THE DEMONSTRATIVE COPULATIVE IN NDEBELE

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Abstract

This paper discusses the morphophonology of demonstrative copulatives in Ndebele. The focus of the study is on the internal structure of demonstrative copulatives and the phonological processes that are involved in the formation of demonstrative copulatives. There are no studies known to present researchers that examine the internal structure of demonstrative copulatives and the phonological processes that are involved in the process. The bulk of the data used in this study was collected from grammar textbooks and a few examples are generated by the authors. In this paper, we contend that Ndebele demonstrative copulatives consist of four morphemes: the demonstrative copulative base na-, the copula –n(i)-, the subject marker and the positional morpheme. We examine the phonological processes that involve the copula and the subject marker. We maintain that the complex sounds /ᵑ, ᵑk', mp', nt', ns, nz/ are a result of several phonological processes that apply simultaneously in the formation of these complex sounds. These processes include labialisation, velarization, nasalisation, plosivisation, fricativisation, devoicing, ejectivisation, and alveolarisation.

Keywords: demonstrative copulative, copula, phonological processes, subject marking, grammaticalisation, morphophonology

1. Introduction

This article analyses the morphophonology of the demonstrative copulative in Ndebele[3]. The demonstrative copulative specifies the locality of the subject relative to the position of the speaker and the addressee (De Schryver and Taljard, 2004, p. 40). A demonstrative copulative is a predicative form of a demonstrative (Poulos and Louwrens, 1994). The article has two aims. First, the article discusses the internal structure of demonstrative copulatives in Ndebele. The syntax of demonstrative copulatives is discussed in Ndebele literature (Ndebele, 1987; 2004; Zondo & Damasane, 2005; Khumalo, 2003; Mawadza, 2009). However, the internal structure is not discussed in the available literature. As a result, the morphology of the demonstrative copulative is glossed over in the learning and teaching of Ndebele grammar. Second, the phonological processes that occur during the formation of the demonstrative copulative are never studied in the study of Ndebele phonology. It is against this backdrop that the article examines the morphophonology of the demonstrative copulative in Ndebele.

This study shows that the demonstrative copulative is a complex

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3. Ndebele is a Nguni language like Zulu, Xhosa, and Swati. Guthrie (1971) classifies Ndebele as an S40 language.

category that consists of four morphemes: the demonstrative copulative base *na-*, the copula **n(i)*, the subject marker and the positional marker. We argue that the initial *na-* element that recurs in demonstrative pronouns is the predicative demonstrative base and the *-n-* element which also appears in some contexts as -m- is the copula marker. This synchronic copula *-n-/-m-* developed from the proto copula **ni*. The vowel element of the copula was dropped leaving the *-n-* element stranded. The synchronic copula -n- and a following subject marker conflate to derive complex sound clusters /ŋ, mp', ŋk, nt', ns, nz/. The study illustrates the role played by the phonological processes such as labialisation, alveolarisation, velarisation, plosivisation, fricativisation, ejectivisation, and nasalisation in the derivation of the mentioned complex sound clusters.

In section 1, we review Ndebele literature on the demonstrative copulative. The primary focus of the section is on what has been written about Ndebele demonstrative copulatives. In section 2, we present data on Ndebele demonstrative copulatives. This data is largely derived from existing Ndebele grammar textbooks. Section 3 is the analysis of the morphology and the phonological processes that are involved in the formation of demonstrative copulatives. Section 4 presents the summary of the article.

