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Sound Patterns in the Compound Words in Runyamigongo Dialect of Runyambo

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ABSTRACT

This paper presents the phonological alterations involved in the formation of compound words in the Runyambo language. Runyambo is a Bantu language spoken in the northwestern part of Tanzania. Compounding is a rich morphological process that has been reported in different languages of the world. Despite the extensive body of research on compounding in other languages, there is little to no literature addressing this phenomenon in Runyambo. This paper focuses on Runyamigongo dialect of Runyambo discussing their morphophonological properties. The theory of lexical morphology is applied with data collected through extraction from written materials and elicitation techniques. The paper is qualitative in nature. A total of 2 informants were involved in focus group discussion. Secondary data were collected from the Runyambo-Kiswahili-English dictionary. It was found that compound words in Runyambo are formed at both stratum 1 and 2. Most compound words in Runyambo are formed at stratum 1 involving the changes in vowels like deletion, coalescence and gliding. Some were found to undergo more than one alteration. Most alterations result from the morphological and phonological alterations like deleting prefixes like augments and deleting some other vowels. It can generally be concluded that compounding is productive in Runyambo and despite the presence of a few compounds which do not exhibit any morphophonological alterations, most compounds show phonological alterations in their formation. This presents the morphophonological richness of the language.

Keywords: Compounding; Vowel Elision; Vowel Coalescence; Gliding; Morphophonology

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1. Introduction

Compound words in Bantu languages are characterized based on the kind of materials copied and repeated to the base, in which syllable structure is the primary determining factor, as evident in Kurya, Lubukusu, Lusaamia, Sesotho, Chichewa and Setswati [1–3]. Other studies examined the properties of the pre-prefix and nominal prefix in determining the headword of the compound nouns in Bantu languages such as Bemba, Ruhaya, and Tshivenda [4–6]. A number of studies on compound words in Bantu languages focus on the distinction between endocentric and exocentric compounds as evident in Kiswahili [7]. In the process of analysis of exocentric and endocentric compounds in Kiswahili, the question of the sound patterns in source words and compounded ones has not been considered. This is the gap that the current research is striving to fill.

In this paper, attention is paid to the vowel properties in the source words and compound nouns, with special attention on the phonological changes encountered in the process of compounding in the Runyamigongo dialect of Runyambo.

1.1. Linguistic Profile of Runyambo

Runyambo is a Bantu language spoken in the northwestern part of Tanzania. It is classified by Maho [8] in zone E group 20 (Haya-Jita), language 1, hence E21. It has two dialects: Runyamabira, which is referred to by Rugemalira [9] as Marungu spoken in the west, and Runyamigongo, which he referred to as Migongo dialect spoken in the East. These two dialects differ in sound systems as exemplified in 1).

1)	**Marungu**	**Migongo**	**Gloss**
	kujeenda	*kugeenda*	'to go'
	enjemu	*engemu*	'banana tree'
	ebitecerezo	*ebitekerezo*	'thought'
	kuzwa	*kujwa*	' 'bleed/leak'
	kwiza	*kwija*	'come'

The presence of phonological differences suggests the differences in phonological alterations, making this work based on Runyamigongo rather than Runyamabira.

1.1.1. Structure of the Noun in Runyambo

Being a Bantu language, Runyambo is characterised by a noun class system, which has 18 noun classes. The noun in Runyambo is made up of an augment (AUG) except for a few classes. An augment is followed by a noun class prefix (NCP) and a root. The basic structure of the noun is (AUGMENT) + PREFIX + ROOT + (SUFFIX), as in (*o*) + *mu* + *gook* + (*e*) 'the ashamed person' and (*o*) + *mu* + *ntu* 'person'. Most nouns in Runyambo end in vowels except for those derived from verbs. The structure of nouns in 18 classes is presented in **Table 1**.

1.1.2. Runyambo Verbal Morphology

Runyambo verb is constituted by a nucleus which is the root to which different affixes are attached. Affixes that attach to the verb root are arranged in a systematic order. Some of the affixes trigger changes in the meaning of the verb while others mark grammatical contrast [9–11].

All verb roots in Runyambo are bound morphemes. They cannot stand alone unless the final vowel which is sometimes referred to as the mood vowel is attached. The root *gamb-* 'say"for example, is not complete unless the final vowel *-a-* is attached. The structure of Runyambo verb therefore is (PFX) ROOT (SFX) FV.

The Runyambo verb template constitutes 12 elements, which are arranged in a specific order. The elements are initial (presubject): relativiser *a-*, negative *ti-*, mood *ka-*, conditional *ki-*, and continuous *ni-*, subject marker, negative *-ta-*, tense marker, object markers, reflexive *-é-*, verb root, verb extensions, perfective *-ir-*, final (mood) vowel; locative clitic *ho*, *yo*; interrogative *hi*, *ci*; manner clitic *je*, *kwo;* and tense clitic *ga*.

1.1.3. Vowels

In Runyambo, there are 5 short vowels, including /*i*, *u*, *e*, *o*, *a*/. These vowels are differentiated by the features of height and backness of the tongue and rounding of lips, as in the vowel trapezium, as follows:

	Front	**Back**
High	i	u
Mid	e	o
Low	a	

Normally, short vowels are orthographically written in a single letter when presented in the writing system. The language also has long vowels, which are orthographically represented by two short vowel symbols or a short vowel with the dash on top or followed by a colon, includ-

ing /*i:*, *u:*, *e:*, *o:*, *a:*/. Runyambo consists of one diphthong /*ei*/.

1.1.4. Consonants

Runyambo consists of 19 consonants, which include oral stops, nasals, fricatives, affricates, semi-vowels, and laterals, as depicted in **Table 2**.

1.1.5. Syllable Structure

Runyambo syllable may be formed by a vowel (V) or consonant and vowel (CV) or a cluster of 2 consonants, one of which is a nasal (NCV) or sometimes by the syllabic nasal (N), which is discussed by Byarushengo[12]. Stress is assigned to particular syllables depending on whether they are *light* (a short vowel in the nucleus and no coda) or *heavy* (either a long vowel or diphthong in the nucleus, or a consonant in coda position), as in examples below:

V	*e*.mo	'one'
	i.bi.li	'two'
CV	*ri.ma*	'dig'
	gu.ra	'buy'
N	*m*.pa	'give me'
	n.*dya*	'I eat'
NCV	en.cuu.*mba*	'manner of cooking'
	βa.*mba*	'stretch the skin'

Table 1. Noun Class System in Runyambo.

Class	Augment	Prefix	Example	Gloss
1	*o-*	*-mu-*	*omuntu*	person
2	*a-*	*-ba-*	*abantu*	people
1a		*ø/wa*	*táata*	father
2b		*ba-*	*batáata*	fathers
3	*o-*	*-mu-*	*omupéera*	guava tree
4	*e-*	*-mi-*	*emipéera*	guava trees
5	*e-*	*i-/-ri*	*itáma/eríiso*	cheek/eye
6	*a-*	*-ma-*	*amatáma*	cheeks
7	*e-*	*-ci-*	*eciríibwa*	cassava
8	*e-*	*-bi-*	*ebiríibwa*	cassavas
9	*e-*	*-(n)-*	*ente*	cow
10	*e-*	*-(n)-*	*ente*	cows
11	*o-*	*-ru-*	*oruhu*	skin
12	*a-*	*-ka-*	*akáana*	small child
13	*o-*	*-bu-/tu*	*obwâna*	small boys
14	*o-*	*-bu-*	*obúce*	thinness
15	*o-*	*-ku-*	*okúju*	a kneel
15a	*o-*	*-ku-*	*okujenda*	to go
16	*a-*	*-ha-*	*ahamútwe*	on the head
17	*o-*	*ku-*	*okuzímu*	to hell
18	*o-*	*mu-*	*omunzu*	in the house

Table 2. Runyambo Consonant chart.

Manner of Articulation / Place of Articulation	Bilabial	Labio Dental	Alveolar	Alveo-Palatal	Palatal	Velar	Glottal
Stops	p b		t d		c j	k g	
Nasals	m		n		ɲ		
Fricatives	β	f v	s z				h
Approximants	w		r		j		

2. Literature Review

2.1. The Morpho-Phonological Features of Compound Words

Compound words have been studied in different languages. Despite being a highly researched area, compounds in Bantu languages are less studied, especially the phonological alterations. Discussing compounds in Zulu, Koopman[13] evidences the presence of vowel coalescence, including that of *a* + *i* > *e* as in *na* + *intombi* > *nentombi*; inter-vocalic consonants, as in *ngi* + *uthanda* > *ngiyawuthanda*; and elision of one of the vowels, as in vowel commencing verbs, as in *si* + *esaba* > *sesaba*. Koopman adds that Zulu compound nouns exhibit the elision of one of the adjacent vowels in two ways. In the first instance, the final vowel of the first element

is deleted, as in *uVusumuzi* formed from vusa 'awake' and *umuzi* 'kraal', in which the final vowel a of the word *vusa* is deleted. In the other instance, the first vowel of the second element is deleted, as in *umhlabandlazi* 'aloe' from *hlaba* 'stab, prick' and *indlazi* 'mouse-bird', in which the first vowel of the noun *indlanzi* is deleted. He differentiates the two by referring to the deletion of the final vowel as phonological deletion and that of the first vowel as the morphological deletion. This is because in the second, an augment, which is a morpheme, is deleted when they are final vowels of nouns. The differentiation between phonological and morphological deletion may not fit into other languages, as it depends on the word class from which a final vowel is deleted. For instance, the deletion of a final vowel of a verb in Bantu languages is morphophonological, as final vowels are morphemes.

