Class 1 deverbal and non-deverbal nouns in Shona: A comparative analysis

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Abstract
The main aim of this article is to present a comparative analysis of some synchronic morphological properties of Shona class 1 non-deverbal and deverbal nouns. On the surface, these nouns, like most other Bantu nouns, look superficially similar; they comprise a noun class prefix and a noun stem. However, this belies a huge diversity amongst these nouns. We demonstrate that class 1 non-deverbal and deverbal nouns display the following differences: first, the stems of non-deverbal nouns are monomorphemic whereas those of deverbal nouns are minimally bimorphemic and are derived from verb roots. Secondly, the boundaries between the class prefix and the nominal stem behave differently. To this end, we use vowel hiatus resolution as a diagnostic tool to demonstrate the differences. Third, in forming diminutives of non-deverbal nouns, there is substitution of prefixes whereas for the deverbal nouns there is stacking of prefixes. We demonstrate that deverbal and non-deverbal nouns behave differently with respect to their phonology and derivational properties. We conclude that nouns in class 1 are not uniform and a theory of noun classes needs to be rich enough to account for the diversity. This research contributes towards the description and analysis of Shona nominal morphology in particular, and Bantu Linguistics in general.

Keywords: deverbal, non-deverbal, noun, substitution, stacking, morphology

1. Introduction

One of the principal identifying characteristics of the Bantu language family is the system used to classify nouns – the noun class system (cf. Bleek 1862, Meinhof 1932, Guthrie 1948). Shona, a southern Bantu language spoken mainly in Zimbabwe, has an interesting noun class system comprising 21 noun classes (Fortune 1955, 1984). Shona nouns look superficially similar; they comprise a noun class prefix and a noun stem (Fortune 1955, 1984). This, however, belies the

huge diversity in structure, behaviour and distribution amongst the nouns. As an illustration, Shona nouns that fall into class 1 have the following morphological structure (cf. Fortune 1955, 1984; Mkanganwi 1995):

(1)   noun class prefix + noun stem

Fortune (1955) goes further and observes that Shona nouns in class 1 share the following semantic and syntactic properties:

* are [normal] specimens of persons of various kinds and conditions;
* are members of tribes and peoples, and
* are either agents or patients of verbal action.

The few morphological and semantic similarities shared by nouns in class 1 mask the significant morphological and morphophonological differences between the non-deverbal and deverbal nouns that fall into this class. As an illustration, all non-deverbal nouns from class 1 can fall into class 5 (the augmentative class) to denote size. The initial consonant of the stem is voiced, as shown in examples (2) through (4). The diacritic [̤] is used to capture breathy voicing.

	Class 1	**Class 5**
(2)	mu-komana	gomana
	CL1.SG-boy	CL5.SG-boy
	'boy'	'big boy'
(3)	mu-sikana	dz̤ikana
	CL.SG-girl	CL5.SG-girl
	'girl'	'big girl'
(4)	mu-kono	gono
	CL1.SG-male	CL5.SG-male
	'male'	'big male'

In contrast, deverbal nouns in class 1 fail to undergo a similar process; they cannot fall into class 5 to denote size. Instead, they fall into class 21 where they retain the class 1 prefix, resulting in the stacking of class prefixes. This is illustrated in examples (5) through (7):

	Class 1	**Class 5**	**Class 21**
(5)	mu-cheri	*jeri[1]	zi-mu-cheri
	CL1-drinker		CL21-CL1-drinker
	'drinker'		'heavy drinker'
(6)	mu-tadzi	*d̤adzi̤	zi-mu-tadzi
	CL1-sinner		CL21-CL1-sinner
	'sinner'		'sinful person'

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[1] Here [j] represents the breathy voiced palatal affricate.

(7)   mu-teⁿdi   *ḍeⁿdi   zi-mu-teⁿdi
       Cʟ1-believer   Cʟ21-Cʟ1-believer
       'believer'   'huge believer'

For the deverbal nouns that fall into class 1, their morphological behaviour and distribution is radically different from the non-deverbal nouns that fall into this class. If we compare the structure, behaviour and distribution of the deverbal nouns vis-à-vis non-deverbal nouns ("inherent nouns") of class 1, there are significant differences. We demonstrate these differences by examining plural formation, diminutives and augmentatives. Furthermore, there is evidence that stems of deverbal nouns are not as "nouny" as stems of non-deverbal nouns. Following Mudzingwa (2010) and Mudzingwa and Kadenge (2011), we use hiatus resolution strategies as a diagnostic tool to establish the differences between the boundaries of deverbal and non-deverbal nouns that fall in class 1. Mindful of such observations, this article compares the morphological and morphophonological properties of non-deverbal and deverbal nouns of class 1, in an attempt to obtain a deeper understanding of the Shona nominal system in particular, and Bantu languages in general.

2.   Brief overview of the morphology of the Shona noun system

In this section, we briefly discuss the morphology of the Shona noun class system as background to the analysis. Shona has a relatively more elaborate noun class system compared to other Bantu languages. It has 21 noun classes (see, for example, Fortune 1955, 1984; Mkanganwi 1995; Mudzingwa 2010).

2.1 The noun class prefix

Shona, like other Bantu languages, has class prefixes determined by the class to which a particular noun belongs (Bleek 1862, Meinhof 1932, Guthrie 1948). Noun class prefixes come in three prosodic shapes, namely CV, V and /Ø/ (zero prefix). The typical prosodic shape of noun class prefixes in Shona comprises a consonant and a vowel (CV). Likewise, Hyman (2005:17) observes that CV is the canonical prosodic shape for Bantu noun class prefixes. In Shona, all noun class prefixes that have phonological content are CV, except for class 14 which is a V.