2. Literature review

Zimbabwean Ndebele grammar is one of the least studied Nguni languages (Hachipola, 1998; Khumalo, 2007). The Ndebele language is taught in schools as a subject from primary school up to tertiary level. The teaching and learning of Ndebele in ordinary level, advanced level, and tertiary level grammar is based on Zulu (S42, South Africa) grammar texts by Doke (1927), Nyembezi (1956) and Nkosi and Msomi (1992). In the grammars by these authors, demonstrative copulatives in Zulu are treated as bimorphemic word classes. According to this analysis, the first position demonstrative copulative is monomorphemic while the second position and the third position demonstrative copulatives consist of the first position demonstrative copulative and the positional morpheme. Note that according to this analysis, there are two strategies of forming the demonstrative copulative in Zulu: strategy 1 demonstrative copulatives have an *-n-/-m-* element while strategy 2 demonstrative copulatives do not have the *-n-/-m-* element. These strategies are illustrated in examples (1) and (2) below. In the formation of the second position demonstrative copulative, the second positional marker *-o* is suffixed to the first position demonstrative copulative. The second positional marker (2PM) replaces the final vowel of the first position demonstrative copulative:

1. a. nans(i) + -o > nanso 'here it is'
   here-2PM[4]

4. **List of Abbreviations**

1PM	First positional marker	2PM	Second positional marker
3PM	Third positional marker	AGR	Agreement marker
AUG	Augment	COP	Copula
CV	Consonant vowel	DC	Demonstrative copulative

b. nas(i)+ -o > naso ‘here it is’
here-2PM

In the formation of the third position demonstrative copulative, the third position marker (3PM) *-ya* is suffixed to the first position demonstrative copulative as follows:

2. a. ans(i) + -ya > nansiya ‘it is over there’
here-3PM
b. nas(i) + -ya > nasiya ‘it is over there’
here-3PM

The internal structure of the first position demonstrative copulative (DC) and the phonological processes that take place during the formation of the first position DC are not discussed.

The second grammatical approach is that demonstrative copulatives are a trimorphemic word class (Khumalo, 1981; van Der Spuy, 2017 for Zulu; Oosthuysen, 2016 for Xhosa). According to this analysis, the demonstrative copulative has three morphemes: the demonstrative copulative base *naN-* ‘here’, the subject marker, and the first positional marker (1PM). The following examples illustrate that the demonstrative copulative is a trimorphemic word class:

3. nan-gu-Ø u-m-bhali (Zulu; van de Spuy, 2017, p. 195)
here-1SM-1PM AUG-1-clerk
‘here is the clerk’

Crucially, the mentioned scholars state that in some classes the demonstrative copulative base is *na-* rather than *naN-*:

4. na-si-Ø i-si-tsha (Zulu; van de Spuy, 2017, p. 195)
here-7SM-1PM AUG-7-dish
‘here is the dish’

However, no attempt is made to analyse the status of the *-N-* element that appears to be optional in Xhosa (S41, South Africa/Zimbabwe) and Zulu. Moreover, the phonological processes that change the *–N-* element and the consonant element of the subject marker are not discussed also in this analysis.

The bimorphemic analysis of the demonstrative copulatives has been adopted for Ndebele by Ndebele (1987, 2004); Khumalo (2003), and Mawadza (2009). Ndebele (2004) and Mawadza (2009) mention that there are first position DCs that vary according to noun class, but they do not discuss the internal structure of the DC in Ndebele. Rather, they go on to illustrate how the second position and the third position are derived from the first position DC. As a result, the morphology and the phonological processes that are involved in the formation of the first position DC are not examined. The present study mainly focuses on the morphophonology of first position

DEM	Demonstrative	DP	Determiner phrase
GV	Glide vowel	NDM	Noun deverbaliser marker
PRED	Predicate	SM	Subject marker

demonstrative copulatives. A morphophonological account of DC is critical as it helps in identifying the morphemes that make up a basic DC and further explains the phonological processes that are involved in the formation of these constructions.

