-a*	*maɲisa*	'cause to know'
(e)	*Kwatana*	'stick to'	*kwatan-is-į-a*	*kwatanisa*	'connect'
(f)	*Gaya*	'despise'	*gay-is-į-a*	*gayisa*	'cause to despise'

The data from the field show that the super close vowel in the causative *-isį-* does not affect the final consonant of the verb root as it is far from it. Even the effects by *-isį-* on */k/* and */g/* cannot be attached to *-į* as it is not closer to the consonants in question. So, the effects of the super close vowel in this affix is seen when the causative co-occurs with the applicative suffix *–ir-* whose proto *(*-id)* does not have the super close vowel */į/* hence lack of the ability to spirantize the consonant before it. In this case, *-isį-* is discontinued with *–is-* being placed in front of the final consonant of the verb root and the super close vowel *-į-* placed between the applicative *-ir-* and the final vowel *–a* causing */r/* of the applicative to become *[z]* as in 23).

23) (a)	*Tiina*	'fear'	*tiin-is-ir-į-a*	*tiinisiza*	'cause someone to fear for'
(b)	*Rya*	'eat'	*ri-is-ir-į-a*	*riisiza*	'feed someone for'
(c)	*Ruka*	'weave'	*ruk-is-ir-į-a*	*rucisiza*	'cause to weave for'
(d)	*Sona*	'sew'	*son-is-ir-į-a*	*soneseza*	'have dresses made for'
(e)	*Bhagana*	'share'	*bhagan-is-ir-į-a*	*bhaganisiza*	'divide up something for'
(f)	*ɲwana*	'befriend'	*ɲwan-is-ir-į-a*	*ɲwanisiza*	'cause to be friends for'
(g)	*rwana*	'fight'	*rwan-is-ir-į-a*	*rwanisiza*	'cause to fight for'

The alterations in front of *-is-* in 23) suggest the presence of */į/* which causes the alteration of any consonant that comes between *-is-* and *-į*. This justifies that the suffix was originally made up of **-isį-* with applicative *-ir/-er* coming between the two parts of the causative *-is* and *-į-* hence *is-į* [28]. In many causatives in Runyambo, Rugemarila's */į/* which is symbolized as */į/* in this study was deleted remaining with *-is* as in 24):

24) (a)	*Rya*	'eat'	*riisa*	'feed'
(b)	*Soma*	'read'	*somesa*	'cause to study'
(c)	*Zina*	'dance'	*zinisa*	'cause to dance'
(d)	*Zana*	'play'	*zanisa*	'cause to play'
(e)	*Ita*	'kill'	*itisa*	'cause to kill'

However, the scars of it are still reflected when the causative and applicative verb extensions co-occur causing the trill /r/ in the applicative to become /z/ as shown in 17 and justified in the syntactic construction in 25) from Runyamabira dialect of Runyambo.

25) (a) *Omukazi akandisiza omwana ebhitooce*
Omukazi a- ka- n- ri- is- ir- į- a omwana ebhitooce
Woman SM-PST-1SG-eat-C_1-A-C_2-FV child food
'A woman feed the child (food) for me'.

(b) *Mawe akarucisiza omwizukuru omuceeka*
Mawe a- ka- ruk- is- ir- į- a omwizukuru Omuceeka
Mother SM-PST-weave-C_1-A-C_2-FV grandchild mat
'Mother made weaved a mat for her grandchild'

(c) *Tibeenda akanywanisiza Ruteijuka abhakamwana*
Tibeenda a- ka- nywan- is- ir- į- a Ruteijuka abhakamwana
Tibeenda SM-PST-befriend-C_1-A-C_2-FV Ruteijuka abhakamwana
'Tibeenda befriended Ruteiuka's daughters in law or him'.

(d) *Abheiserukare bhakatutiinisiza abhasuma*
Abheiserukare bha- ka- tu- tiin- is- ir- į- a abhasuma
Soldiers SM-PST-1PL-fear- C_1-A-C_2-FV thieves
'The army helped us to threaten the thieves'

In the examples in 25) the applicative *–ir-* comes between the two parts of the causative *-is-* and *–į-* labelled C_1 and C_2 respectively. In this case the super close vowel in this causative justifies the spirantization of the consonants before the vowels which are believed to be incarnates of the lost vowel. This vowel is suggested to exist in the morphemes though it is not among the vowel inventories. It seems to have been left behind when the merger was taking place.