All the noun class prefixes encode gender, number and semantic information. The prefixes of classes 1a and 5 are listed as /Ø/ (zero prefix). Fortune (1955, 1984) lists the prefix in classes 9 and 10 as /N-/, a non-syllabic nasal consonant. This, however, is not true of synchronic Shona morphology. We consider the prefixes of classes 9 and 10 as /Ø/ for two reasons: first, these noun class prefixes lack phonological content just like those of classes 1a and 5. Second, and perhaps more important, some of the nouns in classes 9 and 10, such as *shumba* 'lion' and *shinda* 'wool', do not even begin with a non-syllabic nasal /N-/ but are in this class on the basis of concordial agreement. The non-syllabic nasal, which is a class prefix in other Bantu languages, may have been active in diachronic Shona. Consequently, the members of classes 1a, 5, 9 and 10 are marked by the significant absence of an overt prefix. In spite of the absence of a non-syllabic prefix, the zero morpheme /Ø/ fulfils the same classifying function syntactically as the presence of an overt prefix.

The noun class prefixes are numbered according to Meinhof's system of enumeration in Ur-Bantu (Fortune 1955:53) as demonstrated below.

Class	Noun Prefix (NP)	Example	Gloss
Class 1 SG	mù-	mù-kómáná	'boy'
Class 1a SG	Ø-	Ø-ɓàɓá	'father'
Class 2 PL	ʋá-	ʋá-kómáná	'boys'
Class 3 SG	mù-	mù-sáná	'back'
Class 4 PL	mì-	mì-sáná	'backs'
Class 5 SG	Ø-	Ø-ɓàdzá	'hoe'
Class 6 PL	mà-	mà-pàdzá	'hoes'
Class 7 SG.DIMIN	tʃì-	tʃì-ṣó	'razor'
Class 8 PL.DIMIN	ẓì-	ẓì-ṣó	'razors'
Class 9 SG	Ø-	Ø-ɲóká	'snake'
Class 10 PL	Ø-	Ø-ɲóká	'snakes'
Class 11 SG.DIMIN	rù-	rù-kómáná	'sickly boy'
Class 12 SG.DIMIN	kà-	kà-mù-sáná	'small back'
Class 13 PL.DIMIN	tù-	tù-kómáná	'small boys'
Class 14	ù-	ù-tʃì	'honey'
Class 15	kù-	kù-tárá	'to underline'
Class 16 LOC	pù-	pà-mù-sáná	'on the back'
Class 17 LOC	kù-	kù-mù-sáná	'at the back'
Class 18 LOC	mù-	mù-mù-sáná	'in the back'
Class 19 DIMIN	ṣì-	ṣì-mù-kómáná	'boy'
Class 21 AUG	zì-	zì-mù-ʃá	'big home'

Shona noun class prefixes often enter into pair-wise contrasts. The most common pairing is the singular-plural contrast where class 1 pairs with class 2, 3 with 4, 5 with 6, 7 with 8, and 9 with 10. Nouns in class 14 are usually abstract nouns; when they are plural, they generally fall into class 6. Class 15 is unique as it comprises the infinitives (also called "verbal nouns"). Classes 7, 8, 11, 12, 13 and 19 are diminutives. Class 21 is augmentative. Classes 16, 17 and 18 are locatives. With the exception of the infinitives, diminutives, augmentatives and locatives, which allow for more than a single noun class (i.e. stacking of prefixes), all the other nouns are simple and conform to the constructional pattern given in (1).
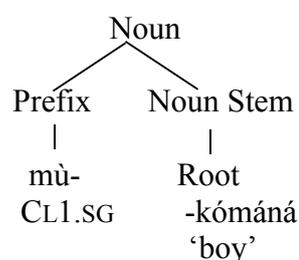
2.2 The noun stem

Noun stems may be primary or secondary. Secondary stems are derived from other parts of speech, such as verbs, adjectives and ideophones, while primary stems are those that show no sign of origin from another word class category. Typical Shona examples of primary stems are *-nhu* in *munhu* ('person') and *-ti* in *muti* ('tree'). In contrast, Fortune (1955:48) defines a "root" as "the irreducible element of a word, the primitive radical form without the prefix, suffix, or other inflection and not admitting analysis". If we consider that in Shona, and other Bantu languages, what is called a "stem" meets Fortune's definition of a "root", it seems more insightful to say that what are called noun stems in Bantu are in fact roots that are co-extensive with stems. This explains why Mugane (1997) refers to underived nouns as "root nouns". He tries to capture the fact that the root is co-extensive with the stem. The difference between the primary stem (or underived stem) and the derived stem is that the former is monomorphemic

whilst the latter is at least bimorphemic. Class 1 nouns have the structure in (1), repeated here in (8) for clarity and convenience:

(8)   noun class prefix + noun stem

This can be represented as a tree diagram, as shown in Figure 1.

```
                    Noun
                   /     \
              Prefix    Noun Stem
                |           |
              mù-         Root
              CL1.SG      -kómáná
                          'boy'
```

Figure 1. The morphological structure of a noun

Reading Figure 1 from the top down, a noun comprises the class prefix /mù-/ and the root   /-kómáná/ that is co-extensive with a noun stem. Commenting on the structure of the nouns in Shona, Fortune (1955:50) says that "in general, both elements, that is, the prefix and the stem, are necessary to constitute the complete noun". The prefix is important for classificatory purposes. Nouns are divided into classes on the basis of their noun class prefixes. The following section compares the structures of non-deverbal and deverbal nouns in Shona.