Mabuza (2012) diverts from the traditional analysis and argues that the first position demonstrative copulative is trimorphemic while the second and the third position demonstrative copulatives have four morphemes. According to Mabuza (2012), the first position demonstrative copulative has a base *na-*, a morpheme *-ni-* and a concordial marker. Mabuza argues that the *-ni-* morpheme is the one that causes the nasalisation processes in the formation of first position demonstrative copulatives. However, Mabuza neither labels the *-ni-* morpheme nor explains other processes that are involved in the formation of this word class. In Mabuza's analysis, the second position and the third position demonstrative copulatives have four morphemes: the demonstrative copulative base *na-*, the *-ni-* morpheme, the concordial marker, and the positional marker *-o/ -ya*:

5. na- + -ni- + s(i) + -o > nanso 'here it is'
   here-ni-7SM-2PM

Mabuza (2012) does well in isolating the morphemes that make up a demonstrative copulative. However, Mabuza's (2012) analysis does not clearly discuss the status of the morpheme that occurs in between the demonstrative copulative base and the subject marker. Moreover, Mabuza does not discuss the phonological changes that occur during the formation of the first demonstrative copulative in Ndebele. We adopt Mabuza's (2012) view that the demonstrative copulative is made up of four morphemes: the demonstrative copulative base *na-*, *-ni-* morpheme, the subject marker, and the positional marker. In contrast, we argue that **-n(i)-* is an inflectional copula and that the surface sound clusters *ng*, *mp'*, *nk*, *ns* and *nt'* are created by several phonological processes which include devoicing, nasalisation, alveolarisation, velarisation, plosivisation, fricativisation, labialisation, and ejectivisation.

3. The demonstrative copulative in Ndebele

The data that is presented in this section is drawn from Ndebele grammar textbooks, with additional data generated by the authors. It is worth noting that both writers of this article are mother tongue Ndebele speakers and experts in Ndebele linguistics. The demonstrative copulative marks three positions: position 1 'is/are here', position 2 'is/are there', and position 3 'is/ are over there':

Table 1: Demonstrative copulative

Class	Position 1 'is/are here'	Position 2 'is/are there'	Position 3 'is/are over there'
1. umuntu 'a person'	nangu	nango	nanguya(na)
2. abantu 'people'	nampa	nampo	nampaya(na)
3. umfula 'a river'	nanku	nanko	nankuya(na)
4. imifula 'rivers'	nansi	nanso	nansiya(na)
5. ilihlo 'an eye'	nanti	nanto	nantiya(na)
6. amehlo 'eyes'	nanka	nanko	nankaya(na)
7. isandla 'a hand'	nansi	nanso	nansiya(na)
8. izandla 'hands'	nanzi	nanzo	nanziya(na)
9. inja 'a dog'	nansi	nanso	nansiya(na)
10. izinja 'dogs'	nanzi	nanzo	nanziya(na)
11. uluthi 'a stick'	nantu	nanto	nantuya(na)
14. uboya 'fur'	nampu	nampo	nampuya(na)
15. ukudla 'food'	nanku	nanko	nankuya(na)

There is a recurring *na-* element that commences DC in Ndebele. The *na-* element is followed by either an alveolar nasal [n] or a labial nasal [m]. As shown in Table 1, the alveolar nasal is an elsewhere item whereas the labial nasal [m] strictly occurs in class 2 and class 14 where it is adjacent to a labial [p'].

There is a class variable agreement-like element that comes after *nan-*/ *nam-*. This variable agreement-like element can be analysed as a subject

agreement marker because it agrees in class and number with the subject of the DC. However, these agreement-like elements are dissimilar to most subject agreement markers in Ndebele. The following table compares subject agreement markers and the agreement-like elements that occur in DCs:

Table 2: Agreement markers in Ndebele

Class	Verbal subject markers	Agreement markers	Agreement-like elements of DC
1. umu-	(w)u-	mu-, yu-, wu-	-gu
2. aba-	ba-	ba-	-pa
3. umu-	(w)u-	mu-, wu-	-ku
4. imi-	(y)i-	mi-, yi-	-si
5. ili-	li-	li-	-ti
6. ama-	(w)a-	ma-,	-ka
7. isi-	si-	si-	-si
8. izi-	zi-	zin-, zi-	-zi
9. iN-	(y)i-	(y)i-, n-	-si
10. iziN-	zi-	zin-, zi-	-zi
11. ulu-	lu-	lu-	-tu
14. ubu-	bu-	bu-	-pu
15. uku-	ku-	ku-, khu-	-ku

