

**THE NON - PRODUCTIVE VERBAL EXTENSIONS IN ZULU:
A STUDY IN DERIVATIONAL MORPHOLOGY**

BY

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(i)

DECLARATION

I, the undersigned, hereby declare that:

THE NON - PRODUCTIVE VERBAL EXTENSIONS IN ZULU: A STUDY IN DERIVATIONAL MORPHOLOGY is my own work both in conception and execution. I declare that all the sources used have been indicated by means of complete reference, and also that I am responsible for the ideas expressed and examples given in this study.

SIGNATURE

DATE

DEDICATION

TO:

My late father : Simangenduku

My wife : Eunice & Phumzile

My daughter : Sibusisiwe

My sons : Sibonelo
Sikhumbuzo
Siphilile
Siphamandla
Sizwesethu

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ABSTRACT

Verbal extensions are well-known to play a most substantial role in the derivation and/or inflection of verbs in contemporary Zulu. Less well-known and less well investigated are a group of verbal derivatives which in former times played a significant role in derivation but which can no longer be freely attached to verbal stems: the non-productive verbal extensions (NPEs.) This thesis seeks to present and discuss all aspects of these NPEs from the perspective of their persisting roles in contemporary Zulu. This is undertaken on the basis of an extensive collection of currently-used verbs derived by means of NPEs, which is presented in the Appendix.

Chapter 1 locates the study within the context of verbal extensions as a whole, and reviews the literature, which has focussed primarily on those verbal extensions which are still used productively today. Chapter 2 presents the theoretical framework for the investigation, considering issues such as productivity, derivation and inflection, and some relevant aspects of the theory of derivational morphology, currently under development. The following chapters focus in turn on the morphology of the NPEs, their current use in combination with productive extensions, the most salient aspect of their syntax, transitivity, and their meaning.

NPEs have become fully integrated into Zulu vocabulary, and are used on a daily basis with no awareness of their earlier roles. Nevertheless, as this thesis demonstrates, a study of NPEs can explain both certain regularities and certain anomalies in word formation, in transitivity, and in the meaning of extended verbs in contemporary Zulu.

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CHAPTER 1

INTRODUCTION

1.1 THE IMPORTANCE OF EXTENSIONS

Extensions are a group of suffixal elements, whose behaviour is studied under the broad field of research into derivation and / or inflection. These elements, when attached to existing stems, create new lexemes and modify the original meaning. Parallel to the changed meaning is a change in morphology. Extensions may attach to a range of parts of speech.

In Zulu verbal extensions (involving the derivation of a new verb from an existing verb) play an especially significant role; according to Taljaard (1993:65) they are one of the main characteristics of the Zulu verb. A verb stem may assume a series of different meanings, simply by suffixing a particular verbal extension or derivational suffix. For instance, the stem thaka can give rise to the following lexemes:

- thaka (mix) > thakela (mix for) (applicative)
- thaka (mix) > thakisa (cause to mix) (causative)
- thaka (mix) > thakeka (be mixed) (neuter).
- thaka (mix) > thakatha (bewitch) (contactive)

While the four verbs listed above are all clearly derived from the same base, many Zulu speakers would be likely to hesitate before accepting the fourth example as similarly linked

to the stem thaka. This points to a central issue concerning the verbal extensions: what has become the traditional distinction between productive and non-productive extensions.

The six productive extensions (PEs) in Zulu are used frequently, and may attach to an almost unlimited range of verbal stems, with few selection restrictions; they are however, limited to primary and extended verb stems, and do not select other parts of speech. The somewhat larger number of non-productive extensions (NPEs), on the other hand, are extremely limiting as to the number of stems they may select, yet attach to a wider variety of parts of speech: verb, ideophone, noun, adjective, relative and interjective stems. Most studies of Zulu verbal extensions have focussed in great detail on the PEs, and provided little space for the NPEs. In contrast, the main focus of this thesis will be the NPEs and the verbs derived by means of them from the full range of parts of speech. On the basis of as extensive a collection as possible of verbs derived in this manner, together with their putative stems, the morphophonology, syntax and meaning of these derivations will be discussed. The NPEs will be contrasted, as appropriate, with the PEs, and presented within the framework of derivational morphology.