3.   Non-deverbal and deverbal nouns: A comparison

3.1 The non-deverbal noun

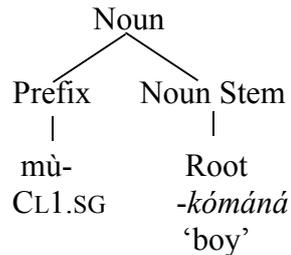A non-deverbal noun stem is monomorphemic, as shown in examples (9) to (11) below.

 (9)   /mù-*kómáná*/   [mùkómáná]
         CL1.SG-boy
         'boy'

(10)   /mù-*síkáná*/   [mùsíkáná]
         CL1.SG-girl
         'girl'

(11)   /mù-*kádzí*/   [mùkádzí]
         CL1.SG-woman
         'woman'

The non-deverbal noun comprises a monomorphemic noun stem and a class prefix. Strictly speaking, the non-deverbal noun is made up of a noun root, which is co-extensive with a noun stem, to which a noun class prefix is attached. Figure 2 demonstrates a root which is co-extensive with a stem.

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Stem
 |
Root
 |
-komana
```
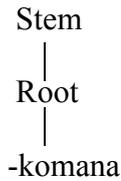
Figure 2. Non-deverbal noun root = noun stem

A noun class prefix is attached to the above stem to form a noun, as illustrated in Figure 3.