A quick comparison of the agreement markers above shows that the subject agreement markers only correspond to the agreement-like markers in classes 7, 8, 10 and 15. There are obvious phonetic differences between the subject agreement markers and the agreement-like markers in classes 1, 2, 3, 4, 5, 6, 9, 11 and 14. Nevertheless, the phonetic differences seem to be phonologically motivated which makes a study that focuses on the morphophonology of the DC imperative.

Column 1 in Table 1 presents first position DCs. These are made up of a *na-* element, *-n-*/*-m-* element and an agreement-like element. There is no overt positional marker in these constructions. Column 2 presents second position DCs. The second position locative demonstrative copulative is formed from the first position DC. The second position marker *-o* replaces the final vowel of the first position DC. Column 3 presents third position DCs. Like second position DCs, the third position DC is derived from the first position DC. The third position DC marker *–ya*/*-yana* is suffixed to the first position DC.

4. Conceptual framework

This study adopts a morphophonological analysis. Morphophonology is a discipline of linguistics that studies the interface of morphology and phonology. Clendon (2014, p. 48) notes that "morphophonemic analysis consists of generalisations about the patterns in which phonemes occur at or near morpheme boundaries…" This indicates that morphophonological operations occur across morpheme boundaries during the formation of words. Thus, morphophonemic rules "… mediate between abstract levels of structure and surface structure…" (Wallace, 2007, p. 134). The morphophonological analysis enables researchers to identify a set of underlying morphemes and to postulate the phonological processes that are involved in the generation of the corresponding surface forms. Hayes (2009, p. 161) suggests the following steps for morphophonological analysis:

1. Examine the data and make a provisional division of morphemes making up a given word form.
2. Identify all alternating morphemes and find all their corresponding allomorphs.
3. Consider the logical possibilities, set up the underlying representations so that all the allomorphs of each morpheme can be derived from a single underlying representation by general phonological rules.

The present study discusses the demonstrative copulatives within the parameters of the morphophonological analysis.

5. The morphophonology of the Ndebele demonstrative copulative

The above presented data will be analysed in two subheadings: the morphology of the demonstrative copulative and the phonology of the demonstrative copulatives.

5.1 The morphology of the demonstrative copulative

In this section, we argue that demonstrative copulatives consist of a demonstrative copulative base *na-*, a copula *-n*(*i*)*-*, a subject marker, and a positional marker. The copula and the subject marker coalescence to derive a complex sound. There are three positional markers: the first position marker Ø, the second position marker *-o,* and the third position marker *-ya*(*na*).

Following Mabuza (2012), we assume that the *na-* element that recurs in demonstrative copulatives is a predicative demonstrative base. The predicative demonstrative base is marked by the *na-* morpheme whereas the nominal demonstrative and the locative demonstrative bases are realised as *la-*. The difference between the nominal and the locative demonstrative is that the vowel element of the former adjusts to the height of the vowel element of the agreement marker, while the other does not. In fact, the locative demonstrative base only merges with a class 16 agreement marker *-pha* which ends with the vowel *-a*. It is therefore unsurprising that the locative demonstrative base has no allomorph because a low vowel does not

trigger vowel raising.

6. a. le-si
this-7AGR
'this'
b. la-pha
here-16AGR
'here'

Like the locative demonstrative base la (here), the vowel element of the demonstrative copulative base *na-* (here) never adjusts with the vowel element of the subject marker as shown in Table 1.1.