1.2 PRODUCTIVE EXTENSIONS

Linguistically, a derivational pattern is productive if it is repeatedly and continuously used in a language to produce further words of the same or another word category. Zulu has a finite number of productive verbal extensions, which are used with great frequency and with few selection restrictions. For instance, the causative extension -is- is productive in the sense that it can be attached to almost any verb stem, including new

stems of foreign origin; the only restriction appears to be given by meaning.

EXAMPLE

hamba (go) > hambisa (cause to go) (causative -is-)
shaya (hit) > shayela (hit for) (applicative -el-)

There is considerable debate as to whether those extensions are to be classified as inflectional or derivational.

1.3 NON-PRODUCTIVE EXTENSIONS

In Zulu, some extensions have been labelled non-productive. Their usage is limited to relatively few stems and they are certainly no longer able to be attached to newly coined words or stems. Most languages can be assumed to have a similar distinction between NPEs and PEs although the use of such extensions may vary widely. In English, for instance, NPEs attach mostly frequently to nouns, and may be involved in both inflection and derivation. The inflectional change from child to children involves a non-productive plural formation, -en; this non-productive extension is now limited to extremely few nouns with most nouns using the highly productive inflectional morpheme -s. An example of an NPE from English derivation is the suffix -th in nouns such as warmth, breadth etc.

As noted above, non-productive extensions occur with a strictly limited number of stems. However, the new lexemes produced in this way can, in turn, be extended by means of PEs to create further new lexemes, when this is semantically appropriate.

EXAMPLE

Contactive	+	Causative	
-ath-	+	-is-	> -athis-
Persistentive	+	Neuter	
-ezel-	+	-ek-	> ezelek-

The extent to which the meaning of the original stem is maintained in a verb derived by means of a NPE is unpredictable: in certain cases there is little modification of meaning, in others the original meaning can no longer be discerned.

EXAMPLE

NPE - ath-	
singa (scrutinize)	> singatha (support)

The meaning in the above derivation is completely different.

NPE -ezel-	
bamba (hold)	> bambezela (delay).

The meaning in the above derivation is only slightly modified: one can delay somebody by holding on to him.

1.4 REASONS FOR CHOICE OF TOPIC

My interest in this field of study was first aroused during my Honours studies, when I

wrote an assignment on NPEs. Previously, I had been unaware of the differences between PEs and NPEs, and was fascinated by the limitations on the use of NPEs, in comparison to the PES. In particular, they seemed to represent the possibility of investigating older levels of Zulu within the contemporary language.

My early assumption that the use of these extensions was limited to the Nongoma, Empangeni and Eshowe dialects of Zulu was soon shown to be erroneous. An informal inquiry at bus stops, sports grounds and shopping centres indicated that verbs derived by means of NPEs were generally known and frequently used. What was completely lacking among the respondents was any awareness at all that verbs could be derived by means of extensions, whether productive or non-productive.

A review of the secondary literature indicated that the NPEs, in comparison to PEs, had been greatly neglected. What little research had been done, had usually been in the context of broader studies, either into the phenomenon of verbal extensions as a whole, or across a number of African languages on a comparative basis. As yet no in-depth study into all aspects of the NPEs had been undertaken and fundamental questions still required answers:

- (i) How extensive is the group of NPEs, and the group of derived verbs?
- (ii) To what extent can each derived verb be explained morphologically, in terms of processes such as deletion, vowel coalescence, consonantalization (glide formation), substitution, assimilation and palatalization?
- (iii) To what extent are the derived verbs still recognisable as such, in terms

of meaning?

Hence, I decided that a study of NPEs would make a clear contribution to our knowledge of processes of inflection and derivation in Zulu. I will now move to a detailed literature review, in order to clarify previous approaches to the study of NPEs, the results of these studies, and the extent to which the above questions still remain unanswered.

1.5 LITERATURE REVIEW

1.5.1 Scope of previous work

While numerous authors have made mention of NPEs, we will focus on the contributions made by Doke (1927), Meinhof (1932), Cantrell (1967), Wilkes (1971) and Satyo (1985). As to be expected, Doke (1927) and Meinhof (1932) produced pioneering work in this regard, but the most substantial contribution has been made by Wilkes (1971). Doke (1927), Meinhof (1932), Cantrell (1967) and Wilkes (1971) have investigated NPEs in Zulu, whereas Satyo (1985) concentrated on NPEs in Xhosa which is closely related to Zulu.