```
           Noun
          /    \
      Prefix   Noun Stem
        |         |
       mù-       Root
      CL1.SG    -kómáná
                 'boy'
```

Figure 3. A non-deverbal noun

As seen in Figure 3, underived or non-deverbal nouns have a very simple structure – they are made up of a noun class prefix /mù-/ and a monomorphemic stem /-kómáná/. As will be illustrated in the next section, deverbal nouns have a more complex structure in that the deverbal noun stem is at least bimorphemic.

3.2 Deverbal nouns

This section examines the morphology of deverbal nouns, beginning with the structure of the verb stem which forms the core of nouns of this type. This will aid in providing a deeper understanding of deverbal noun stems and will help us to understand the structural differences between deverbal nouns and non-deverbal nouns, particularly with regard to the stem.

3.2.1   The verb structure

We adopt the canonical morphosyntactic structure of the Bantu verb proposed by scholars such as Keach (1986), Mutaka and Hyman (1990), Myers (1990), Hyman (1993, 2005), Downing (1998, 2006) and Ngunga (2000), amongst others. This structure consists of the following morphosyntactic constituents:

- Derivational Stem[2] (DStem);
- Inflected Verb Stem (IVStem);
- MacroStem, and
- PreStem or Inflectional Stem

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[2] We make no distinctions between the Minimal Stem and the Extended Derived Stems since such distinctions are not crucial in this article (see, for example, Downing 1998, 2005 and Ngunga 2000 for a detailed discussion).

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                        Verbal Word
                       /          \
                 PreStem          MacroStem
                  /|\             /        \
                 / | \           /        IVStem
                /  |  \         /         /    \
               /   |   \       /       DStem    \
              /    |    \     /       /     \     \
         NEG-SM-TNS   OM    VRoot  Extensions    FV
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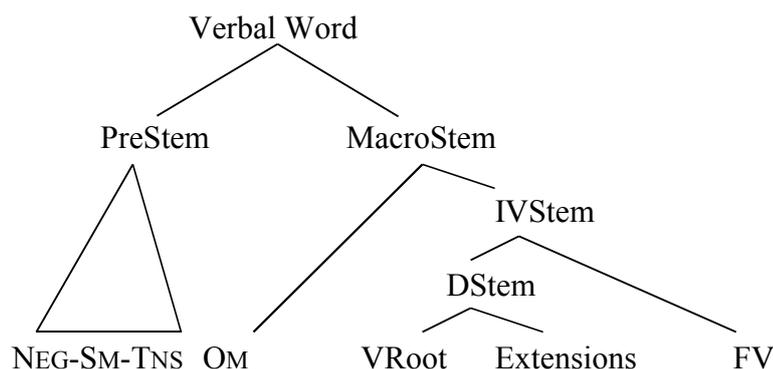
Figure 4. The morphology of the Bantu verb structure

Scholars of Bantu languages, such as Meeussen (1967), Keach (1986), Myers (1990), Hyman (1993), and Downing (1998, 2005, 2006), amongst others, have provided both phonological and morphological evidence for the various constituents of the verb illustrated in Figure 4 above. For the purposes of this article, we will briefly discuss the DStem and the IVStem.

3.2.1.1 Verb Root

The VRoot has three distinct properties. Firstly, it is syllabically incomplete and always ends in a consonant (C-final). Secondly, it takes the form of a bound morpheme which accepts morphemes before and after it. Finally, the VRoot is monotonic, i.e. it carries a single tone (either high (H) or low (L)).

Shona VRoots have the following prosodic shapes:

Prosodic shape	Example	Gloss
C	/p´-/	'give'
VC	/ón-/	'see'
CVC	/g̰ár-/	'sit'
CVCVC	/tóɲór-/	'bribe'
CVCVCVC	/tónóⁿgór-/	'unshell'

3.2.1.2 Derivational Stem

The DStem also has three distinguishing features. As with the VRoot properties, the DStem is monotonic as well as C-final. Its final feature is that it is a domain for vowel harmony.

The structure of the DStem is illustrated in Figure 5 (cf. Myers 1990, Downing 2000)[3].

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[3] Myers (1990) and Downing (2000) argue that the VRoot is the Minimal Stem, and the VRoot plus the extensional suffixes comprise the Extended Derived Stem.
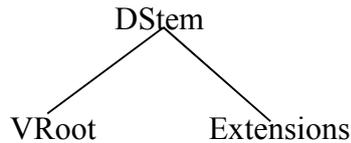
Figure 5. Derivational Stem

Reading Figure 5 from top to bottom, the DStem comprises a VRoot and verb extensions. The verbal extensional suffixes come immediately after the VRoot. Furthermore, these suffixes do not have an inherent tone and always assume the tone pattern of the VRoot. The Shona verbal extensions have different prosodic shapes, namely VC, C and VCVC.

Extension	Prosodic shape		Example	Gloss
intensive	VC	/-is-~-es-/	ɓát-ís-	'hold tightly'
potential	VC	/-ik-~ek-/	ɓát-ík-	'be able to be held'
reciprocal	VC	/-an-/	ɓát-án-	'hold each other'
contactive	VC	/-at-/	nàm-àt-	'adhere to'
associative	VC	/-an-/	góɲ-án-	'curl'
applied	VC	/-ir-~-er/	ɓát-ír-	'hold for'
causative	VC	/-is-~-es-/	rúm-ís-	'cause to bite'
repetitive	VCVC	/-urur ~oror-/	kàr-urùr-	'resow'
perfective	VCVC	/-irir~-erer-/	sèk-èrèr-	'laugh on and on'
passive	C	/-w-/	tèm-w-	'be stoned'

These extensions are productive in Shona except the contactive *-at-* which, like in most Bantu languages, has been fossilised (see Jefferies 2000). In Shona, VC is the most prevalent prosodic shape for the extensions. Likewise, Hyman (2005:17) observes that the canonical shape of the verbal extension in Bantu is VC. In fact, the VCVC verbal extensions seem to have undergone reduplication. Similar to the VRoot, the verbal extensions are C-final.

3.2.1.3 Inflected Verb Stem

The IVStem comprises the DStem and the final vowel (FV), the latter also called the "Inflectional Final Suffix" (IFS; cf. Downing 2000). Figure 6 shows the correspondence relations between the IVStem and the prosodic constituent.