In Zulu, the two processes of deletion depend on the type of words being formed. When the formed compounds are personal names, they utilize phonological deletion, while morphological deletion is utilized by all other formative [13]. In Kinyakyusa, an augment seems to be optional on nouns, hence not included in the compounds [14]. This results in the absence of deletions as only one vowel remains. This paper discusses vowel deletions in Runyambo as words combine to form compound words.

Despite being referred to as a universal process, compounds seem to be dependent on the morphological type of a language. Hence, the criteria for identification of compounds have to be language-specific. For instance, it is argued by Arcodia [15] that the significant typological differences between Indo-European and Mandarin Chinese results into the differences on how compound words are structured. This is because the syllable in Chinese largely coexist with a morpheme, making all disyllables to consist of two lexical morphemes, making Chinese to be defined as a language of compound words. This makes Chinese different from other languages, like agglutinating in which compounding is also reported. To complement this, Basciano, Kula, and Mellon [16] argue that Mandarin differs significantly from Bantu and Romance in how they form NN compounds. Machate-Kabinde et. al. [17] present the way personal names are formed through compounding in Zulu.

This shows how different languages may form compounds differently. Dash's [18] study on Bengali shows how compounding differs even in the same language. He gives different ways in which compound words are inflected, including:

a) No formative constituent is inflected. The constituent words are compounded in a straightforward way, as in *bhālamanda* from *bhāla* + *manda* “good and bad”, *ṭākāpaysā* from *ṭākā* + *paysā* “money and other things”, *pathghāṭ* from *path* + *ghāṭ* “roads and others”, *manprāṇ* from *man* + *prāṇ* “mind and life”.

b) Both formative constituents are inflected with case markers, as in *hāṭebājāre* from *hāṭe* + *bājāre* “in market and other places', *patheghāṭe* from *pathe* + *ghāṭe* 'in roads and other places', *gharebāire* from *ghare* + *bāire* 'in house and outside house', *jalesthale* from *jale* + *sthale* 'in water and land'.

c) The first formative constituent remains non-inflected without a case marker while the second formative constituent is inflected, as in *lālpeṛe* from *lāl* + *peṛe* 'red bordered', *chaṛihāte* from *chaṛi* + *hāte* 'with a cane in hand', *ālubhāte* from *ālu* + *bhāte* 'callous', *mārkuṭe* from *mār* + *kuṭe* 'eager to fight'.

Compounds are said to present unique features in different languages of the world, as seen in Bengali, specifically in how compound words are inflected. Such diversity of the process in the same language raises our curiosity in studying compounds in Runyambo to see what features exist. The differences among languages bring about the need for this research on the morphophonological properties of compound words in Runyamigongo, which is an agglutinative language.

In addition to that, grammaticalization of nominal stems forming compounds is reported in Bantu, which conjoins two nominal stems with the class marker on the second being optional [16]. They provide examples from Proto-Bantu, evidencing that this feature is diachronic as in 2):

2) a) **nkólo-tíma* 'heart' from *nkólo* 'breastbone' +*mu- tíma* 'heart'
   b) **mu-kái-ntu* 'woman' from *Mukái* 'woman and *mu-ntu* 'person'
   c) *Mukái-kulu* 'old woman' from *mukái* 'woman' and *mu-kulu* 'adult old'

The Proto Bantu data in 2) present the fact that the dropping of the class marker on the second component of a compound word is a property of Proto Bantu. Musehane [6]

also discusses the combination of roots in forming compound words in which some nouns lose their noun class prefixes, as in *tshijodzimare* 'weeping' derived from the class 3/4 noun *mijodzi* 'tears' plus the class 6 noun *mare* 'saliva', in which the class 3/4 noun class prefix *mu*/*mi* is deleted on the first word. The other instances present the deletion of a noun class prefix of the second noun s in *Mutomboti* 'kind of tree' from the class 5/6-noun *tombo* 'stone/rock,' and the class 3/4 noun stem muti 'tree' from which a noun class prefix *mu-* is deleted. This also does not concentrate on the phonological processes but on the root combinations. This study concentrates on the phonological processes that happen as the words are combined to form compound words in Runyambo.

A similar feature is reported in some Bengali compound words in which the first formative constituent is inflected with a case marker while the second formative constituent remains non-inflected, as in *hātekhaṛi* from *hāte* + *khaṛi* "holding chalk in hand", *gāyehalud* from *gāye* + *halud* "smearing turmeric paste on body", *telebhājā* from *tele* + *bhājā* 'Oil fried', and *dineḍākāti* from *dine* + *ḍākāti* 'robbery at daylight'[18]. This similarity brings about a question of whether this feature is universal or not, leading to a study on Runyambo to see if this feature is still attested in Runyamigongo nouns as it was in Proto-Bantu.

Compounds are dependent on phonological and morphological processes, which may be specific to language compounds[19]. The morphophonological processes of assimilation, vowel elision, and supra-segmental features like stress, tone, and intonation are very crucial in identifying and distinguishing compounds. It is argued by Dash[18] that the formative constituents of Bengali noun-adjective compounds undergo some phonological alterations in which some characters get lost in the final forms. He gives the examples in 3):

3) a) *Vidyālaya* (*vidyā* + *ālaya*) 'school'
   b) *Śatābdīr* (*śata* + *abdī*+*r*) 'of century'
   c) *Nīlotpal* (*nīl*(*å*) + *utpal*) 'blue lotus'

In the examples a) and b) in 3), the final vowels *-ā* and *-a* of the first words *vidyā* and *śata* respectively are deleted while in c), the final vowel of the first word *nīl*(*å*) 'blue' and the first vowel of the second word *utpal* merge into /*o*/ to form a compound word *nīlotpal* 'blue lotus'.

On the other hand, Anagbogu[20] demonstrates that certain groups show apparent compounds in which phonological processes such as regressive assimilation and tonal changes operate across boundaries relating one segment on one side of the boundary to another segment on the other side. He gives examples of compounds that undergo regressive assimilation, making the vowels in the initial position of the second word assimilate the vowel qualities of the vowels at the final position of the first word, as in *nwa* + *osu* to form a personal name" *Nwoosu* 'child outcast', *nwa* 'child' +*okpu*to form *Nwookpu* 'married daughter'; *nwa* 'child' +*oke* 'male' *nwooke*/*nwoke* "man'. This shows that compound words in many languages undergo some phonological alterations in their formation, which is also a focus of this study.

The compounds are reported by Fabb[19] to possess segmental phonological processes that happen between the two combined words or a word and an affix. He reports processes like epenthesis in Dakota stem final nasal elision and stem final vowel lengthening in Malayalam, and stem final and stem initial germination of obstruents in Dravidian compounds. The other processes include segment loss, morpheme insertion in which morphemes without independent meanings may be inserted between the two words forming a compound. Such a morpheme may bear a historical relation to some affix, as *-s* of *-en* in German words *schwan-en-gesan* 'swan song'.

In the study on fused compounding processes, Adekunle[21] found that assimilation, vowel elision, and coalescence are the possible changes that occur at the syntactic level of fused compounding. He classifies compounds into fused and non-fused. Ilori[22], as cited in Adekunle[21], defines fused compound as words whose primary root morphemes are phonologically knitted together through word boundary phenomena such as vowel elision and assimilation, as in Yorúbá *omi* 'water' + *oje* 'sap' into *omije* 'tears'. In his theory of Strong Boundary Condition, Allen[23] claims that the group encompasses non-productive compounds, which allow phonological rules to apply across word boundaries. They permit such due to the presence of weak internal boundaries, which result in phonological alteration. This study works on the presence of weak and strong boundaries in the compound word formation, applying the lexical morphology theory.

On the other hand, non-fused compounds are defined by Adekunle[21] as words which do not combine roots together with any form of modification, as in *ilé* 'house' *ẹjọ́* 'case' into '*ilé-ẹjọ́*' 'court'. Compounds that belong to this

category are referred to by Udoye[24] as true compounds that stick to Strong Boundary Condition rules. She deals with the formation of toponyms in Igbo. To her, the category of toponym compounds in this group maintains their underlying tones after undergoing the word formation process of compounding. They are insensitive to phonological alterations. She applies the Strong Boundary condition theory by Allen[23], which she claims is most suitable for compounds. However, the truth of any word formation process may not lie in the strength of the boundary, as different processes may differ in different languages in terms of productivity and even the strength of the boundary. While compounds with weak boundaries may be less productive in English and Welsh, on which he bases his discussion, they may be productive in other languages. Thus, I apply the Lexical morphology theory, which looks at both compounds with weak and strong boundaries.