1.5.1.1 DOKE (1927)

Doke differentiated between what he termed ‘regular verbal derivatives’ in Zulu, and a group of ‘miscellaneous derivative suffixes.’ The distinction was made on the basis of the regularity with which verbs may be derived by those suffixes. For the latter group

there may often no longer be an extant stem available, yet in other Bantu languages the suffixes may still be used regularly to derive verbs; and their original meaning may be ascertained through such comparison.

Doke (1927:135-159) identifies and labels the following regular verbal derivations in Zulu:

- the passive -wa, -iwa
- the neuter -ka, -akala
- the applied -ela
- the reciprocal -ana
- the causative -isa
- the diminutive

This final category, strictly speaking does not belong in this group, as this involves reduplication of the stem and not a verbal derivative. Doke then continues with a list of miscellaneous derivative suffixes in Zulu.

- the reversive in -ula, -uka, -ulula, -uluka
- the extensive in -bula
- the denominative in -pha, -phala, -sa, -za.
- the suffix in -ba indicative of motion
- the suffix in -ma indicative of motion
- the suffix in -hla indicative of friction
- the suffix in -mba attached to stems containing click consonants

The labels attached to most of these extensions (but not to all) give some indication of their basic meaning; but some of the examples of derived verbs then listed by Doke do

not easily fit into these categories.

While Doke is concerned with the derivative power of these extensions, he does not pay great attention to details of their morphology. Similarly, his focus on syntax is limited to indications of transitivity. He limits the explanation of their meaning to the labels he gives them, and this analysis of meaning is clearly rather limited.

While Doke does not specifically comment on categorization of the stems involved, a further differentiation between his regular verbal derivatives and miscellaneous derivatives becomes clear: the former utilise exclusively verbal stems, while the latter can attach, but on a highly selective basis, to verbs, nouns, ideophones, adjectives, relatives and interjectives.

In most cases, Doke does not attempt to give complete lists of possible extensions, but simply selects various examples. According to Doke and Vilakazi's Dictionary, some of these appear to be derived from Ur-Bantu stems e.g. phakama Ur-Bantu = pakama; hence it would seem questionable whether they are indeed derived verbal stems. (This point will be discussed later). Doke also does not separate the derivative suffix from the ultimate vowel -a in his examples.

Through a thorough investigation of Doke's work, we may conclude that he made a very important contribution by identifying the regular verbal derivatives and the miscellaneous verbal derivatives. His morphophonological, syntactic and semantic approach set the trend for subsequent investigation.

1.5.1.2 Meinhof (1932)

As much the same time (but seemingly independently) Meinhof produced his *Introduction to the Phonology of the Bantu Languages* in which he also discussed verbal extensions. He labelled these variably verb-endings (Meinhof 1932:43), and species of the verb (Meinhof 1932:105-107).

While Meinhof's work is of considerable interest for a comparative study of Bantu languages, his verbal extension list of proposed Zulu species of the verb must be seen in this context, in that it seeks to elucidate Zulu from an Ur-Bantu perspective. His list contains numerous suggested derivations; but it is unlikely that actual proof of these derivations will ever be found.

The current investigation does not propose developing NPEs from possible Ur-Bantu roots as attempted by Meinhof, but rather seeks to focus on contemporary Zulu and to investigate the role of NPEs in the language today. Nevertheless, some important suggestions derive from Meinhof. He, too, attempts to indicate broad categories of meaning for the various extensions; he mentions the possibility of combined extensions; he is clearly aware of the role of extensions in shifts in transitivity. However, he gives very few examples and his study of morphology remains limited and focused on derivation from Ur-Bantu.