IVStem

DStem

Final Vowel
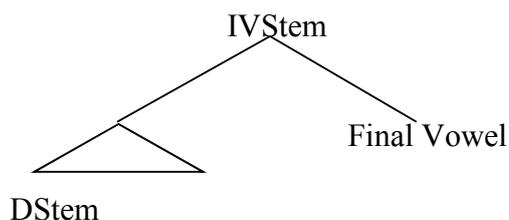
Figure 6. Inflected Verb Stem

As previously mentioned, the IVStem comprises the DStem (VRoot plus extensions – see Figure 5), and the FV. The IVStem corresponds to a prosodic stem which can be co-extensive with a prosodic word. The generalisations about the FV are as follows:

- when the FV is /a/, it satisfies the prosodic constraint that all Shona syllables must be open;
- when the FV is /e/ or /i/, in addition to satisfying this prosodic constraint, it also provides morphological information, and
- the FV assumes the tone of the root.

The FV has received very little attention in previous studies of Shona morphology and morphophonology, and when it does, it is often explained away as a default FV. There is little attempt to address its status, whether it is phonological, syntactic or a combination of these. Following Mkanganwi (2002), we consider the FV to serve a dual purpose – it has phonological and morphosyntactic functions. Mkanganwi (2002:184) states:

> The final vowel seems to have a dual morphological and phonological function. On the one hand, it is analyzable as a distinct morphological element quite separate from the verb […] On the other hand, it does not seem to have an evident meaning or grammatical function. Its apparently purely mechanical role seems to be purely phonological. However, it seems to perform a distinct derivational role [too!].

In its phonological role, the FV is needed so that the final consonant of the stem is properly syllabified. The DStem is C-final, yet Shona only allows open syllables (see, for example, Fortune 1955, Mkanganwi 1995, Mudzingwa 2010, Mudzingwa and Kadenge 2013). Joining the DStem and the FV provides the final consonant of the DStem with a vowel, resulting in a well-formed (CV) final syllable. In Shona, like in most other Bantu languages, the FV is the vowel /a/. Like other verbal suffixes, it does not have an inherent tone and it assumes the tone of the root to which it is attached. This means that the IVStem has a single tone pattern. In instances where the root comprises a consonant, there is a floating tone which docks onto the FV. In (12), (13) and (14), there is a floating H tone and in (15), (16) and (17) a L tone.

(12)   /p´-a/   [pá]
        give-Fv
        'give!'

(13)   /g̱ár-a/   [g̱árá]
        sit-Fᴠ
        'sit!'

(14)   /tóɲór-a/   [tóɲórá]
        bribe-Fᴠ
        'bribe!'

(15)   /g̱ʷ`-a/   [g̱ʷà]
        fight-Fᴠ
        'fight!'

(16)   /ɓùr-a/   [ɓùrà]
        remove-Fᴠ
        'remove (object) from fire!'

(17)   /ɗùrùr-a/   [ɗùrùrà]
         pour out-Fᴠ
        'pour out liquid or grain!'

In this context, the FV does not play any morphological or morphosyntactic role other than ensuring that the phonotactics of the language are satisfied.

In the examples in (18) and (19) below, the FV plays a dual role: it satisfies the phonotactics of the language and also plays a grammatical function. In (18), the FV marks negation and in (19) marks the subjunctive.

(18)   /mù-kómáná ɦà-á-fáᵐb-i/   [mùkómáná ɦàɦáfáᵐbí]
        Cʟ1.Sɢ-boy Nᴇɢ-3Sɢ.Sᴜʙᴊ-walk-Fᴠ(Nᴇɢ)
        'the boy does not walk'

(19)   /ⁿdí-tór-e   ɦèrè/   [ⁿdítóré ɦèrè]
        1Sɢ.Sᴜʙᴊ-take-Fᴠ Iɴᴛᴇʀʀᴏɢ.
        'should I take it?'

### 3.2.2   Structure of deverbal nouns

The core of a deverbal noun is the DStem (cf. Figure 6). To the right of the DStem is a nominalising FV and to the left is a noun class prefix. Example (20) includes a verb and examples (21) to (23) are the deverbal nouns derived from this verb.

(20)   /téⁿg-à/   [téⁿgà]
        buy-Fᴠ
        'buy!'

(21)   /mù- téⁿg-ì/   [mùtéⁿgí]
        CL1.SG-buy-NON
        'buyer'

(22)   /mù- téⁿg-és-ì/   [mùtéⁿgésí]
        CL1.SG-buy-CAUS-NON
        'traitor'

(23)   /mù- téⁿg-ò/   [mùtéⁿgó]
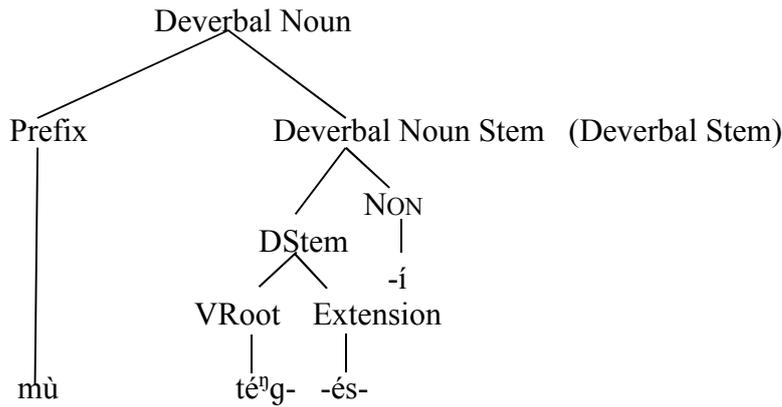   CL3.SG-buy-NON
        'price'

The deverbal nouns in (21), (22) and (23) display properties unique to nouns. First, these nouns have a class prefix. Second, the quality of the FV is different from that found in the citation forms of the verbs, the latter which is always /a/. Third, the tone of the FV is different from that of the verb stem. In the above examples, the FV has a low tone whereas the derived verb stem (in italics) is high toned. Recall that within verbs the FV assumes the tone of the verb stem. Based on the class prefix, the quality of the FV and tone, we argue that the forms in (21) to (23) are deverbal nouns. The structures of the deverbal nouns are given in Figures 7 and 8.

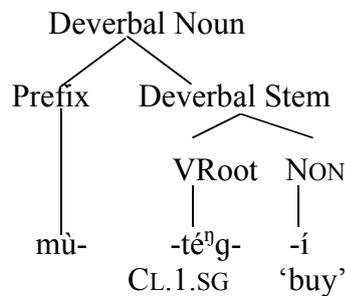Figure 7 below provides the structure of the deverbal noun without verbal extensions.
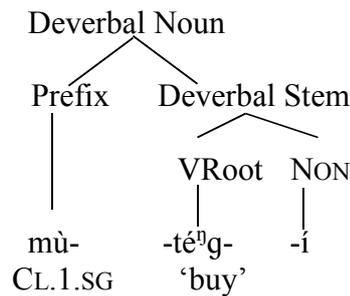
Figure 7. Deverbal noun without verbal extensions

Here, the deverbal noun is made up of the prefix /mù-/ and a deverbal stem, the latter being composed of a VRoot and a nominalising FV. When the "nominaliser" [i] is added to the VRoot, the VRoot becomes a deverbal noun stem. However, the nominalisation only becomes complete with the addition of the noun class prefix. Figure 8 provides the structure of the deverbal noun with verbal extensions.