Fabb[19] argues that the compound building rules and how they interact with other rules are important in the study of compound words. The interaction between the rules that build compounds and other rules, such as phonological, morphological, and syntactic, should be taken into account as one studies compounding. Táíwò[25] argues that in their derivations, the words *kíyèsára* 'be observant', *babaláwo* 'herbalist', and *Adéwálé* (personal name) employ phonological processes of vowel elision as in *kó-iyè-sí-ara* in which the vowel /ò/ of *kò* 'put' and /í/ of *sí* (preposition) are deleted, resulting in *kíyèsára*. The other processes in the examples include deletion, contraction, and tonal displacement/replacement. This paper sets out to investigate the morphophonological properties of compounds in Runyambo.

In addition to that, Etim[26] argues that compounding has links with morphology, syntax, and phonology, resulting in some processes that are morphophonologically motivated. In this paper, I concentrated on the morphophonological properties of compound words in Runyamigongo. Since the formation of compounds in many languages can be phonologically conditioned as words combine, I concentrate on what happens at the boundaries between the words forming compounds.

2.2. Lexical Morphology Theory

This paper is guided by Lexical Morphology Theory. The theory's first trace can be found in Pesetsky[27], with its further elaboration in Kiparsky[28]. Mohanan[29] presents the idea in Lexical morphology that a subset of phonological rule applications occurs in the lexicon, in tandem with the morphological operations. He adds that morphology and phonology are inputs to each other. Lexical Morphology holds that morphological operations such as affixation and compounding may occur in different modules of the lexicon referred to as strata. Kiparsky[28] argues that morphology is organized in a hierarchy of strata. He adds that the structure of the lexicon determines the ordering of the word formation processes such that the end product of one level is not available for phonological rules associated with an earlier stratum. In lexical morphology, the word is regarded as the key unit of morphological analysis rather than the morpheme. Lexical morphology argues that there is a symbiotic relationship between the rules that build the morphological structure of the word and the phonological rules that describe how the word is pronounced.

He divides English operations into 3 strata, with stratum one having a weak boundary affix associated with morphophonological changes resulting in base distortion. Stratum 2 affixes are characterized by a strong boundary and do not cause a phonological effect on the base. He adds that, in English, compound word formation belongs to stratum 2 as they have a strong boundary. Allen[23] believes that true compounds apply the strong boundary condition as they show strong internal boundaries that prohibit phonological rules from operating across boundaries.

Udoye[24] agrees with Allen that strong boundary condition theory cannot apply to what they call non-productive compounds. These are compounds that allow phonological alterations across word boundaries. Since what Allen[23] and Udoye[24] refer to as non-productive/weak compounds seem to exist in different languages, including Bantu, as discussed in the literature, this paper employs lexical morphology theory, which accounts for both true and non-productive compounds in the Runyamigongo dialect of Runyambo.

Lexical morphology theory is chosen due to its ability to apply to both lexical and post-lexical rules. The theory was successfully applied in different Bantu languages, including Nyakyusa[14]. Being a combination of two or more lexical items, it is likely that there may be multiple phonological properties within lexical members of a compound and

at the boundary of their connection. Compound words in Runyambo are discussed based on the lexical strata, which suggests the phonological behaviour at the boundary between the two words forming the compound.

3. Materials and Methods

This study is descriptive in nature because it uses descriptions. Qualitative data were collected through documentary reviews and introspection, in which naturally occurring conversations from which compound words were collected were recorded. Secondary data were collected from the Runyambo-Kiswahili-English dictionary by Rugemalira[9], whereas primary data were gathered from two indigenous speakers of the language. Grammaticality judgment was applied in collecting primary data. I prepared a list of compound words from the dictionary and read them to the informants, and asked the informants to pronounce them. This was done to get the natural pronunciation of the words from the native speakers. The participants were selected using snowball sampling. Data were analyzed using tabulation and morphological parsing.

To adhere to research ethics, I acquired a research permit (SRN: 4/2025) from the Directorate of Research, Innovation, and Community Engagement (DRICE) of the Saint Augustine University of Tanzania. Also, the informants were asked verbally to give informed consent before they were involved in the process. Each informant was informed verbally of the objectives of the study and asked to freely participate in the process of data collection that they both accepted. Verbal consent was preferred because the informants could not read or write.

4. Results

4.1. Compound Words in Runyamigongo Dialect

It was found that compounding is a productive word formation process in the Runyambo and Runyamigongo dialects in particular. They are formed through a combination of two or more lexical items. Most compounds in Runyambo were found to consist of two words. A few of them have three words, including an associative *-a* 'of'. Most compound words in Runyambo are nouns, including names of people, places, plants, animals, and birds. Different from what Allen[23] suggests in his Strong boundary condition theory, most compound words in the Runyamigongo dialect undergo phonological alterations as they are formed. The compounds of this kind are claimed by Allen[23] to be non-productive and less prototypical. To him, true compounds have strong boundaries. This marks the uniqueness of this category in different languages and dialects, including Runyamigongo, in which most compound words are formed at stratum one.

As discussed in the theoretical framework, morphemes at stratum 1 exhibit weak boundaries, resulting in phonological alterations like assimilation, vowel elision, vowel harmony, and other phonological alterations, as discussed in this paper. What is referred to by Allen[23] as true compounds seems less productive in Runyamigongo, which necessitated lexical phonology theory to be applied in this study.

4.1.1. Compounds at Stratum Two

It was found that a few compounds in Runyamigongo are formed through a combination of words without any phonological alterations. The words combine without any change. Such compounds possess strong boundaries and can be written as separate words. The examples in **Table 3** present this fact.

In Runyambo, a few compound words with no morphophonological alterations exist. In such words, the whole lexical items combine to form compounds. These are referred to by Allen[23] as true compound words. This category seems to be productive in Igbo, as reported by Udoye[24]. On the contrary, it is less productive in Runyamigongo. The combination of the above compound words is as follows:

4) a) *Eciniahamo*
e-ci-ni-a ha-mo
AUG-cl.7-defecate-FV cl.16-one
Which defecates at one place
'a type of animal'

b) *Ecirumirahabili e-ci-rum-il-a ha-biri*
AUG-cl.7-bite-APL-FV cl.16-two
Which bites with two sides
'Double-headed snake'

c) *Barugahare*
Ba-rug-a ha-re

	cl.2-comefrom-FV cl.16-far	*E-n-rwaara n-kuru*
	They come from far	AUG-cl.10-sikness cl.10-old
	'Name of a person'	An old sickness
d)	*Endwaarankuru*	'Genetic disease'

Table 3. Compounds without phonological alteration.

Word 1	Word 2	Compound	Gloss
Ecinia 'which defecates'	*Hamo* 'at the same place'	*Ecinia hamo*	'a kind of animal'
Ecirumira 'which bites'	*habiri* 'at both sides'	*Ecirumira habhiri*	'a two headed snake'
Mwana 'child'	*akaabha* 'demands'	*Mwana akaabha*	'a small round bread'
Bharuga 'they come from'	*hare* 'far'	*Baruga hare*	'name of a person'
Nyina '3SG mother'	*rimi* 'male'	*Nyina rimi*	'his/her uncle'
caasa 'sent'	*mwatano* 'of five'	*Caasa mwatano*	'thirty sents'
Endwaara 'a disease'	*Nkuru* 'old'	*Endwara nkiru*	'genetic disease'
Ecaara 'finger/toe'	*Ciceija* 'male'	*Ecaara ciséija*	'thumb, big toe'

As seen in the examples, the word as a whole with all its affixes is combined with another full word to form a compound word. For instance, in a), the noun *ecinia* 'which defecates' formed from the verb *nia* 'defecate combines with the numeral *ha-mo* in noun class 16 to form a compound word. In b), all the affixes are reflected in the word without any phonological alterations. Looking at the compound words in a)–c), they seem sentential in their literal meanings. This is because they are formed from the nominalized verbs in a) and b), and a verb in c), which combines with adverbs of place -*hamo* 'at one place', *habili* 'at two sides, and *hare* 'far' respectively. What makes me to refer to them as compounds is the fact that they refer to one entity. For instance, in its literal meaning, the compound word *endwaarankuru* 'genetic disease' is made up of a noun and a modifier, which could be a phrase. This is similar to *ecaara ciseija* 'thumb', which is made up of a class 7 noun *ecaara* 'thumb/finger and the adjective *ciseija* 'male'.

The other compound words in this category are *ecaasa mwa tano* 'thirty sent (lit. Twenty sent and a half), *mwanaakabha* 'a small round bread' from the *mwana* 'child' and *akabha* 'asks for/desires/cries for', and *nyinarimi* 'his/her maternal uncle' from *nyina* 'his/her mother and '*rimi* 'male'. The other terms for maternal uncle include *nyokoromi* 'your uncle', *maarimi* 'my maternal uncle'.