1.5.1.3 Cantrell (1967)

Cantrell's work has a rather different focus: he seeks to analyse the typical Zulu verbal

root as composed of two radicals. He assumes that the main semantic force rests in the first radical, and that the second radical then influences this main semantic force. He notes frequent similarities, both of form and of meaning, in these radicals, and tries to classify the high frequency of secondary radicals into semantic categories. Cantrell notes himself that his results must remain largely speculative; and this main argument of his thesis is not relevant to our purpose. Where his thesis is of interest and relevance to this study, is in his additional and rather more peripheral study of suffixal extensions, as added to the di-radical roots he proposes.

Due to his focus on the roots and their radicals, Cantrell uses the term 'extension' in a broader sense to most other researchers, and to this thesis. On the basis of his interest in the verbal root, Cantrell distinguishes three categories of what he terms extensions:

- (i) An extension added to a non-verbal root, to convert it to use as a verbal root.
- (ii) An extension added to a di-radical root, giving rise to a tri-radical root.
- (iii) An extension added to a verbal root, at the will of the speaker, which while not modifying the basic meaning of the action described, yet adds flexibility to the verb in respect of its application (e.g. causing the action, doing it to someone use, and so on.)

The extensions we are concerned with here (both PEs and NPEs) are discussed under categories (i) and (iii); we will be disregarding the largely speculative category (ii). Cantrell produces a complete list of what he terms live extensions and inactive extensions, which is divided into primary and secondary extensions. Like other linguists, Cantrell assigns meaning to the various extensions by means of labels, and in addition he explains the meaning of each example of derived roots in English. He pays

little attention to syntax and issues of transitivity. In addition, his discussion of the combination of extensions or of series of extensions is another interesting and important part of his thesis. In his final chapter, in an important extension to the previous analysis, Cantrell (1967:233) analyses the tonal patterns which are characteristic of various verbal roots, both in their simple and extended forms. In each of his examples, he uses tone markings to indicate tonal sequence.

1.5.1.4 Wilkes (1971)

Wilkes produced his doctoral thesis on suffixes of the verb in Zulu. One main aim of his study is to give a summarised morphophonological description of verbal suffixes in Zulu and to handle all arising problems together. He seeks to examine and describe the involved suffixes both paradigmatically and syntagmatically. In this connection, he gives attention to problem cases, that is, cases where verbs indicate suffix characteristics for which the morphemic status is doubtful; and indicates how these cases can be handled morphologically. In addition, he focuses rather briefly on syntactic and semantic aspects of verbal extensions.

Wilkes identifies and differentiates between productive extensions (Wilkes 1971:65-228) and non-productive extensions (Wilkes 1971:229-231). He offers the most comprehensive list including the neuter -akal-, the old causative -j-, the completive -elel-, the intensive applicative -elel-, and the intensive causative -isis-.

Wilkes devotes the whole of chapter 5 (35 pages) to the description of NPEs. He is the only researcher to differentiate between what he terms fully bound and half-bound

NPEs. Fully bound NPEs are used with stems which are only linked to this particular NPE. Half-bound NPEs are used with stems which are also linked to other extensions. And in this way, he is able to use equipolent opposition (ekwipolente teenstelling) as a further mean of identifying NPEs.

After considering ways of identifying NPEs, and the relationship between ideophones and deideophonic verbs, he describes each NPE in turn, focussing in each case on the form, the semantic value and syntactic implications. Where necessary, doubtful cases are also discussed. Attention is paid to the ideophonic NPEs, but the treatment of the denominative verb suffixes is extremely brief. Although Wilkes then goes on in further chapters to discuss reduplicated and combined suffixes, in this regard he deals with PEs only. There are some slight theoretical differences between the approach adopted by Wilkes, and that of this thesis; nevertheless, they do not lead to different results.

1.5.1.5 Satyo (1985)

Satyo's study of extensions in Xhosa has also made a substantial contribution to the field. He explores the interrelated morphophonological, syntactic and semantic features of extended verb stems which serve to subcategorise these verbs.

Satyo indicates that his main desire is to systematise these extensions, but he does not see himself in a position to develop explanations for each and every case. As he explains, his stance remains pretheoretical, and he draws on a range of theoretical approaches as appropriate (Satyo, 1985:18). (This thesis will adopt a similar approach).