Deverbal Noun

Prefix   Deverbal Noun Stem   (Deverbal Stem)

N_{ON}

DStem   -í

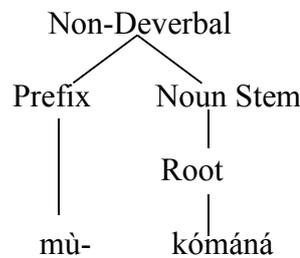VRoot   Extension

mù   té$^{\eta}$g- -és-

Figure 8. Deverbal noun with a verbal extension

In Figures 9a and b, we provide a juxtaposed structure of a deverbal noun and that of the non-deverbal noun to illustrate the differences in morphological complexity amongst these nouns.

Deverbal Noun   Non-Deverbal

Prefix   Deverbal Stem   Prefix   Noun Stem

VRoot   N_{ON}   Root

mù-   -té$^{\eta}$g-   -í   mù-   kómáná
        CL.1.SG 'buy'

Figure 9a. Deverbal noun   **Figure 9b.** Non-deverbal noun

3.3 Deverbal and non-deverbal boundary differences: Hiatus resolution as a diagnostic tool

In many Bantu languages, hiatus – a heterosyllabic sequencing of adjacent vowels – is a dispreferred configuration (see, for example, Casali 1997, 1998, 2011). What is marked is not the vowel hiatus ($V_1.V_2$ sequence) per se but the fact that in this configuration V_2 occurs as an onsetless syllable. Onsetless syllables are marked and for this reason they are banned in many languages of the world (Ito 1989; Casali 1997, 1998; Prince and Smolensky 2004:4). In Optimality Theory (OT) terms, onsetless syllables violate the markedness constraint ONSET, which demands that syllables begin with consonants (Ito 1989, Prince and Smolensky 2004). What triggers hiatus resolution is the desire to "repair" the onsetless syllable.

Mudzingwa (2010) persuasively argues that in Shona, hiatus resolution strategies are sensitive to morphosyntatic boundaries. Mudzingwa (2010), for example, demonstrates that hiatus is never tolerated in Shona and is repaired without exception. This means that at morpheme boundaries where hiatus occurs, hiatus is repaired and all surface forms have CV syllables. Mudzingwa (2010) identifies and analyses five hiatus resolution strategies in Shona, namely glide formation, secondary articulation, elision, coalescence and spreading. Mudzingwa (2010, 2013) and Mudzingwa and Kadenge (2011, 2013) demonstrate that in Shona glide formation, secondary articulation and elision occur across a root boundary, and spreading across a verbal

stem boundary. On the issue of hiatus resolution across a class prefix and noun stem boundary, Fortune (1955:60) observes that

> before non-deverbative stems commencing in a vowel, the prefix *mu → mŋ-*, the vowel *u* being consonantalised; dialectically, however, semi-consonantalization (*mw-*) and semi-consonantalization with nasal resonance (*mw̃-*) is in place of full consonantalization. The prefix *va → v-*, the vowel *a* being elided. This does not happen before deverbative stems commencing in a vowel […]

In the non-deverbal nouns in (24) and (25) below, hiatus is resolved through secondary articulation while in (26) and (27) it is resolved through elision. It is common cross-linguistically for high vowels to glide and for low vowels, especially /a/, to delete (see, for example, Rosenthall 1997; Casali 1997, 1998, 2011; Kadenge 2010; Mudzingwa 2013; Mudzingwa and Kadenge 2011; Simango and Kadenge 2014).

Secondary articulation

(24)   /mù-ánà/   [mʷánà]
         CL1.SG-child
         'child'

(25)   /mù-énì/   [mʷénì]
         CL1.SG-visitor
         'visitor'

Elision

(26)   /ʋà-àná/   [ʋàná]
         CL2.PL-child
         'children'

(27)   /ʋà-énì/   [ʋénì]
         CL2.PL-visitor
         'visitors'

In examples (28) through (31), we present deverbal nouns in which vocalic hiatus is resolved through spreading. In spreading, all the features of the epenthesised segment are supplied by an input segment. In Shona, [j] is used in the context of a coronal V_2 [i] or [e] and [w] in the context of labial V_2 [u] or [o]. The glides, which are in complementary distribution and function as onsets for V_2, are products of V-Place spreading. Spreading eliminates onsetless syllables word-initially, as shown in examples (28) and (30), and word-medially, as shown in examples (29), (31), (32) and (33). Curly brackets ({}) enclose prosodic stems.

(28)   /ìt-á/   [jìtà]   [{jìtà}]
         do- Fv
         'do!'

(29)   /mù-ìt-ì/   [mùjìtì]   [mù{jìtì}]   *[mʷìtì]
       2PL-do- NOM
       'doers'

(30)   /ér-á/   [jérá]   [{jérá}]
       weigh-FV
       'weigh!'

(31)   /mù-ér-í/   [mùjérí]   [mù{jérí}]   *[mʷérí]
       CL1.SG-weigh-NOM
       'the one who weighs'

(32)   /mù-íᵐb-í/   [mùjíᵐbí]   [mù{jíᵐbí}]   *[mʷíᵐbí]
       CL1.SG-sing-NOM
       'singer'

(33)   /νà-óⁿgórór-í/   [νàwóⁿgórórí] [νà{wóⁿgórórí}] *[νóⁿgórórí]
       CL2.PL-spy-NOM
       'spies'

In examples (24) through (33), we have illustrated that the Shona deverbal and non-deverbal nouns have an asymmetrical morphophonology. In deverbal nouns, like in verbs, hiatus is resolved through spreading while in non-deverbal nouns hiatus is exclusively resolved through secondary articulation and elision. Based on the differences in hiatus resolution strategies employed, we conclude that the boundaries between a noun class prefix and a deverbal noun stem, and those between a noun class and a non-deverbal stem, are different.