The other form of compounding at this stratum allows the combination of a fully formed noun with a noun root. The second noun does not carry any augment or noun class prefix. The first noun exhibits all the features of a noun, while the other part consists of only a root. This is exhibited in a few Runyamigongo compound words formed from two nouns, as in **Table 4**.

Table 4. Combination of a fully formed noun with noun root.

Word 1	Word 2	Compound	Gloss
Omuhara 'daughter'	*omukazi* 'woman'	*Omuharakazi*	'a daughter'
Omusindi 'cl 1. sindi'	*omukazi* 'woman'	*Omusindikazi*	'a female member of abhasindi lineage'
Omwarabhu 'an Arab'	*Omukazi* 'woman'	*Omwarabhukazi*	'a female Arab'
omunyarwanda 'a Rwandan'	*Omukazi* 'woman'	*Omunyarwandakazi*	'a female Rwandan'
Nyina '3SG mother''	*abharongo* 'twins'	*Nyinarongo*	'a mother of twins'
Enkura 'breast born'	*omutima* 'heart'	*Enkuratima*	'heart'
Entura ' bitter eggplant (likok)'	*Entongo* 'African Eggplant'	*Enturatongo*	'cluster eggplant'
Obutukuza 'which whitens'	*Enono* 'nails'	*Obutukuzanono*	'type of weed'

Most compound words with the word *kazi* 'woman/female' are formed in this group, as in *omusindikazi* 'a female member of abhasindi lineage'. This feature is also reported by Baciano, Kula, and Mellon [16] in Proto-Bantu, in which a diachronic feature of prefix deletion on the second word is reported. Though the feature is believed to be diachronic, it is less productive in the Runyamigongo dialect. The morphological structure of the compound words in 5) are as follows:

5) a) *Omuharakazi*
o-mu-hara kazi
AUG-cl.1-daughter female
'a daughter'
b) *Nyinarongo*
Nyina rongo
Mother twin
'a mother of twins'
c) *Enkoratima*
e-n-kora -tima
AUG-cl.9-brestborn heart
'heart'

The compound words in 5) are formed from two nouns, the second of which is not prefixed with an augment and a noun class prefix that is obligatory on Runyambo nouns. This shows the diversity of compound word formations in Runyambo. In Lexical morphology, we encounter deletions in these words in which, instead of taking a noun as a whole, only the root is taken. The compound word *omuharakazi* is formed from class one nouns *omuhara* 'daughter' and *omukazi* 'woman', while *nyinarongo* is derived from class one *nyina* 'mother' and class 2 noun *abharongo* 'twins. On the other hand, the word *enkuratima* is derived from a class 9 noun *enkura* 'breast born' and a class 3 noun *omutima* 'heart'. This can be counted as deletions of the augment and noun class prefix, or rather, the attachment of the two after the compounding process. For instance, the nominal roots *-hara* and *-kazi* could have combined before the attachment of the augment and class one prefix. However, it is argued by Basciano, Kula, and Mellon[16] that the general representation of Bantu root compounding connects two nominal stems, each preceded by its class marker.

4.1.2. Compound Words at Stratum 1

Compounds in Runyambo present a rich morphology. In the Runyamigongo dialect, only a few compound words were found not to result in phonological alterations of the words forming them. Most compound words belong to stratum one in that they result in phonological alterations at the boundary. Many of them seem to have weak boundaries leading to phonological alterations, which mostly alter the vowels, resulting in vowel elision, vowel assimilation, coalition, and glide formation. This happens when the first word ends in a vowel and the next starts in a vowel of the other feature, as discussed below.

(1) Vowel Elision

In forming Runyamigongo compound words, elision was found to be productive. Vowel elision in this paper refers to the dropping of a vowel where the two vowels follow each other. As discussed in 1.1.3, Runyambo allows long vowels, allowing a combination of two vowels as in *mwanaakaabha* 'type of bread', but in some compounds, vowel elision occurs. The two kinds of elision were found in Runyamigongo when one of the words forming a compound ends in a vowel and the second begins in a vowel, resulting in two vowels following each other. One group of words deletes the first vowel of the second word, i.e., an augment in cases of nouns, while the other deletes the last vowel of the first word. This process is morphophonological, involving the vowels, which may also be affixes as discussed below.

- **Second Word Vowel Elision**

Some compounds in Runyamigongo are formed with two nouns, with the first derived from verbs. In such cases, both words receive noun class prefixes while the augments are phonetically realized on the first words which functions as the headword. The headwords are nominalized verbs ending in the final vowel. In such words, only the deletion of an augment of the second noun is experienced.

a + o > a

In Runyambo, it was found that in some compound words with the first word ending in *-a* and the second word starting in *o-*, *o-* is deleted leaving *a-*. The examples of such are presented in **Table 5**.

The data in **Table 5** present the deletion of *o-* when combining two words, one being a nominalized verb and the other being a noun. In a word, *ecicwamukágo* 'wealth to sever blood relation to unblock marriage proceedings', an initial vowel of the second word, *omukago*, is deleted. The deletions can be accounted for by the rule o → Ø / _ a, which states: *o-* is deleted when it appears before *-a*.

a + e > a

The deletion of *e-* when it appears next to *-a* is also reported in the combination between nominalized verbs and nouns. This happens when two words, the first ending in *-a* and the second starting with *e-* combine.

The deletion of e when it occurs next to a is reflected in the examples in **Table 6**.

Table 5. a + o > a.

Word 1	Word 2	Compound	Gloss
Ecitema 'which cuts'	*Omusanje* 'grass type'	*ecitemamusanje*	shrew
Ecihenda 'which breaks'	*Orugo* 'a fence'	*ecihendarugo*	stupid person
Enya 'Cl.9 of'	*Orubhabhi* 'banana leaf'	*enyarubhabi*	green snake
Icingura 'which opens'	*Omumiro* 'throat'	*Icinguramumiro*	breakfast
Ecanjura 'introduction'	*omukwano* 'courtiship'	*Ecanjuramukwano*	engagement present
Enyita 'which kills'	*obhunyonyi* 'birds'	*Enyitabhunyonyi*	kind of plantain
Eciteera 'which beats'	*omfumba* -	*Eciteeramfumba*	kind of small verb
Ecicwa 'which blocks'	*Omukago* 'blood relation'	*Ecicwamukago*	fine to unblock marriage

Table 6. a + e > a.

Word 1	Word 2	Compound	Gloss
Ecitééra 'which beats'	*Enkumba* '*grain ear*'	*ecitéérankumba*	type of small bird
Ecitarabha 'which does not pass'	*Enyuma* 'behind'	*ecitárabanyuma*	great grandson
Ecisura 'herald, be an omen'	*ensenene* 'grashopper'	*ecisura nsénene*	damselfly
Ecitatera 'which does not beat'	*ente* 'cow'	*Ecitaterante*	type of plant
Ihinda 'which raises one from sleep'	*Enjojo* 'elephant'	*Ihinda njojo*	dead of the night
Isindika 'which pushes'	*Ehongo* 'yellow flowers'	*isindika hongo*	stormy rain in June
Obhucumita 'which pierces'	*embogo* 'buffaloe'	*obucumitambogo*	creeping grass
Engenda 'which go'	*Eciro* 'night'	*Engendaciro*	kind of ants
Omwita 'which kills'	*Enjoka* 'snake'	*Omwitanjoka*	kind of plant

The compound words in **Table 6** present another form of elision of the first vowel of the second word. When the nominalized verb combines with a noun starting with an augment e-, it deletes the augment, making the final vowel of the first word to manifest as in *engendaciro* 'kind of ants', in which the first vowel *e-* of the word *eciro* 'night' is deleted, leaving the final vowel of the nominalized word *engenda* 'which go/walk'. Since this does not happen with all combinations of this kind (others allow both vowels, others delete the final vowels of the verb), this adds to the richness of compounding, especially when it comes to phonological alterations. This also presents the evidence that many compound words exhibit the weak boundaries between the words forming them, making them belong to stratum 1.

a + a > a

Runyambo data on compounding reveals the deletion of one of the two identical compounds when they occur consecutively. When a nominalized verb ending in *-a* combines with the noun starting with *a-*, one of the two deletes instead of lengthening. This fact is reflected in the data in **Table 7**.

The compound words in **Table 7** present the unique form of deletion in which one of the identical vowels is deleted. The compound words in the table are formed from the two words, the first of which ends with the vowel *-a* and the second starts with *-a.* For instance, the word *ecifamabhere* is derived from the words *ecifa* 'which dies', which ends in *-a*, and the word *amabheere*, 'breasts', which starts with a vowel *a-* as well. It is argued that the vowel in the second word is the one that is deleted because of what is happening with the words of the same kind in **Table 3** where both of the vowels appear in one of the words, and **Tables 5** and **6**, in which the augment of the second word is deleted.

One instance of the combination of a verb and a noun was encountered. In this case, the verb is not nominalized. The compound word *bhuzameiso* 'get completely lost without possibility of recovery' is formed from the verb *bhuza* 'cause to loose' *ameiso* 'eyes'. This combination also leads to vowel elision in which the initial vowel of the noun *amaiso* is deleted.