The importance of his work lies in the thoroughness and systemacity of his approach,

dealing as he does with phonology, morphology, syntax and semantics of the extensions. The bulk of Satyo's thesis explores PEs. He devotes an extensive chapter to phonological phenomena and to the morphological structure of verbs, two chapters to syntax, and one chapter again to each of semantic perspectives and combinations of extensions. Within these chapters, he develops broad frameworks for the presentation of the verbal extensions, raising at times rather general issues before applying them to the actual extension. In this way, he generates a rich discussion of productive extensions. However, his single chapter on NPEs remains very limited, and makes no attempt to apply the above broad framework to the discussion of individual extensions. This challenges the reader to apply a corresponding broader framework to the analysis of the NPEs in Zulu.

DISCUSSION AND LABELLING OF NPEs by DIFFERENT LINGUISTS (1)

	DOKE (1927)	MEINHOF (1932)	CANTRELL (1967)	WILKES (1971)	SATYO
CONTACTIVE -ath-	X	X	X	X	X
STATIVE ACTUAL -alal-	STATIVE -al-	X	X	INCHOATIVE SUFFIX -al-	X
STATIVE DISPERSIVE -alal-	X	X	ACTUAL EXTENSIVE -alal-	X	X
STATIVE POSITIONAL -am-	X	X	PROTRACT. STATIVE -am-	X	X
PERSISTIVE -ezel-	X				X
REVERSIVE -ul-	X	X	ABUNDANT -ul-	REVERSIVE-TRANS.SUFFIX -ulul-	NEUTER REVERSIVE
REVERSIVE -uk-	X	X	ABUNDANT -ulul-	REVERS.INTRANS.SUFFIX -uk-	-uk-
REVERSIVE -ulul-	X	X	ABUNDANT -uluk-	INTENS.REV. -TRANS.SUF.	REV..REPEITIVE -ulul-
REVERSIVE -uluk-	X		REVERSIVE -uk-	INTENS.REV.-INTRANS.SUF	NEUTER REVERSIVE
EXTENSIVE -bul-	X	X	REVERSIVE -ul-	-uluk-	-uluk-
DENOMINATIVE -ph-	X	X			
DENOMINATIVE -phal-	X	X			
DENOMINATIVE -s-	X	-			
DENOMINATIVE -z-	X	-			
INDICATING AUG. & DIM. - bal-		X			

TABLE 1

DISCUSSION AND LABELLING OF NPEs BY DIFFERENT LINGUISTS (2)

	DOKE	MEINHOF	CANTRELL	WILKES	SATYO
INDICATING MOTION -b-	X				
INDI. SUDDEN MOVEMENT -m-	X				
INDICATING FRICTION -hl-	X				
CONT.CLICK.CONSONANTS -mb-	X			X	
IDEO.TRANS. SUFFIX -l-	X			X	
IDEO. INTRANS. SUFFIX -k-	X			X	
IDEO. CAUSATIVE SUFFIX -z-	X	X			
CAUSATIVE -y- -ek-		X			X
NEUTER -akal-		X			X

TABLE 1

1.5.1.6 Overview and conclusion

A number of other authors (Du Bois, 1959; Richards, 1987; and Nthoba, 1995) have studied verbal extensions, but the results of their work can be subsumed under that of the authors presented here in some detail. It should be noted that, in the main, researchers follow the approach mapped out by Doke (1927). However, the specific NPEs selected for study vary, as do at times the labels given to individual NPEs. To avoid confusion, Table 1 (p 14 above) presents an overview of previous work on NPEs, indicating which authors have dealt with which extensions, and under which label.

1.5.2 Achievements and problems

The analysis of non-productive extensions in terms of a primarily morphological perspective was initiated by Doke (1927) and Meinhof (1932) and most subsequent research has adopted a similar perspective. The morphology of NPEs has been repeatedly studied. Nevertheless, certain issues remain unsolved, or have not yet been systematically addressed.

- (i) A complete list of NPEs has not yet been produced and generally accepted. (See the variations in Table 1). For instance, only Doke (1927:154) discussed the extensive -bul-. In this study, I introduce one further extension termed the 'augmentative and diminutive extension -bal-.'
- (ii) The morphophonology of the non-productive extensions is presented differently by various writers or linguists. For instance the early researchers Doke (1927) and Meinhof (1932) do not separate the extension from the ultimate vowel (UV),

in contrast to the later researchers du Bois (1959), Wilkes (1971), Cantrell (1967), Richards (1987), Satyo (1985) and Nthoba (1995). We will here follow this later trend.