We propose that the nasal *-n-/-m-* that occurs in between the demonstrative copulative base and the agreement-like marker is a copula marker. A copula links a subject and a non-verbal phrase that cannot form a predicate on its own (Crystal, 1980; Stassen, 1997; Pustet, 2003; Letsholo, 2012; Jerro, 2015). There are three types of copulas that are found in Bantu languages: invariant copulas, inflectional copulas, and null copulas (Gibson, Guérois, and Marten, 2018). Type 1 languages have an invariant copula *ni*. An invariant copula *ni* never expresses phi-agreement in a sentence:

7. a. Juma **ni** mw-alimu. (Swahili: Gibson, Guérois, & Marten, 2019, p. 217)
Juma COP 1-teacher
'Juma is a teacher.'
b. wa-toto ha-wa **ni** wa-nafunzi.
2-child DEM-2 COP 2-student
'those children are students.'

The copula *ni* never merges with any morpheme in KiSwahili (G42, Kenya, Tanzania, Uganda). However, in some languages like Yeyi (R41, Botswana), a copula is cliticised to a verb as follows:

8. Muraliswani **ndi-**mu-teriki. (Yeyi; Seidel, 2008, p. 415)
Muraliswani COP-1-cook
'Muraliswani is the cook.'

The copula *ndi-* is cliticised to the verb but it does not phonologically adjust to morphemes in its vicinity as shown in (8).

In Type 2 languages, a copula inflects for subject agreement. In Mongo (C61, Democratic Republic of the Congo), for example, the copula *-le* agrees with the subject DP as follows:

9. n-kómbé **a-le** m-púlu. (Mongo; Hulstaert, 1965, p. 340)
1-kite SM1-COP 9-bird
'the kite is a bird.'

The copula *-le* in the above example does not morphologically merge with the following DP. Rather, the inflected copula is independent of the complement. However, there are languages where the inflected copula morphologically merges with the complement DP. According to Zeller (2013), Zulu is one such language where an inflected copula merges with the complement DP:

10. u-Thandi u-ng-u-m-fundi. (Zulu; Zeller, 2013, p. 22)
AUG-1a.Thandi 1SM-COP-AUG-1-student
'Thandi is a student.'

The copula in (10) is *-ng(a)-* and it occurs in between the subject agreement marker *u-* and the determiner *u-*.

In Type 3 languages, the copula is marked by tone. Tone can either be raised (11a) or lowered (11b). The tone that marks copula falls either on the augment (12b) or on the noun class prefix (12a):

11. a. m**ù**-nhù b. m**ú**-nhù (Shona; Welmers, 1973, p. 323)
1-person 1-person.PRED
'person' 'it is a person.'

12. a. **í**-m-buzi b. **ì**-m-buzi (Zulu; Doke, 1961, p. 215)
AUG-9-goat AUG-9-goat
'goat' 'it is a goat'

(11) shows that tone raising is a strategy of marking copula in Shona (S10, Zimbabwe) while (12) shows that tone lowering is a strategy of marking copula in Zulu.

In Type 4 languages, the copula may be dropped in certain constructions. In Swahili, for example, the copula *ni* may be dropped in some sentence constructions:

13. a. mimi (ni) Hamisi (Swahili; Ashton, 1947, p. 92-93)
1SG (COP) Hamisi
'I am Hassan.'
b. mimi Hamisi (Swahili; Ashton, 1947, p. 92-93)
1SG (COP) Hamisi
'I am Hassan.'

Note that copula dropping does not result in the change in tone mainly because Swahili is not a tonal language.

Recall that we argued that the element that intervenes between the copulative demonstrative base *na-* and the agreement-like element is a copula verb. The copula *-n-/-m-* developed from the proto-Bantu copula **ni*. We maintain that the vowel element of the copula was dropped in the development of the synchronic copula *n-/-m-* in Ndebele. The loss of the vowel element resulted in a situation whereby the copula now adjusts to the adjacent consonant element of the agreement-like morpheme with which it combines. Loss of sound is preferred to the addition of a sound in language change and language development (Poulos, 1981). Interestingly, Canonici (1995) argues that the synchronic noun classes 9 *iN-* and 10 *iziN-* developed from the proto prefixes *ini-* and *izini-*. With the passage of time, the terminal vowel of the class prefix was lost. The alveolar nasal /n/ now changes into a bilabial nasal /m/ or a velar nasal /ŋ/ whenever it combines with a stem that commences with a bilabial (14a) and a velar/ click (14b) respectively.