The three patterns discussed above present the richness of the morphophonological properties of compound words in the language. The compounds in **Tables 5–7** are formed from nominalized verbs and nouns. In Runyamigongo, verbs can be nominalized by attaching the augments and the noun class prefixes. The words forming compounds in the examples possess all the features of nouns. They present the deletion of a vowel at the initial position of a second word. The morphological parsing of some words affected by such vowel deletion is presented in 6):

6) a) *Ecitem-a omusânje*
e -ci- tem-a o- mu- sânje
AUG-cl.7-cut-FV AUG-cl.3-grass
Which cuts grass
'shrew'

b) *Ecitaterante*
e- ci- ta- ter-a e- n- te
AUG-cl.7-Neg-beat-FV AUG-cl.9-cow
Which does not hit a cow
'type of plant'

c) *Obhucumitambogo*
o- bhu- cumit- a e- m- bhogo
AUG-cl.13-pierce-FV AUG-cl.10-buffalo
which pierce the buffaloes
'kind of thorny plant'

d) *Ecikangabáana*
e- ci- kang- a a- ba-ana
AUG-cl.7-scare-FV AUG-cl.2-child
which scares children
'scarecrow'

e) *obhuryabábi*
o- bhu- ri- a a- ba- bi
AUG-cl.13-eat-FV AUG-cl.2-ugly
Which eat the ugly ones
'midge, gnat'

The examples in 6) present the structure of Runyambo, specifically Runyamigongo compounds, which seem to be morphologically rich with morphophonological features of stratum one, in which the two vowels at the end of the word and at the beginning of another are deleted. For instance, a class 7 noun *ecikanga* 'which scares' combines with a noun *abaana* 'children' in class two, to form e*cikangabaana*, in which the noun class 2 augment a- is deleted. In a), the word class 7 noun *ecitema* 'which cuts' combines with a class 3 noun '*omusanje*' ('kind of glass') in class three, on which an Augment *o-* is deleted, forming *ecitemamusanje* instead of *ecitemaomusanje*. In c), a noun class 13 *obucumita* 'which pierce' combines with a noun *embogo* 'buffalo' in class 10 to form *obucumitambogo* instead of *obucumitaembogo*.

Table 7. a + a > a.

Word 1	Word 2	Compound	Gloss
ecikanga 'which scares'	*abhaana* 'children'	*ecikangabáana*	'scarecrow'
Ecihirinjisa 'which rolls'	*amazi* 'faeces'	*ecihirinjisamázi*	'beetle'
ecifa 'which dies'	*amabhere* 'breasts'	*ecifamabéere*	'dry cow'
ruterana 'which cause dispute'	*Abhatani* 'neighbours'	*ruteranabhatani*	'type of beans'
Akacwa 'which extincts'	*abhazeire* 'parents'	*akacwabazeire*	'millipede'
Oburya 'which bites'	*abhabhi* 'the ugly ones'	*obhuryabhabhi*	'midge, gnat'

In the other formative, compound words forming names in Runyambo do not take an augment. As argued by Mpobela[30, 31] and Elias et al.[32], names possess special characters different from nouns. The same feature of nouns, some of which are formed through compounding, is reported in Rukiga by Asiimwe[33]. The role of noun class prefix in forming compound words is reflected in a study on Xitsonga by Mlanbo and Mattunjwa[34]. Compound names in Runyambo do not carry augments. They only carry noun class prefixes of the class to which they belong. Some of the examples are as in 7):

7) a) Kabhangamirembe 'a place name'
b) Chibhonwanimi 'a place name'
c) Keitampunu 'bitter cassava'
d) Cikompedebhe 'type of beans'
e) Nyinabharongo 'twins' mother'
f) Isengoma 'elder male twin's name'

The names of people and plants in example 8) validate the fact that compound names are unique, as they are formed differently from other compound words. The morphological makeup of the compound names above is as follows.

8) a) *kabhangamirembe*
ka-bhanga mirembe
Cl.12-hill blessings
Blessings hill
'a place name'

b) *Cibhonwanimi*
Ci-bhon-w-a nimi
Cl.7-see-PASS-FV bull

Which is seen by the bull
'a place name'

c) *Keitampunu*
Ka-it-a m-punu
Cl.12-kill-FV cl.10-pig
which kills pigs
'bitter cassava'

d) *Cikompedebhe*
Ci-kompe debhe
Cl.7-cup tin
cup tin
'type of beans'

e) *Isengoma*
Ise n-goma
Father cl.9-drum
Father of the drum
'elder male twin's name'

The examples of compound names in 8) show the reality that the words involved in forming compounds lack augment. Different from the already discussed compound words, the compound names are formed differently. For instance, the name *Kabhangamirembe* is formed from two nouns, *akabhanga*, 'a small hill', and *emirembe*, 'blessings'. The deletions are morphophonological in nature, with the deletion of a vowel on the second word being brought about by the presence of two consecutive vowels, as discussed earlier in this section. The deletion of the augment of the first word can't be classified in stratum one, for what is affected is morphology, as the morpheme (augment) is deleted, which is the feature of most names in Runyambo. It is likely that since names are definite in nature, they don't need an augment.

- **Vowel Deletion at the End of Word 1**

It was found that in the formation of compound words in Runyambo, vowel elision of the last vowel of the first word is common. This kind of deletion occurs when the final vowel of a noun is deleted when it combines with another noun with a different initial vowel. The two instances of such deletion were found as follows:

a + e > e

Deletion of word-final *-a* is experienced when a noun ending in *-a* combines with another noun beginning with *e-*. The combination of the two deletes the first vowel. This is different from the patterns above in which the initial vowel of the second word is deleted, leaving the final vowel of the first word. This is because the compounds in this group are formed from two inherent nouns, while in the first group, they are formed from nominalized verbs and nouns. Also, it was found that the augment is functionally important in this format more than it is in the previous patterns. It is argued by Mpobela [10] that the augment functions as a relative pronoun, which is reflected in this pattern. The examples in this group include:

9) a) *nyinenkuru nyina enkuru* 'his/her grandmother'
b) *Tatenkazi tata enkazi* 'my paternal aunt'
c) *Nyinento nyina ento* 'his/her maternal aunt'
d) *Tatento tata ento* 'my paternal uncle'

In the compound words in 9), a word ending in *-a* combines with another word starting in *-e*, making the *a-* to delete. The augment e in the words above functions as a relative marking definiteness *tata enkazi* to mean 'father who is a female', which can also be found in a noun phrase *omwana omuto* 'a child who is young', showing definiteness as differentiated from *omwana muto* 'any young child'. The words in this group are kin terms.

For instance, the kin term *tatenkazi* 'my paternal aunt' is formed from two words, a class 1b noun *tata* 'father' and a class 9 noun *enkazi* 'female'(definite). *Enkazi* here possesses the feature of a noun, as it carries the augment, which can not be found on adjectives unless they are nominalized. Also, an adjective must agree in noun class with the noun it modifies, making it a noun rather than an adjective.

However, this formative is also found on a unique combination between the verb *rimira* 'farm for' and *enkobhe* 'monkeys' which sounds like a sentence with a verb and the object, but represents the name of a kind of beans famous in the area. The formed compound deletes the final vowel of the verb *rimira*, not the first vowel of the noun *enkobhe*, as seen in nominalized verbs, resulting in *rimirenkobe* 'type of beans' (lit. Farm/cultivate for monkeys).

Vowel elision in compound words in Runyambo seems to be morphophonologically instigated. It is not a pure phonological process because it results from affixed words combining resulting in the deletion of some parts of words, some of which are affixes. Such affixes lose their physical realization,

but their functions are not affected, making me argue that this is a sound alteration. The morphological significance of a vowel in a compound adds to its deletion or removal in addition to the phonological motivation.