3.4 Diminutives

There are two ways of forming diminutives in Shona, namely substitution and pre-prefixation (Fortune 1955). Substitution involves replacing the class prefix of the inherent noun class with the noun class prefix of the diminutive noun class; pre-prefixation, on the other hand, involves the stacking of prefixes where the diminutive class prefix is attached to the fully formed noun. (Recall that a fully formed noun is made up of a noun class prefix + stem.) Non-deverbal nouns and deverbal nouns show differences with respect to the formation of diminutives. Non-deverbal nouns employ the substitution strategy, similar to the singular-plural contrast. The class 1 prefix /mù-/ is replaced by the class prefix of the diminutive class. In contrast, deverbal nouns employ pre-prefixation. As illustration, the class 1 prefix /mù-/ is retained and the diminutive class is added to a fully inflected noun that contains a class prefix. Examples (34) through (36) show diminutive formation in non-deverbal nouns.

Non-deverbal nouns   **Diminutive**

(34)   /mù-*kómáná*/   [kà-*kómáná*]   *[kàmù*kómáná*]
        CL1.SG-boy   Cl12.SG-boy
        'boys'   'small boy'

(35)   /mù-*síkáná*/   [kà-*síkáná*]   *[kàmù*síkáná*]
        CL1.SG-girl   CL12.SG-girl
        'girl'   'small girl'

(36)   /mù-*kádzí*/   [kà-*kádzí*]   *[kà-mù-*kádzí*]
        CL1.SG-woman   CL12.SG-woman
        'woman   'small woman'

As shown above, diminutive formation in non-deverbal nouns involves the substitution of the class 1 prefix with the diminutive class prefix. In contrast, diminutives of deverbal nouns are formed by simply adding the diminutive noun class prefix to the noun which already has a class prefix. This is shown in the examples below.

(37)   /mù-*ɓát-í*/   [kà-mù-*ɓát-í*]   *[kà*ɓátí*]
        CL1.SG-hold-NON   CL1.SG.CL1.SG.-hold-NON
        'the one who holds /the captors' 'the small one who holds /the small captors'

(38)   /kà-mù-*ɓát-w-á*/   [kà-mù-*ɓát-w-á*]   *[kà*ɓátwá*]
        CL12.SG-hold-PASSIVE-NON CL12.SG.CL1.SG.-hold-PASSIVE-NON
        'the captive'   'the small captive'

(39)   /kà-mù-*ɓát-ís-w-í*/   [kà-mù-*ɓát-ís-w-í*]   *[kà*ɓátíswí*]
        CL12.PL-CL1.SG.-hold-CAUS-PASS-NON   CL12.SG.CL1.SG.-hold-CAUS-PASS-NON
        'the one who was made/caused to be   'the small one who was made/caused to
         caught'   be caught'

With deverbal nouns, substitution of the class 1 prefixes with the diminutive prefixes is unacceptable in the language. The fact that it is not possible to add the diminutive prefix to the deverbal stem of a deverbal noun suggests two things: first, the deverbal stem does not have semantic content similar to that of the non-deverbal nouns. By this, we mean that the stem /-*komana*/, for instance, carries the meaning of 'boy'. A class prefix acts as a "modifier", telling us more about the 'boy', i.e. whether it is singular, plural, big (augmentative), small (diminutives) or pejorative. In addition to classifying the noun, the prefix qualifies the stem as it provides other additional semantic and descriptive information. Different class prefixes add different semantic and descriptive information to the noun.

Similarly, when diminutives modify a fully formed noun, they are playing a dual role – classifying the noun and qualifying the noun by giving additional information such as size or whether or not it is pejorative (see Déchaine, Girard, Mudzingwa and Wiltschko 2014). Out of context or in isolation, the two nouns *mukomana* ('boy') and *kakomana* ('small, thin boy') are different in that the former is the "normal", "neutral" or the expected specimen, with respect to all entities of that particular kind, whereas the latter is not. *kakomana* is smaller, smaller than expected or smaller compared to the normal specimen. It needs modification for us to know

whether it is neutral or diminutive. Once the class prefix is added, the type of specimen being referred to becomes clear.

3.5 Class 21

All nouns that fall into class 21 are fully formed nouns that function and are further inflected with a second noun class prefix. This means that class 21 takes fully inflected nouns to form augmentatives. Marconnes (1931:51), for example, says that /zi-/ "is the magnifying article [and the] greatness it denotes is generally only relative to other objects of the same kind". This suggests that /zi-/ can only take a fully formed noun, that is, a referring expression with a referent. Crystal (1991:293) defines a "referent" as "[…] the entity (object, state of affairs, etc.) in the external world to which a linguistic expression relates". The linguistic expression, in turn, has to be one that has a referent, such as nouns, noun phrases and adjectives; roots, stems, affixes that do not have referents cannot be considered linguistic expressions. Following this logic, this means that, in our case, the class 21 prefix /zi-/, which takes linguistic expressions that have referents, takes fully inflected nouns and produces a complex noun which has a new referent. The semantics mirrors what happens in the morphology. /zi-/ takes a noun and forms a complex noun that has stacked prefixes. In Shona deverbal nouns, the class 21 augmentative is formed by adding the /zi-/ prefix to an inflected noun, as shown in examples (40) and (41) below.