14. a. i-n-βuzi > imbuzi /imbuzi/
AUG-9-goat
'a goat'
b. i-n-xox-o > ingxoxo /iŋlolo/
Aug-9-discuss-NDM
'a discussion'

Like the class 9 and class 10 homorganic nasal sound -*N*- that changes to /m/ when it combines with a noun stem that commences with a bilabial, the copula -*n*- also changes to a bilabial nasal /m/ when the subject marker commences with a bilabial consonant.

The proposed copula -*n*- takes a subject agreement marker and morphologically merges with the demonstrative base which suggests that Ndebele is a Type 2 language. The agreement markers that occur in demonstrative copulatives vary with class which suggests that they are subject agreement markers. The analysis of these agreement markers as subject markers is straightforward for classes 7, 8, 10, and 15 because these markers correspond to the regular subject markers:

Table 3: Regular subject markers and demonstrative copulative subject markers

Noun class	Regular subject markers	DC subject markers
7. isi-	si-	-si
8. izi-	zi-	-zi
10. izin-	zi-	-zi
15. uku-	ku-	-ku

As illustrated in Table 3, the regular subject agreement markers and the subject agreement markers that occur in demonstrative copulatives are similar in all aspects. However, the consonant elements of the subject markers are dissimilar in class 1, 2, 3, 4, 5, 6, 9, 11, and class 14. The following table illustrates the differences between regular subject agreement markers and the DC subject markers:

Table 4: Regular subject markers and DC subject markers

Noun class	Regular subject markers	DC subject markers
1. umu-	(w)u-	-gu
2. aba-	ba-	-pa
3. umu-	(w)u-	-ku
4. imi-	(y)i-	-si
5. ili-	li-	-ti
6. ama-	(w)a-	-ka
9. iN-	(y)i-	-si
11. ulu-	lu-	-tu
14. ubu-	bu-	-pu

The subject markers above have the consonant vowel (CV) structure and glide consonant (GV) structure. The consonant elements are phonetically different whereas the vowel elements are the same in all the classes. However, these differences appear to be phonologically motivated. The following sound correspondences *l~t, b~p, w~g, w~k, y~s* are established from Table 4. In the following sections, we explain the relation between regular subject markers and the demonstrative copulative subject markers. We contend that the demonstrative copulative subject markers are realisations of the regular subject markers.

5.2 The phonology of the DC

As stated in the previous section, the DC consists of the demonstrative copulative base *na-*, the copula *-n*(*i*), the subject marker, and the positional marker. This section discusses the phonological changes that occur in the formation of the DC in Ndebele. The major focus is on the phonological changes that occur when the copula merges with the subject marker. In the following subsections, we attempt to explain the *l ~ t, b ~ p, w ~ g, w ~ k, y ~ s*.

Table 5: Sound changes and phonological contexts

Sound changes	phonological contexts
l→ t	N___
b→ p	N___
w→ g	n-w
w→ t	n-w
y→ s	n__
N → m	___ β → p’
N → ŋ	___g→ k’
N → ŋ	___w → Ø

5.2.1 l ~ t sound correspondence

The *l ~ t* sound correspondence in the subject markers of class 5 and class 11 is a result of devoicing, plosivisation, ejectivisation, and nasalisation. We argue that the subject markers *lu-* and *-tu* are allomorphs. The alveolar lateral /l/ changes to an alveolar ejective stop /t’/ in the derivation of class 5 and class 11 demonstrative copulatives because the alveolar nasal – alveolar lateral cluster /nl/ is ungrammatical in Ndebele. As a result, the pulmonic alveolar lateral approximant /l/ changes to an ejective alveolar stop /t’/ whenever it is immediately preceded by the alveolar nasal /n/. The complex sound that is derived is a voiceless ejective nasal/plosive /nt’/.