- (iii) The syntax of non-productive extensions has yet to be discussed. Satyo (1955) has attempted to analyse NPEs syntactically on the basis of Xhosa, though he says nothing about transitivity and concordial agreement. He simply writes Xhosa sentences and translates them into English, without indicating whether the verbs are transitive or intransitive.
- (iv) The semantics of the NPEs has been largely neglected. Doke (1927) sought to indicate the semantic contents of the NPEs, but did not proceed any further. The later writers drew on Doke's work, while modifying it here and there.

1.6 SCOPE OF THESIS

The literature review has highlighted areas where further study of the NPEs will be useful. This study will :

- (i) Bring together both deverbative and deideophonic NPEs, and present as complete a list as possible of verbs currently used in Zulu which are derived by means of NPEs. (Chapter 1 & Appendix).
- (ii) Locate the study of NPEs against the background of current trends in derivational morphology, focusing especially on issues of productivity, inflection and derivation (Chapter 2).

- (iii) Review the morphophonology of the NPEs, drawing together the morphophonological processes, and where necessary, commenting on previous work. This will include an analysis of the role of reduplication, and of combined extensions. (Chapter 3 and 4).
- (iv) Discuss the syntax of the NPEs, with the main focus on changes in transitivity (Chapter 5).
- (v) Analyse the meaning of the NPEs, focusing on cases of maintenance and of shift in meaning (Chapter 6).

1.7 METHODOLOGICAL ISSUES

The full list of derived verbs in the Appendix was gathered together from a number of sources. A wide range of written texts was consulted, ranging from works of literature to linguistic studies and dictionaries. In addition, I contacted a number of informants who were in a position to give educated opinions on the continued existence and role of NPEs in contemporary Zulu. To ensure that the collected verbs were indeed familiar to speakers of Zulu, I conducted informal surveys with samples from the Appendix at bus stops, libraries and shopping centres.

The main methodological issue has been the identification of verbs derived by means of NPEs. In many cases NPEs have become fully part of what now appears as the verb stem, and may no longer be clearly recognised as once having been extensions. The

initial collection was made according to the following:-

- If in several words the final syllable has a common shape, meaning and syntactic function and furthermore occurs in a number of Bantu languages, we will deduce that this final syllable is a NPE.

However, this does not exclude the possibility that certain other, original stems may also have this same shape; and in some cases it is almost impossible to decide between stem and NPE with certainty. As Katamba (1993:49) points out, the same phonological form may represent different morphemes depending on the base with which it co-occurs. *A review of the verbs given as examples in various discussions of NPEs reveals several instances of verbs listed as Ur-Bantu roots in the Doke / Vilakazi dictionary.

In this thesis, it was decided to exclude all such verbs listed as Ur-Bantu roots in the Doke / Vilakazi dictionary from our list of derivations.

For instance:

Doke (1927:151) lists lala (Ur-Bantu -lala,)

Meinhof (1932:107) lists fukama (fugama) (Ur-Bantu - kurama).

Wilkes (1971)22() lists pakama (Ur-Bantu -pakama).

Satyo (1985:308) lists vula (Ur-Bantu - lurula).

It is unclear at precisely what period the NPEs were used productively; but as they seem to be spread widely across the Bantu language family, it was presumably during the Ur-Bantu period. The attempt by Cantrell (1967) to derive many Zulu and Xhosa stems

from a few radicals yielded little but speculation, and will not be followed here.

The purpose of this thesis is not to attempt the reconstruction of former forms, as undertaken in Ur-Bantu or Comparative Bantu studies, but rather to suggest plausible derivations of verbs which can confidently be assumed to be NPEs. In Katamba's terms: 'One of the challenges that a morphologist faces is providing an analysis that distinguishes what is of purely arcane historical interest from what is relevant in an analysis of the contemporary language.' Our intention is to focus on the latter, in order to obtain an overview of the role still played by NPEs in contemporary Zulu.