(40)   [muɓáti]   [zimùɓátí]   *[ziɓátí]
       Cʟ.1.-hold/touch-Nᴏɴ   Cʟ21.Sɢ-Cʟ1.Sɢ-hold-Nᴏɴ
       'hold/touch'   'the big one who holds /the big captor'

(41)   [zimùɓátwá]   [zimùɓátíswí]   *[ziɓátíswí]
       Cʟ21.-Cʟ.1.Sɢ-hold-Pᴀss-Nᴏɴ Cʟ21.Sɢ-Cʟ1.Sɢ.-hold-Cᴀᴜs-Pᴀss-Nᴏɴ
       'the big captive'   'the big one who was made/caused to be caught'

Class 1 nouns with voiceless stem-initial consonants are augmented in class 5 by voicing these stem-initial consonants. Fortune (1955:104) notes that "[a]ugmentatives of second degree may be formed by preprefixing class 21 prefix to these augmentatives". However, unlike deverbal nouns, non-deverbal nouns do not retain the class 1 prefix /mu-/ in class 21 forms.

(42)   /zi-mu-kadzi/   [ziɡadzi]   *[zimukadzi]
       Cʟ21.Sɢ.-Cʟ1.Sɢ.-woman
       'large woman'

(43)   /zi-mu-komana/   [ziɡomana]   *[zimukomana]
       Cʟ21.Sɢ.-Cʟ1.Sɢ.-boy
       'large boy'

(44)   /zi-mu-sikana/   [ziḓzikana]   *[zimusikana]
       Cʟ21.sɢ.-cʟ1.sɢ.-girl
       'large or fat girl'

3.6 Singular-plural contrast

A common feature of Bantu languages is the singular-plural contrast. Nouns that are in the singular in one class tend to fall into the next or following class to form the plural. Nouns in class 1 are singular and when they are pluralised, they fall into class 2. This is achieved by substituting the singular class prefix /mù-/ with the plural morpheme of class 2, viz. /và/. Despite the other differences highlighted above, the singular-plural formation process is the same in non-deverbal and deverbal nouns. Examples (45) through (47) show non-deverbal nouns and (48) through (50) deverbal nouns.

Singular-plural contrast in non-deverbal nouns

(45) /mù-*kómáná*/ [mù*kómáná*] vs. /và-*kómáná*/ [và*kómáná*]
CL1.SG-boy CL2.PL-boy
'boy' 'boys'

(46) /mù-*síkáná*/ [mù*síkáná*] vs. /và-*síkáná*/ [và*síkáná*]
CL1.SG-girl CL2.PL-girl
'girl' 'girls'

(47) /mù-*kádzí*/ [mù*kádzí*] vs. /và-*kádzí*/ [và*kádzí*]
CL1.SG-woman CL2.PL-woman
'woman' 'women'

Singular-plural contrast in deverbal nouns

(48) /mù-té^{ŋ}g-í/ [mùté^{ŋ}gí] vs. /và-té^{ŋ}g-í/ [vàté^{ŋ}gí]
CL1.SG-buy-NON CL2.PL-buy-NON
'buyer' 'buyers'

(49) /mù-té^{ŋ}g-és-í/ [mùté^{ŋ}gésí] /và-té^{ŋ}gésí/ [vàté^{ŋ}gésí]
CL1.SG-buy-CAUS-NON CL2.PL-buy-CAUS-NON
'traitor' 'traitors'

(50) /mù-fá^{m}b-í/ [mùfá^{m}bí] /và-fá^{m}b-í/ [vàfá^{m}bí]
CL1.SG-buy-CAUS-NON CL2.PL-buy-CAUS-NON
'traveller' 'travellers'

Deverbal nouns become nouns after the addition of the noun class prefix. In other words, nominalisation only becomes complete with the noun class prefix. Here, the noun class prefix plays a dual role: just like in the singular, it marks plurality (and controls agreement) and completes the nominalisation process.

4. Conclusion

This article presented a comparative analysis of the morphophological properties of deverbal and non-deverbal nouns in Shona noun class 1. Our main findings show that the stem of non-deverbal nouns is monomorphemic while that of deverbal nouns is intrinsically bimorphemic. We have demonstrated that vocalic hiatus resolution is a useful diagnostic tool in demonstrating

the differences between non-deverbal and deverbal nouns. In non-deverbal nouns, like in other nominals in Shona grammar, hiatus is resolved via secondary articulation and elision, while in deverbal nouns, like in verbs, it is resolved through spreading. In forming diminutives, it has been shown that non-deverbal nouns utilise a substitution strategy where a noun class prefix of one class is substituted with that of the augmentative class; in deverbal nouns, however, prefix stacking is the strategy used to form the diminutive. The analytical machinery of any theory of nominal morphology needs to be rich enough to account for the sensitivity of word formation mechanisms to this non-uniformity in Bantu languages. This study contributes to a deeper understanding of Bantu nouns in general, and Shona nouns in particular. The surface similarities amongst nouns, even nouns that belong in the same class, belie significant diversity that requires deeper scrutiny in order to obtain a deeper understanding of the noun class system.

Abbreviations and symbols used in this article

AUG	augmentative
CAUS	causative
C	consonant
CL	noun class
CV	consonant vowel (syllable)
DIMIN	diminutive
DStem	Derived stem
FV	final vowel
IFS	Inflectional Final Suffix
INTERROG	Interrogative
IVStem	Inflected Verb Stem
LOC	locative
NEG	negative
NON	nominaliser
OM	Object marker
PASS	passive
PL	plural
SG	singular
SM	subject marker
SUBJ	subjunctive
TNS	tense
V	vowel
VRoot	Verb Root
//	underlying representation (base form)
[]	surface representation
{}	prosodic stem
.	syllable break
Ø	zero prefix
¨	breathy voiced

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