(2) Vowel Coalescence

Vowel coalescence is a phonological alteration in which vowels cause each other to change[35]. Omozuwa[36] discusses some cases of coalescence across word boundaries in Yoruba, a Niger-Congo language, which shows the richness of this process. In Embosi, the gliding of *o* + *a* to form *w*, and *i* + *e* becomes *y*[37]. Sibanda[38] presents coalescence as one of the solutions to *vv in Nguni. He[38] defines coalescence as the process in which two identical vowels come together to form a monomoraic vowel with the identical features and those combining two different vowels whose product is a single monomoraic vowel with non-conflicting features from the two vowels that combine. This study takes the second definition, in which different vowels combine to form one vowel. The patterns involve the following:

a + e > i

The coalescence of /a/ and /e/ to form [i] was found in compound formation in Runyamigongo. When the first word ends in *-a* and the next starts with *e-*, the vowels coalesce to form *i-*. A few compound words fall under this pattern, as presented in 10):

10) a) *Mukibhyera*
mu-ka e-bhi-era
cl.1a-wife AUG-cl.8-happiness
wife of happiness
'name of a person'

b) *Mukibita*
mu-ka e-bhi-ta
cl.1a-wife AUG-cl.8-war
A wife of war
'name of a person'

c) *omuchuzigwibhihmba*
o-mu-chuzi gu-a e-bi-himba
AUG-cl.3-soup cl.3-of AUG-cl.8-bean
soup of beans
'Beans soup'

The compounds in 10) present the three compound words in which vowel coalescence between a and e occurs, resulting in a high front vowel *i.* This feature is also reported by Sibanda[38] in Nguni, in which the sequences of two different vowels results into one vowel different from the two. The rule that can be derived from this combination is *a* + *e* > *i.* The presence of other patterns *a* + *e*, which do not undergo this alteration, lead me to look at the other features of the sounds in the words. As can be seen, the vowels of the consonants preceding and following the vowels in the words in 12 are high. This is likely to result in the coalescence which is instigated by the high vowels in the other parts of words. For instance, in *Mukibhyera*, the vowel before the syllable carrying -a is high *muka* and the vowel of the syllable following a is high as in *bhi-era*. This happens in all the words above. The other compound words in this group are e*caaracicijere*, which is formed from *ecaara ca ecijere* 'toe' and *kuryiminwa* 'seduce' from *kurya* 'to eat' *eminwa* 'lips'.

a + o > u

The coalescence between *a* + *o* is another phonological alteration. When the word ending in a combines with the word beginning with o, they coalesce into a back high vowel u. This pattern is productive as it affects a number of compounds. In such a combination, the boundary is weak as it allows for the change of both vowels into *-u-* in **Table 8**, where three words combine, including a noun, an associative *-a* agreeing with a noun and a noun.

In **Table 4**, the compound words are formed by three words, including the associative -a, which agrees with the noun being associated. The weak boundary is exhibited between the associative and the final word, which is a noun. In this case, the associative vowel -a coalesces with the augment *o-* of the third word to form u. There are no phonological alterations reported on the boundary between the first and the second word in which the final vowel of the first word combines with the consonant of the associative a-, making it strong. In the word *omwanawumunju* 'a relative', the class one noun *omwana* 'child', which ends in *-a*, combines with a class one associative *wa* 'one' to form *omwana wa* 'a child of' before it combines with a class 17 noun *omunju* 'in the house' staring with a vowel *o-*. The *-a* of the associative merges with class 17 augment *o-* of *omunju* 'in the house'. The two vowels produce a single vowel *-u*, resulting in *omwanawumunju* instead of *omwanawaomunju.*

Table 8. Three-word compounding with an associative morpheme and vowel coalescence (a + o > u).

Word 1	Word 2	Word 3	Compound
enjura 'rain'	*ya* 'of'	*orubhare* 'stones'	*enjurayurubare* 'hail'
obutúzi 'small mushrooms'	*bwa* 'of'	*orubânda* 'termite hole'	*obutuzibwurubanda* 'type of mushroom'
amajuta 'oil'	*ga* 'of'	*obuto* 'vegetable'	*amajutagubhuto* 'plants oil'
omwana 'child'	*wa* 'of'	*omunju* 'in the house'	*omwanawumunju*'relative'
omuramba 'banana juice'	*gwa* 'of'	*omusande* 'undiluted'	*omurambagwumusande* 'undiluted banana juice'

The other formative resulting in the coalescence between a and o is when two words combine. It was found that what results in coalescence is the co-occurrence of *-a* and *o-* in consecutive words. In this case, two words combine, as in **Table 9**.

In **Table 9**, the final vowel of the first word coalesces with the first vowel of another word to form a compound word under stratum one. The word *cwa* combines with *omuze* 'bad habit' to form *kucwumuze* than *kuchwaomuze*. While the /a/ and /o/ combinations result in deletion as discussed above, this results in merging because there is no vowel harmony, which influences deletion in the latter pattern.

(3) Diphthong

a + i > ei

An interesting combination was experienced in the language. In Runyamigongo, the combination of /*a*/ and /*i*/ results in [*ei*] instead of /*ai*/, which does not exist in Runyambo. This pattern is productive in compound formation in Runyamigongo. The two words, the first ending in a vowel *-a* and the second starting in a vowel i-, combine to form the diphthong *ei* as in **Table 10**.

Table 9. Two-word compounding with direct vowel coalescence at the word boundary (a + o > u).

Word 1	Word 2	Compound
cwá 'stop something'	*omúze* 'bad habit'	*Cwumuze* 'give up a habit'
cwá 'stop something'	*orurími* 'tongue'	*cwururimi* 'interrupt someone's speech'
cwa 'stop something'	*omutwe* 'head'	*chwumutwe* 'lack family planning'
muka 'wife of'	*omukama* 'king'	*Mukumukama* 'name of a person'
ka 'of'	*okutora* 'to carry'	*Kukutora* 'name of a person'
ka 'of'	*omungemu* 'in the plantain farm'	*Kumungemu* 'name of a person'
ka 'of'	*okwenda* 'to love'	*Kukwenda* 'name of a person'

Table 10. a + i > ei.

Word 1	Word 2	Compound
muka 'wife'	*ise* 'his/her father'	*mukeise* 'step mother'
muka 'wife'	*iba* 'her husband'	*mukeiba* 'co wife'
kabura 'which lacks'	*isoke* 'hair'	*kabhureisoce* 'name of place'
oburara 'which fly'	*iguru* 'up/sky'	*aburareiguru* 'type of termite'
enyama 'meat'	*iswa* 'wilderness'	*enyameiswa* 'wild animal'
ecijangwa 'cat'	*ibáka* 'wild'	*ecijangweibaka* 'wild-cat'
obugwa 'falling'	*iguru* 'sky'	*obhugweiguru* 'west'
obugwa 'falling'	*izóoba* 'sun'	*obhugweizobha* 'west'
obhuruga 'leaving'	*izobha* 'sun'	*obhurugeizobha* 'east'

The data in **Table 10** shows how /a/ and /i/ combine to form /*ei*/. In Runyamigongo, the sequence of *ai* is not produced by the native speakers. When a word ending in *-a* combines with another word starting with *i-*, *a* changes into *e-*, resulting in *ei*, a possible sequence in Runyambo. The words *muka* 'wife' combine with *ise* 'father' to form *mukeise* instead of *mukaise.* Such processes continue to present the internal process of compounding.

(4) Vowel Deletion and Vowel Coalescence

A combination of the two phonological processes was found in a combination between words ending in *-a* and the nouns in noun class 5, in which the augment is *e-*, and the noun class prefix is *i-*, making a sequence of *ei-* as in *eirungu*

'forest'. Since the results assimilate to the coalescence between /*a*/ and /*e*/, which results in *[i]*, the combination of the final *-a* and an augment *e-* results in *i-*, which is coalescence applying the rule *a+e>i* as in the above discussion. The coalescence results in words like *yiirungu* from *yaeirungu* 'of wilderness', and *bhwiizobha* from *bhwaeizobha* 'of sun'. In Runyambo, there are no such words, hence the deletion of one of the two vowels takes place. The deletion of *i-* when two high front vowels follow each other is seen in this pattern.

This was found in 3 compound words, such as *entareyirungu* 'type of plant' from a noun *entare* 'lion' in class 9, an associative *ya* 'of', and a class 5 noun *eirungu* 'wilderness'. The other compound in this group is *enyamayirungu* 'wild meat' formed from a class 9 noun *enyama* 'meat', an associative y*a* 'of' and a class 5 noun *eirungu* 'wilderness'. The combination of these words includes three words, including two nouns conjoined with an associative. The coalescence occurs between a vowel and an associative and an augment e-, resulting in the vowel i-, which later deletes. The other word is *oburenjerobwizobha* 'west' derived from a noun in class 13 *oburénjero* 'uphill', an associative *bwa* 'of', and a noun *eizóoba* 'sun' in class 5, in which the vowel *-a* in *bwa* coalesces with an augment *e-* to form *i-*. This adds to the evidence that compounds are rich in phonological alterations, and with regard to the strata to which they belong.

(5) Vowel Harmony

Vowel harmony was found to be the least productive phonological alteration in which the vowels within a certain domain must agree with respect to one or more features. Hyman [39] categorizes vowel height harmony in Ruwundi into front height harmony and back height harmony. In front height harmony, *i-* lowers after both /*e*/ and /*o*/, while in back height harmony, /*u*/ lowers after /*o*/. Though less productive in compound formation, the two seem to be experienced in Runyamigongo. One instance of front height harmony was found in a compound word, *nyokoromi* 'your maternal uncle'. The word derives from the kin term *nyoko* 'your mother' and the noun *rimi* 'male'. The vowel /*i*/ in the first syllable of *rimi* harmonizes with the final vowel /*o*/ of *nyoko*, resulting in *romi*, hence, *nyokoromi*, as differentiated from *nyinarimi* 'his/her paternal uncle' and *maarimi* 'my paternal uncle'. The other instance of vowel harmony co-occurs with coalescence as discussed below.