It can be concluded that the merger from 7 to 5 vowels was not completely done in Runyambo as some instances of the

super close vowels specifically /ị/ were left behind especially in the verbal morphemes.

4.3. The Perfect or Past Tense -ịre

The perfective suffix in Runyambo is a reflex of the perfective proto Bantu affix *-*ịde*. In most of the data, the affix seems to affect the root of the verb by phonologically altering the final consonant of the verb stem. However, as seen with other suffixes, the perfective suffix does not alter all consonants. It selects some consonants including alveolar plosives /t/ and /d/, and alveolar trill /r/. This phonological alteration is found in both dialects of the language. The said consonants spirantize when followed by the perfective suffix *-ire* as in *26):*

26)	(a) *Kura*	'grow'	*kur-ịre*	*kuzire*	'have grown'
	(b) *Gura*	'buy'	*gur-ịre*	*guzire*	'have grown'
	(c) *Yara*	'spread/make bed'	*yar-ịre*	*yazire*	'have spread'
	(d) *Bhura*	'get lost'	*bhur-ịre*	*bhuzire*	'have lost'
	(e) *sara*	'cut'	*sar-ịre*	*sazire*	'have cut'
	(f) *nura*	'be delicious'	*nur-ịre*	*nuzire*	'is delicious'

The alveolar trill in the examples in 26) becomes a voiced alveolar fricative /z/ when the perfective suffix *-ịre* is attached to the disyllabic verb ending in */r/.* In addition, */d/* becomes *[z]* when the same affix is attached to the verb root ending in */d/* as in 27):

27)	(a) *ʤunda*	'rot'	*ʤund-ịre*	*ʤunzire*	'be rotten'
	(b) *ʤenda*	'go'	*ʤend-ịre*	*ʤenzire*	'have gone'
	(c) *ronda*	'find'	*rond-ịre*	*ronzire*	'have found'
	(d) *heenda*	'break'	*heend-ịre*	*heenzire*	'have broken'
	(e) *tonda*	'create'	*tond-ịre*	*tonzire*	'have created'
	(f) *rinda*	'watch'	*rind-ịre*	*rinzire*	'has watched'

It is obvious from the examples in 27) that the Proto Bantu super close front vowel /ị/ still has some remnants left in Runyambo. This is made known by the presence of spirantization caused by the super close vowels */ị/* and */ụ/*. That being the case, the synchronic occurrence of the same suggests the presence of the same vowels that caused the historical change in most of the Bantu languages and got lost. In the process of merging the vowels, the ones which were parts of morphemes were not merged hence the synchronic spirantization. A similar change is seen in the voiceless alveolar plosive which becomes a voiceless alveolar fricative */s/* when it appears before the perfective suffix *-ịre* as in 28):

28)	(a) *roota*	'dream'	*root-ịre*	*roosire*	'have dreamt'
	(b) *huuta*	'drink'	*huut-ịre*	*huusire*	'have drunk'
	(c) *tuuta*	'be angry'	*tuut-ịre*	*tuusire*	'is angry'
	(d) *haragata*	'scrape'	*haragat-ịre*	*haragasire*	'have scraped'
	(e) *hirinʤita*	'roll'	*hirinʤit-ịre*	*hirinʤisire*	'have rolled'

As said earlier, the alteration of the velar plosives /k/ and /g/ before most of the verbal morphemes is mostly featured in Runyamabira than in Runyamigongo. The perfective suffix *-ịre* also results into the change of velar plosives into alveopalatal affricates in Runyamabira. This does not affect Runyamigongo. The examples of such in Runyamabira are presented in 29):

29)	(a) *teeka*	'cook'	teek-ịre	*teeʧire*	'have cooked'
	(b) *Suka*	'plate '	suk-ịre	*suʧire*	'have plated'
	(c) *Heeka*	'back (a child)'	*heek-ịre*	*heeʧire*	'have backed a child'
	(d) *Kuuka*	'be uprooted'	*kuuk-ịre*	*kuʧire*	'have been uprooted'
	(e) *ʤunga*	'brew'	*ʤung-ịre*	*ʤunjire*	'have brewed'
	(f) *Bhunga*	'wander'	*bhung-ịre*	*bhunʤire*	'have wandered'
	(g) *Vuga*	'drive'	*vug-ịre*	*vuʤire*	'have driven'
	(h) *Hiiga*	'hunt'	*hiig-ịre*	*hiiʤire*	'have hunt'