l → t / n_____

5.2.2 b ~ p sound correspondence

The *b ~ p* sound correspondence occurs in class 2 and class 14 where the regular subject marker commences with a bilabial fricative /β/ which is written as *b* in Ndebele. In Ndebele, the alveolar nasal /n/ and the bilabial fricative /β/ do not form a cluster */nβ/. As a result, the alveolar nasal is labialised when it immediately precedes the bilabial fricative changes /β/. The bilabial fricative /β/ changes and becomes an ejective bilabial stop /p’/. The derived complex sound is a voiceless ejective bilabial nasal/ plosive / mp’/. The voiced alveolar nasal is labialised and devoiced when it combines with a bilabial fricative /β/ while the bilabial fricative is plosivised and both sounds are ejectivised in the formation of /mp’/. Note that /N/ changes to /m/ when it immediately precedes the bilabial fricative /β/ in the formation of class 2 and class 14 DCs.

n → m / _____β → p’

5.2.3 y ~ s sound correspondence

The sound correspondence *y ~ s* is seen in class 4 and class 9 demonstrative

copulatives as shown in Table 4. Here, the regular subject markers commence with a palatal glide /j/ while demonstrative copulatives commence with a voiceless alveolar fricative /s/. According to Sibanda (2004, p. 25), the proto-Bantu subject marker was **gi-* and later became a glide *(y)i-* in Ndebele. Sibanda's (2004) analysis accounts for the development of glide commencing subject markers *yi-* and vocalic subject markers *i-* in Ndebele. However, this analysis does not help in explaining the occurrence of a subject marker that commences with a voiceless fricative /s/ in class 4 and class 9 demonstrative copulatives. We assume that the proto class 4 subject marker *-gi* participates in the formation of class 4 demonstrative copulatives.

15. na- + -n- + -gi > na- + -n- + -si 'here it is'
here-COP-4SM here-COP-4SM

The voiced velar stop /g/ changes to a voiceless alveolar fricative /s/ and then the voiceless alveolar fricative is prenasalised /ⁿs/. Thus, alveolarisation, devoicing, fricativisation, and nasalisation participate in the derivation of the voiceless alveolar affricate /ns/ which occurs in class 4 demonstrative copulatives.

g → s / n_____

The *-si* subject marker also occurs in class 9 demonstrative copulatives. We assume that the derivation of a voiceless alveolar affricate /ns/ that occurs in class 9 demonstrative copulatives proceeds as follows:

16. na- + -n- + -yi > na- + -n- + -si
here-COP-9SM
'here is it'

Here, the palatal glide changes to a voiceless alveolar /s/. The voiceless alveolar fricative /s/ devoices the alveolar nasal /n/ and the nasal prenasalises the fricative to derive a complex prenasalised voiceless affricate /ns/.

y → s / n_____

5.2.4 w ~ g sound correspondence

The sound correspondence *w ~ g* only occurs in class 1 demonstrative copulatives. A regular subject marker commences with an optional labio-velar /w/ while a demonstrative copulative commences with a velar stop /g/. Both consonants have a velar phonetic quality which is an indication that the two subject markers are instances of the same morpheme. We propose that the velar quality of the class 1 subject marker causes the copula *-n-* to change and become a velar nasal stop /ŋ/ which is orthographically represented as *ng* in Ndebele. The labio-velar is then deleted (na- + -n- + -wu > nang(w)u > nangu). The deletion of the labio-velar is most likely because the copula is now a velar sound and that the vowel element /u/ of the subject marker has both a labial feature and a velar feature (/u/ is a rounded back vowel; roundedness is a bilabial feature while backness is a velar feature).

n → ng /_____w → Ø

5.2.5 w ~ k sound correspondence

As shown in Table 4, the sound correspondence *w ~ k* occurs in class 3 and class 6 demonstrative copulatives. Like the *w ~ g* sound correspondence which occurs in class 1, both sounds have a velar feature in common. The analysis made for *w~ g* correspondence can be extended to explain the *w ~ k* sound correspondence. This could mean that there is an additional devoicing process that changes /g/ to /k/ in the formation of class 3 and class 6 demonstrative copulatives.