(6) Vowel Coalescence and Vowel Harmony

What happens in *somomaremu* 'a small bowl' from a verb *soma* 'drink' and a verb *omaremu* 'let you finish from it' and *ecibhonwaomo* 'meteorite' from a class 7 nominalized verb *ecibhonwa* 'which is seen' and a class one numeral *omo* 'one'. The combination of *-a* at the word final position and *o-* at the next word initial position results in /*u*/ as discussed. This is the coalescence of the pattern *a + o > u*, expecting to result in *somumaremu* and *ecibhonwumo*, respectively.

After coalescence has taken place, back vowel harmony in which *u-* lowers after o happens, resulting in *u > o* after *o*. The back high vowel *u-* in *somumaremu* and *ecibhonwumo* changes to assimilate to *o* in the first syllable *so-* of *soma*, and that in the third syllable, *bho* of *ecibhonwa*. The back height harmony in such words results in *somomalemu* and *ecibhonwomo*, respectively. At the surface, the process seems like deletion of a before o-. However, that seems to be the deletion of *a* in this pattern seems to be influenced by vowel harmony, as the o-, which is also found in the first word, is maintained.

(7) Gliding

Gliding is another process that makes some compound words in the Runyamigongo dialect be placed under stratum one. When words with different vowels combine, especially /*o*/ and /*e*/, and /*u*/ and /*e*/, they form the glide [*w*]. This also marks the presence of weak boundaries between words forming compounds. When the first word ends in a vowel o or u and the next word starts with the vowel /e/, they both combine to form a glide which maintains the vowel *-e*. The findings reveal that the combination of the two mid vowels /*e*/ and /*o*/ in Runyambo specifically Runyamigongo dialect, in particular words, result into a bilabial glide /*w*/ as presented in 11):

11) a) *swenkazi* from s*o e*nkazi 'Parernal aunt'
b) *swenkuru* from s*o e*nkuru 'grandfather'
c) *nyokwenkuru* from nyok*o e*nkuru 'grandmother'
d) *nyokwento* from nyok*o e*nto 'maternal aunt'
e) *swento* from s*o e*nto 'paternal uncle'

In the examples in 11), the kinship terms so and *nyoko* combine with other words starting with e to form a gliding feature in the compound words. The word *so* 'your father'

combines with *enkuru* 'old' to form *swenkuru.* However, this is not the only combination that results in -*w*. The other gliding formation results from the combination of the high back vowel /*u*/ and the mid front vowel /*e*/ as in *Kukwenda* 'female personal name' and *Kukweyonja* 'female personal name'.

i* + *a* > *y* and *i* + *o* > *y

The other gliding found in compound which is also attested in other morphological processes in the language, is the formation of the palatal glide -*y.* This results when a word ending in -*i* combines with the other word starting with *a*- as in *gari* 'they are' *aibhanga* 'at the mountain', resulting in *Garyaibhanga* 'name of a person (lit. They are at the hill/mountain)'. Also, *i* at the final position of *chabhaciri* 'it was' and *a*- in *aho* combine to form y in *chabhaciryaro*, which is the name of a plant. This shows that the high front vowel a- combines with the low front vowel a to form a glide in Runyambo. The other combination that forms *y* is between -*i* and *o*- as in *ciri* and *omuriwe* 'in you' to form *Chiryumuriwe*, which is a personal name in Runyambo. This is not very productive in compound words in Runyambo. The occurrence of gliding and vowel coalescence was found in the compound words in Runyambo as discussed below.

(8) Gliding and Vowel Coalescence

The compound words *kukwenda* and *kukweyonja* possess a rich morphology, as each word forming a compound has some complexity. The words seem to be formed from two words, including *ka*- and nominalized class 15 nouns *kwenda* 'to love' and *kweyonja* 'to decorate oneself'. In Runyambo, however, *Koku* has become a word 'a name' on which verbs are attached to complete the name. As in *koku-enda*, *koku-eyonja*, and *koku-eyenda.* So, the compounds in 12) are formed as follows

12) a) *Kukwenda*
K-a o-ku-enda
cl.12-of AUG-cl.15-love
of love
'Name of a female person

b) *Kukweyonja*
k-a o-ku- e-yonja
cl.12-of AUG-cl.15-REF-decorate
of decorating oneself
'Female personal name'

The words in 12) exhibit the processes of vowel coalescence of *a* + *o* > *u* pattern between *ka* and *o*-, while the process of gliding is found in a pattern *u* + *e* > *we*. Therefore, the two processes of gliding and vowel coalescence occur in the same compound.

Generally, compounds in Runyamigongo possess the phonological alterations that may seem similar to post-lexical rules, but they are not automatic, making the feature lexical. The rules forming compounds are lexical in that they are cyclic, as they affect the morphological and phonological rules in a similar way. For example, some combinations of -*a* and *e*- systematically delete *e*- while others systematically coalesce. Compounding exhibits all the features of other word formation processes in the language and in other languages.

5. Discussion

The sound patterns in compound words in Runyamigongo are not unique to the language, as they are reflected in other languages from different language families, including Bantu. For instance, compound words formed at stratum two are referred to as true compounds by Allen[23]. They also form a productive class in Igbo, as reported by Udoye[24]. This supports the argument that compounding is richly found in many languages, including Kisukuma[40], English, German and Italian[41], Urdu[42], Esahie[43], etc. Despite the presence of extended literature on Compounding in different languages, the studies on their morphophonological properties are limited. In some of the compounds at stratum 2, the noun class prefixes are deleted, which is said by Baciano, Kula, and Mellon[16] to be a diachronic feature resulting from Proto-Bantu in which a prefix on the second word forming a compound was deleted. In addition, Schadeberg[44] adds that Bantu languages have compounds formed from two nouns with the second noun dropping its class marker as reflected in 4.1.1.

The formation of compounds at stratum 1 is not unique to Runyamigongo, as it is reported in other languages. For instance, the process of V2 elision between the words forming a compound is reported in Ẹdo by Omozuwa[36]. Therefore, this feature is not unique to the Runyamigongo dialect. This differs from the claim by Mohanan[29] that compounds be-

long to stratum three for the reason of having stem final tensing, which is not the case in Runyamigongo, where we encounter vowel elisions and other phonological alterations, making compounding productive at stratum 1.

The coalescence of vowels is not unique to Runyambo, as it is reported in Nguni by Sibanda[38], in which the combination of /a/ and /u/ results in /o/. This differs from Runyamigongo, in which, as discussed in 4.1.2, the combination of /*a*/ and /*o*/ results in /u/. Vowel coalescence is also reported in Shona[35], in which /*a*/ and /*u*/ combine to form /*o*/, making Shona similar to Nguni and Runyamigongo different from both.

The two processes of vowel coalescence and deletion are also reported in other languages. The process is reported in Nguni in which a sequence with more than two vowels results in the processes of vowel coalescence and deletion. Sibanda[38] provides the pattern *u-a-a*, which results in *aa*, one of which deletes, making the words have a single a. To him, either of the two processes can occur first, and the results will be the same. Thus, the co-occurrence of the two processes is not unique to Runyamigongo compound words, as it occurs in other languages as well.

Generally, the Runyamigongo dialect reflects rich phonological alterations in compounding. Most of the compounds are formed at stratum 1 with vowel alterations and deletions, which reflect the rich morphophonological properties of the language. Processes like vowel deletion, coalescence, gliding, and mixture of coalescence and deletion, and gliding and coalescence are richly found in the compound words in the Runyamigongo dialect.

6. Conclusions

Compounds in the Runyamigongo dialect of Runyambo exhibit the rich morphophonological processes. The formation is accounted for at stratum one and stratum two. The combination of whole words is found in the language in which the words forming compounds exhibit strong boundaries, which is a feature of stratum 2. This pattern, however, seems less productive in compound formation in Runyambo and Runyamigongo in particular.

The other combination includes weak boundaries of either one or both of the words forming compounds. In some, the second word' boundary is weak, resulting in the deletion of an initial vowel sound of the same, while in others, the first word loses a sound. In others, both of the words exhibit weak boundaries as the vowels in both coalesce.

The other important morphophonological feature of compound words in Runyamigongo is the combination of two processes, such as coalescence and vowel deletion. Vowel coalescence seems to be more productive than other phonological processes.

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Informed Consent Statement

Verbal informed consent was obtained from all subjects involved in the study. This is because the sampled informants were not able to read and write.

Data Availability Statement

All the data are available in the document.

Conflicts of Interest

The author declares no conflict of interest.

References

[1] Downing, L.J., 2003. Compounding and Tonal Non-Transfer in Bantu Languages. Phonology. 20(1), 1–42. DOI: https://doi.org/10.1017/S0952675703004457

[2] Marlo, M.R., 2002. Reduplication in Lusaamia. Indiana University Working Papers in Linguistics Online. 2(1). Available from: https://scholarworks.iu.edu/journals/index.php/iulcwp/article/view/25880 (cited 29 August 2025).

[3] Mwita, C.L., 2008. Verbal Tone in Kuria [PhD Thesis]. University of California: Los Angeles, CA, USA.