The examples in 29) show the effects of the super close vowel /ị/ on the velar plosives */k/, /g/*. Though the palatalization of velar plosives is not limited to */ị/*, it is worth to argue that in Runyambo, palatalization especially of the velar plosive is caused by the super close vowels among others. Looking at the diachronic changes on the Proto Bantu velar sounds as reconstructed by Guthrie [12], almost all velar plosives before super close vowels in Proto Bantu are realized as palatal affricates in Runyambo specifically Runyamigongo dialect as in **gụta* 'oil' which is *ʤuta*, **gunda* 'rot' which is *ʤunda*. A different process happens in Runyamabira in which the two are *zuta* and *zunda* respectively which is frication. This shows that in Runyambo, affrication is not a new phonological process. It is a change that happened synchronically in this language but it still happens synchronically in the same.

The other evidence of the remnants of the super close front vowel */ị/* is seen when the perfective suffix *–ir-* is infixed before the final vowel of the verb stem. In this process, the alveolar lateral */l/* is deleted and the final vowel *–e* is placed at the end of the verb. This happens in roots and derived verbs where spirantization is not possible as in the examples in 30):

30) (a) *Rwara* 'become sick' *rwar-ire* *rwa-ir-r-e* *rwa-i-r-e* *rweire* 'is sick'
(b) *Ragura* 'forecast' *ragur-ire* *ragu-ir-r-e* *ragu-i-r-e* *ragwiire* 'has forecasted'
(c) *Harura* 'scrape' *harur-ire* *haru-ir-r-e* *haru-i-r-e* *hawiire* 'has scraped'
(d) *Ramura* 'judge' *ramur-ire* *ramu-ir-r-e* *ramu-i-r-e* *ramwiire* 'has judged'
(e) *Bharura* 'burst' *bharur-ire* *baru-ir-r-e* *bhamu-i-r-e* *bharwiire* 'has busted'
(f) *Hurira* 'hear' *hurir-ire* *huri-ir-r-e* *huri-i-r-e* *huriire* 'has heard'
(g) *Saarura* 'harvest' *saarur-ire* *saaru-ir-r-e* *saaru-i-r-e* *saarwire* 'has harvested'
(h) *Sarura* 'break the nuts' *sarur-ire* *saru-ir-r-e* *saru-i-r-e* *sarwiire* 'has broken the nuts'

In the examples in 30), the perfective affix is split into two slots with *–ir-* and *–e*. In this case, *–ir-* is placed before the final consonant */r/* with */e/* attaching to the end of the verb. This trait is unique to some perfective verbs in Runyambo. This feature is said to be irregular by Kula [18] which however seems to be not the case in Runyambo where this alteration seems regular and productive in both long verbal roots and some derived verbal stems. It also assimilates to the argument by Chebanne that the suffixes of the perfect stem have the particularity of appearing in a discontinuous form due to the rule of imbrication [7]. This alteration is also seen in verbs ending in */n/* as in 31):

31) (a) *rwana* 'fight' *rwan-ire* *rwa-ir-n-e* *rwa-i-n- e* *rweine* 'have fought'
(b) *Harana* 'harass' *haran-ire* *hara-ir-n-e* *hara-i-n-e* *hareine* 'have harassed'
(c) *ɲwana* 'befriend' *ɲwan-ire* *ɲwa-ir-n-e* *ɲwa-i-n-e* *ɲweine* 'have befriended'
(d) *guguna* 'gnaw' *gugun-ire* *gugu-ir-n-e* *gugu-i-n-e* *gugwine* 'have gnawed'
(e) *taana* 'divorce' *taan-ire* *taa-ir-n-e* *taa-i-n-e* *teine* 'have divorced'
(f) *hakana* 'argue' *hakan-ire* *haka-ir-n-e* *haka-i-n-e* *hakeine* 'have argued'

What is happening in 31) looks similar to what happens on the reciprocal verbs also ending in */n/*. To make a verb reciprocal, the suffix *–an- /-angan-* is attached to the verb stem. The perfective affix is infixed in the reciprocal verb between *a-/anga-* and *–n* making the reciprocal affix discontinuous as the perfective suffix forms *–ir-* and *–e*. Since in Runyambo verb extension affixes come before the inflectional categories like tense and aspect affixes [28], the perfective suffix *-ire* is expected to be attached after the reciprocal affix *–an*. However, such structures do not exist in Runyambo making verbs like *huriranganire, yanganire* and *twaranganire* ungrammatical in Runyambo. The examples of what happen including the infixation of *–ir-,* deletion of *–r-,* and vowel coalescence are presented in 32):