1.8 LIST OF NPEs¹

Below I list the various NPEs on which the whole study is based with in each case two examples of derived verbs.

The Contactive -(a)th-

thungatha	thunga	+- (a)th-	+	-a
fukutha	fuku-	+- (a)th-	+	-a

The Stative Actual -al-

bhalala	bhal	+ -al-	+	-a
bulala	bula	+ -al-	+	-a

¹ There has been some debate in the literature about the status of the two extensions causative */*-y-/* and *akal*. We will not include these in our list.

The Stative Dispersive -alala

jubalala	juba-	+ -alal-	+	-a
bhaxalala	bhaxa-	+ -alal-	+	-a

The Stative Positional -am-

bhadama	bhada	-+ -am-	+	-a
khothama	khotha-	+ -am-	+	-a

The Persistentive -ezel-

vimbezela	vimb(a)	-+ -ezel-	+	-a
bambezela	bamb(a)	+ -zel-	+	-a

The Reversive -ul-

gcula	gcu	+ -ul-	+	-a
dabula	dab-	+ -ul-	+	-a

The Reversive -uk-

khumuka	khum(u)-	+	-uk-	+	-a
dabuka	dab(u)-	+	-uk-	+	-a

The Reversive -ulul-

phekulula	phek(u)	+	-ulul-	+	-a
khuculula	khuc(u)	+	-ulul-	+	-a

The Extensive -bul-

khekhebula	khekhe-	+	-bul-	+	-a
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bhambabula bhamba- + -bul- + -a

The Denominative -ph-

hlonipha -hloni- + -ph- + -a

ncipha -nci- + -ph- + -a

The Denominative -phal-

khuluphala -khulu- + -phal- + -a

nonophala nona- + -phal- + -a

The Denominative -s- and -z-

manzisa manzi- + -s- + -a

mbuluza (i)mbulu- + -z- + -a

The extension -bal- (indicating augmentation and diminution)

Diminutive : gogobala gog- + -bal- + -a

Augmentative : dlondlobala dlondlo- + -bal- + -a

The extension -b- (indicating motion)

dloba dlo + -b- + -a

zwiba zwi + -b- + -a

The extension -m- (indicating sudden movement)

duma du + -m- + -a

chichima chichi + -m- + -a

The extension -m- (indicating friction)

hlikihla hliki + hl- + -a

sokohla soko + -hl- + -a

The extension -mb- (used with click consonants)

qaqamba qaqa + -mb- + -a

cacamba caca + -mb- + -a

CHAPTER 2

SOME ISSUES IN DERIVATIONAL MORPHOLOGY

2.1 PRODUCTIVITY

All morphologists are in agreement about the central role of productivity in the study of derivational morphology. The following discussion will be based in the main on the work of Katamba (1993:65-82) and Bauer (1988:57), who, however, draw the bulk of their illustrative material from English. Where appropriate, we will attempt to apply the discussion to Zulu.

We will start by distinguishing two major senses of the term productivity. Crystal (1991: 279), for instance, points to its use as a general term to refer to the 'creative capacity of language users to produce and understand an indefinitely large number of sentences.' Katamba, too (1993: 72), equates the term with creativity, i.e. 'the capacity of all human beings to use finite means to produce an infinite number of words and utterances.'

In this thesis, however, we will be using the term in a second, more specific sense: we will be considering the role of productivity in word-formation. In this regard, both Katamba and Bauer highlight the same two important points: firstly they reject any understanding of productivity as a dichotomy, and secondly they note that productivity must be a synchronic notion. We will consider these two points in turn.

The terminology commonly used in the discussion of Zulu verbal extensions, productive and non-productive extensions, suggests an either – or understanding of productivity: an extension is either productive, or it is non-productive. Katamba firmly rejects such an understanding. ‘Productivity is a matter of degree. It is not a dichotomy, with some word-formation processes being productive and others being unproductive. Probably no process is so general that it affects, without exception, all the bases to which it could potentially apply. The reality is that some processes are relatively more general than others.’ (Katamba, 1993: 67). Bauer seeks to clarify this point further. He speaks of productivity as a cline, noting that productivity has to remain a comparative notion, and that it is impossible to ‘attach any numbers to the degree of productivity’ (Bauer, 1988: 59). While it cannot be doubted that some extensions in Zulu are non-productive, or possibly no longer productive, what remains largely unexplored is the extent to which other extensions are productive: to what percentage of bases to which they might attach do they indeed attach? To what extent do limitations on the productivity of these extensions exist – or to what extent has their possible existence been explored?