[4] Ilonga, E., 2016. A Comparative Study of Headedness in Ruhaya Compounds. Journal of Education, Humanities and Sciences. 5(1), 89–100.
[5] Kula, N.C., 2012. Nominal Compounding and Associative Phrases in Bemba. In: Brezinger, M., Mathews, S., Fehn, A.-M. (Eds.). Proceedings of the 6th World Congress of African Linguistics. Ruediger Koeppe Verlag: Cologne, Germany. pp. 431–441.
[6] Musehane, N.M., 2004. Root Compound Nouns in Tshivenḓa. South African Journal of African Languages. 24(4), 236–244. DOI: https://doi.org/10.1080/02572117.2004.10587240
[7] Lusekelo, A., 2009. Endocentric and Exocentric Compounds in Kiswahili. SKASE Journal of Theoretical Linguistics. 16(4), 1–20.
[8] Maho, J., 1999. A Comparative Study of Bantu Noun Classes. Acta Universitatis Gothoburgensis: Gothenburg, Sweden.
[9] Rugemalira, J.M., 2005. A Grammar of Runyambo. LOT Publications Grammar Series 1. University of Dar es Salaam: Dar es Salaam, Tanzania.
[10] Mpobela, L., 2012. Derivation and Inflection in Runyambo [Master's Thesis]. University of Dar es Salaam: Dar es Salaam, Tanzania.
[11] Rugemalira, J.M., 1995. Verb Extensions in Runyambo. Afrikanistische Arbeitspapiere. 41, 51–87.
[12] Byarushengo, E.R., 1975. An Examination of the Segmental Phonology of Haya [Master's Thesis]. University of Dar es Salaam: Dar es Salaam, Tanzania.
[13] Koopman, A., 1984. Zulu Compound Nouns—Towards a Preliminary Analysis. South African Journal of African Languages. 4(1), 94–105. DOI: https://doi.org/10.1080/02572117.1984.10586568
[14] Barnabas, A., Prosper, A., 2025. An Investigation of Morphophonological Nativization of English loanwords in Nyakusa. Asian Journal of Education and Social Studies. 51(3), 328–341. DOI: https://doi.org/10.9734/ajess/2025/v51i31830
[15] Arcodia, G.F., 2007. Chinese: A Language of Compound Words? In: Montermini, F., Boyé, G., Hathout, N. (Eds.). Selected Proceedings of the 5th Décembrettes: Morphology in Toulouse. Cascadilla Proceedings Project: Somerville, MA, USA. pp. 79–91.
[16] Basciano, B., Kula, N., Mellon, C., 2011. Modes of Compounding in Bantu, Romance and Chinese. Rivista di Linguistica. 23(2), 203–249.
[17] Machate-Kabinde, M.L., Mandende, I.P., Cekiso, M.P., 2023. The Interface between Compounding and Naming: A Case Study of Zulu Personal Names. Nomina Africa: Journal of African Onomastics. 37(1), 1–15.
[18] Dash, N.S., 2015. Compound Nouns and Adjectives. In: Dash, N.S. (Ed.). A Descriptive Study of Bengali Words. Cambridge University Press: Cambridge, UK. pp. 195–224.
[19] Fabb, N., 2001. Compounding. In: Spencer, A., Zwicky, A. (Eds.). The Handbook of Morphology. Blackwell Publishers Ltd.: Oxford, UK. pp. 66–83.
[20] Anagbogu, P.N., 1995. The Strong Boundary Condition for Compounds: The Igbo Perspective. In: Emenanjo, E.N., Ndimele, O.-M. (Eds.). Issues in African Languages and Linguistics: Essays in Honour of Kay Williamson. National Institute for Nigerian Languages: Aba, Nigeria.
[21] Adekunle, B.O., 2024. The Lexicosyntactic Analysis of Fused Compounds in Yoruba. Macrolinguistics and Microlinguistics. 6(1), 1–17.
[22] Ilori, J.F., 2010. Nominal Constructions in Igala and Yoruba [PhD Thesis]. Adekunle Ajasin University: Akungba-Akoko, Nigeria.
[23] Allen, M.R., 1978. Morphological Investigations [PhD Thesis]. University of Connecticut: Storrs, CT, USA.
[24] Udoye, E.E., 2019. Phonology of Igbo Compounding Place Names. KIU Journal of Social Humanities. 4(1), 25–28.
[25] Táíwò, O., 2009. Headedness and the Structure of Yorùbá Compound Words. Taiwan Journal of Linguistics. 7(1), 27–52.
[26] Etim, G., 2022. Phonological Processes in Ọrọ Compound Nouns. Journal of the Nigerian Languages Project. 4, 45–57.
[27] Pesetsky, D., 1979. Russian Morphology and Lexical Theory. Available from: http://tscheer.free.fr/interface/Pesetsky%2079%20Ms%20-%20Russian%20Morphology%20and%20Lexical%20Theory.pdf (cited 24 July 2025).
[28] Kiparsky, P., 1982. Lexical Morphology and Phonology. In: Yang, I.S. (Ed.). Linguistics in the Morning Calm. Hanshin Publishing Company: Seoul, South Korea.
[29] Mohanan, K.P., 1986. The Theory of Lexical Morphology. D. Reidel Publishing Company: Dordrecht, Netherlands.
[30] Mpobela, L., 2024. Morphological Properties of Place Names in Runyambo. International Journal of Language and Linguistics. 12(1), 16–26. DOI: https://doi.org/10.11648/j.ijll.20241201.13
[31] Mpobela, L., 2025. Associative -a as a Productive Affix in Names Formation in Runyambo. International Journal of Languages and Linguistics. 13(6), 219–227. DOI: https://doi.org/10.11648/j.ijll.20251306.12
[32] Elias, T.N., Mpobela, L., Tibategeza, E.R., 2023. A Linguistic Study of Village Names in Ngara District, Kagera Region, Tanzania. International Journal of Culture and History. 10(1), 32–59.
[33] Asiimwe, A., 2022. A Linguistic Analysis of Rukiga Personal Names. Journal of the Language Association of Eastern Africa. 1(1), 2.
[34] Mlambo, R., Matfunjwa, M., 2025. The Influence of Nominal Prefixes on the Formation of Compound Words in Xitsonga. Literator—Journal of Literary Criticism, Comparative Linguistics and Literary Studies.

46(1), a2131. DOI: https://doi.org/10.4102/lit.v46i1.2131

[35] Harford, C., 1997. When Two Vowels Come Walking: Vowel Coalescence in Shona. Zambezia. 24(1), 69–85.

[36] Omozuwa, V., 2010. "Vowel Coalescence" as Assimilation and Elision Processes: Evidence from Ẹdo. In: Owolabi, F.O., Olatunji, T. (Eds.). New Findings in the Study of Nigerian Languages and Literatures. Adekunle Ajasin University: Akungba-Akoko, Nigeria.

[37] Railland, A., Aborobongui, M.E., Adda-Decker, M., et al., 2015. Dropping of the Class-Prefix Consonant, Vowel Elision and Automatic Phonological Mining in Embosi (Bantu C25). In: Kramer, R., Zsiga, E.C., Boyer, O.T. (Eds.). Selected Proceedings of the 44th Annual Conference on African Linguistics. Cascadilla Proceedings Project: Somerville, MA, USA. pp. 221–223.

[38] Sibanda, G., 2009. Vowel Processes in Nguni: Resolving the Problem of Unacceptable VV Sequences. In: Masangu, M., Laughlin, F.C., Potsdam, E. (Eds.). Selected Proceedings of the 38th Annual Conference on African Linguistics. Cascadilla Proceedings Project: Somerville, MA, USA. pp. 38–55.

[39] Hyman, L.M., 2003. Segmental Phonology. In: Nurse, D., Philippson, G. (Eds.). The Bantu Languages. Routledge: London, UK. pp. 42–58.

[40] Kisusi, J.C., Kahigi, K.K., Ligembe, N.N., 2022. An Investigation of Compound Words in Kisukuma. Asian Journal of Language, Literature and Culture Studies. 5(3), 260–275.

[41] Matielo, E., Dressler, W.U., 2025. Verb-Noun Compounds versus Synthetic Compounds in English, German and Italian. Poznan Studies in Contemporary Linguistics. 61(2), 173–198. DOI: https://doi.org/10.1515/psicl-2025-0021

[42] Sharif, A., Saleem, T., 2025. Extending Construction Morphology: Typological and Pragmatic Challenges from Urdu Compounding Patterns. Cogent Arts and Humanities. 12(1), 2587876. DOI: https://doi.org/10.1080/23311983.2025.2587876

[43] Broohm, O.N., Marfo, C.O., 2023. Noun-Noun Compounding in Esahie. Ghana Journal of Linguistics. 12(3), 18–43. DOI: https://dx.doi.org/10.4314/gjl.v12i3.2

[44] Schadeberg, T.C., 2003. Derivation. In: Nurse, D., Philippson, G. (Eds.). The Bantu Languages. Routledge: London, UK; New York, NY, USA. pp. 71–90.