32) (a) *Hurirangana* 'listen to each other' *huriranga-ir-n-e* *hurirangeine* 'has listened to each other'
(b) *herangana* 'mock each other' *heranga-ir-n-e* *herangeine* 'have mocked each other'
(c) *Yangana* 'divorce' *yanga-ir-n-e* *yangeine* 'have divorced'
(d) *Twarangana* 'marry each other' *twaranga-ir-n-e* *twarangeine* 'have married each other
(e) *Terangana* 'beat each other' *teranga-ir-n-e* *terangeine* 'have beaten each other'
(f) *Gurilangana* 'buy for each other' *guriranga-ir-n-e* *gurirangeine* 'have bought for each other'
(g) *Terana* 'cause conflict' *tera-ir-n-e* *tereine* 'have caused conflict'.

The alteration in the examples in 32) was found to be a trait in most of the extended verbs when they receive a perfective affix in Runyambo. This feature is not unique to Runyambo as it is reflected in SiSwati by Harford and Malambe [13] and in Setswana by Chebanne [7]. In Setswana, the passive *–w-* is inserted between the two parts of the perfective *–ire* causing it to be a discontinuous morpheme. In Runyambo, perfective *–ir-* is infixed before the final consonant of the verb root, deleting */r/* in some verbs with the passive coming between the final consonant of the verb and the second part of the perfective which is *–e* as in 33):

33) (a) *Teerwa* 'be beaten' *tee-ir-r-w-e* *tee-i-r-w-e* *teirwe*
(b) *Bharurwa* 'be busted' *bharu-ir-r-w-e* *bharu-i-r-w-e* *barwiirwe*
(c) *Guturwa* 'be cut' *gutu-ir-r-w-e* *gutu-i-r-w-e* *gutwiirwe*
(d) *Teeranwa* 'be put in conflict' *teera-ir-n-w-e* *teera-i-n-w-e* *tereinwe*
(e) *Gugunwa* 'be gnawed' *gugu-ir-n-w-e* *gugu-i-n-w-e* *gugwiinwe*

The verbs in 33) seem to have the same alterations as those in 31) and 32) as the perfective is placed before the final consonant of the verb stem to which it is attached. On the other hand, other verbs in Runyambo possess the same feature as Setswana in which the passive *–w-* is placed between the two parts of the perfective affix. In such cases, the super close vowel /ɨ/ of the perfective *–ire-* spirantizes the final consonant of the verb to which it is attached. This group consists of verbs which do not end in */n/* as in 34):

34) (a) *Ruungwa* 'be spiced' *ruung-ir-w-e* *ruundʒirwe* 'have been spiced'
(b) *Rerwa* 'be brought up' *rer-ir-w-e* *rezirwe* 'have been brought up'
(c) *Gurwa* 'be bought' *gur-ir-w-e* *guzirwe* 'gave been bought'
(d) *Reetwa* 'be brought' *reet-ir-w-e* *reesirwe* 'have been brought'
(e) *Riiswa* 'be fed' *riis-ir-i-w-e* *risiizwe* 'have been fed'

Example e) presents a unique structure which involves a discontinuous causative *is-i* and a discontinuous perfective –

ịr-e. In this case, first part of the perfective is placed between *is-* and *–ị-* causing the *–r* to be spirantized into */z/* while the passive is placed between the second part of the causative *(-ị)* and the second part of the perfective *–e*. this forms a complex part of verbal morphology caused by the remnants of the proto Bantu vowel */ị/*.

5. Conclusion

Generally, the scars left by the lost vowels in Runyambo morphemes affect the final consonants of the verb stems to which they are attached. However, it has been found that in this language, only the front super close vowel scars can be traced. There is no evidence as per the collected data on the super close back vowel */ụ/*. In that case, it seems that */ụ/* may not have left the scars as there seems to be no effects caused by the same in Runyambo. This fact suggests that the lost sounds of a language can be traced in the present language. If not overtly realized they may leave some of the effects that may still be seen in the resent languages. For instance, in some languages including Runyambo, the Proto Bantu voiced bilabial plosive */b/* and alveolar plosive */d/* are realized as voiced bilabial fricative */β/* and alveolar trill */r/* respectively but they are still realized as */b/* and */d/* in Runyambo especially when they appear in some contexts including after the nasal sound. The fact that the remnants of super close vowel are found on morphemes suggests that the shift did not affect the bound verbal morphemes hence the vowels on the morphemes still exist.

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