However, Sibanda (2004, p. 140) argues that the subject markers of class 3 and class 6 began with a velar stop **g* in proto-Bantu and later became a labio-velar glide /w/ in Ndebele. In keeping with Sibanda (2011), we propose that the proto-Bantu class 3 *-gu* and class 6 *-ga* subject markers participate in the formation of demonstrative copulatives of class 3 and class 6. The velar consonant of the subject makers causes the copula to change and become a velar /ŋ/ and then the velar stop devoices and becomes an ejective stop /k'/. The derived complex sound is a voiceless ejected velar nasal /ŋk'/:

17. a. na- + n- + -gu > na- + -ŋ- + -k'u (nanku)
here-COP-3SM
'here it is'
b. na- + -n- + -ga > na- + -ŋ- + -k'a (nanka)
here-COP-6SM
'here it is'

There are four processes that are at play in the construction of class 3 and class 6 demonstrative copulatives: devoicing, velarisation, nasalisation, ejectivisation, and nasalisation.

N → ŋ /____g → k'

6. Positional marking

Positional markers appear at the end of demonstrative copulatives. As noted above, the first position has a null exponent Ø while the second position and the third position are marked by *-o* and *-ya* (*na*) positional markers respectively. Basing on the position of the second and third position markers, we assume that the first position marker Ø is the final morpheme in the demonstrative copulative:

18. na-n-si-Ø > nansi
here-COP-7SM-1PM
'here it is'

The second position marker *-o* assumes the position of the first position marker. However, the suffixal of the second position marker *-o* results in an unacceptable situation whereby the vowel of the subject marker immediately precedes the second position marker, which is a vowel. Vowels do not follow each other in a Ndebele syllable (Hadebe, 1994). As a result, the vowel of the subject marker is replaced by the second position vocalic marker as follows:

19. na- + -n- + s(i)- + -o > nanso
here-COP-7SM-2PM
'there it is'

Like the second position marker, the third position marker assumes the position of the first position marker. In contrast to the second position marker which is vocalic, the third position marker commences with a glide /y/. Thus, hiatus is not borne out in the formation of third position demonstrative copulatives:

20. na- + -n- + -si- + -ya(na) > nansiyana
here-COP-7SM-3PM
'it is over there'

The preceding examples illustrate that demonstrative copulatives are made up of a demonstrative copulative base *na-*, a copula verb *-n*(*i*)-, a subject marker and a positional marker.

7. Conclusion

This paper discussed the internal structure of demonstrative copulatives in Ndebele. The paper established that demonstrative copulatives are made up of four morphemes: the demonstrative copulative base, the copula, the subject marker, and the positional morpheme in that order. The study claims that the *–n-/-m-* that occurs in between the demonstrative copulative base and the subject marker is a copula verb which developed from the proto-Bantu copula **ni*. The vocalic element of the copula has been dropped and now the copula coalescences with the consonant element of the subject marker to derive a complex sound construction. An attempt was made to identify the phonological processes that are involved in the formation of demonstrative copulatives. The paper established that there are three to five phonological processes that participate in the derivation of demonstrative copulatives. The paper predicted that the copula is likely to be dropped in Ndebele. The suggested proto subject markers **gu-*, **gu-*, **gi-,* and **ga-* occur in the derivation of class 1, 3, 4, and class 6 demonstrative copulatives respectively. In light of the suggestion, there is a need to investigate other forms of subject markers that are found in Ndebele. Finally, there is a need to study the strategies of linking the subject and the non-verbal predicates in Ndebele/Nguni.

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