Secondly, Katamba notes that ‘productivity is subject to the dimension of time. A process which is very general during one historical period may become less so at a subsequent period. Conversely, a new process entering a language may initially affect a tiny fraction of eligible inputs before eventually applying more widely’ (Katamba, 1993: 67). This insight is presented by Bauer in terms of synchrony and diachrony: ‘we can speak of productivity in synchronic terms, or of changes in productivity in diachronic terms, but not of productivity as such in diachronic terms.’ (Bauer, 1988: 61). The various verbal extensions in Zulu, with their greater or lesser degrees of

productivity, represent one particular moment in a language which, as with all languages, is subject to continuous change over time.

Bauer spells out a number of conceptual distinctions which will be useful to our attempt to clarify differences between the productive and non-productive extensions. He argues, firstly, that we need to 'draw a clear distinction between morphs which are productive and those which are analysable. All productive morphs are also analysable, but not all analysable ones are necessarily productive' (Bauer, 1988: 61).

Secondly, he introduces the extremely useful concept of generalisation, which reflects 'the extent to which remains of a morphological process are analysable in the established words of a language' (Bauer, 1988: 61). In this way, 'the degree of generalisation of an affix in the vocabulary of a language is a reflection of the past productivity of that affix' (Bauer, 1988: 61).

Affixes which are no longer productive may be widely generalised, or they may be less widely generalised. Although Zulu NPEs tend not to be particularly widely generalised, they vary considerably in the frequency of stems selected, with -ath- selecting the highest number of verb stems and -bul- the lowest number. 'Generalised affixes are the result of productivity at some time, and the more widely generalised the affix, the more highly productive the generalisation process has been' (Bauer, 1988: 61). This suggests that the Zulu NPEs, especially as attaching to verbal bases, were never particularly widely generalised; although of course some derived verbs may have been lost over time.

Katamba, too, focuses on ways of clarifying the question: How productive is this particular process? On the one hand this can be done by literally counting the total number of words created by means of a particular affix. In this manner, 'a process is said to be fully productive if it applies to every possible base, and those bases are defined solely in terms of their major category (noun, verb, adjective)' (Bauer, 1988: 69). On the other hand, we can instead focus on clarifying the 'proportion of bases that are eligible to undergo a process which actually do undergo it' (Katamba 1993: 69); or on what Bauer terms 'relevant' bases : bases 'defined in terms of ... specific restrictions' (Bauer, 1988: 69). This means that 'judgements about how productive some process is, or has been, should not be made before it is discovered which bases could provide input to the process' (Bauer, 1988: 69). Hence it is necessary to attempt to identify the specific properties of the base which may influence the likelihood of a morphological process taking place (Bauer, 1988: 69); but unfortunately very few studies of this type have been undertaken.

What might such possible constraints or limitations on productivity be? The concept of 'blocking' is mentioned by both Bauer and Katamba; this refers to 'the non-existence of a derivative ... because of the prior existence of some other lexeme' (Bauer, 1988: 66). (Usually perfect synonyms are avoided in the lexicon.) To what extent does blocking play a role with regard to the current productive extensions in Zulu? Furthermore, phonological, morphological or semantic factors may underpin limitations on productivity. Katamba points specifically to possible differences in the behaviour of native versus foreign morphemes, as regards derivation (Katamba, 1993: 76). Would such factors be able to explain something of the very limited generalisability of many of the Zulu NPEs?

The array of PEs and NPEs in Zulu, as commonly distinguished in the literature, represents the current (synchronic) state of the language, and will doubtless be subject to further change over time. Extensions are to be found in most Bantu languages, with there apparently being some variation between languages with regard to those which are (still or currently) productive, and those which are (no longer) productive. In his reconstruction of Ur-Bantu, Meinhof listed a wide variety of such extensions (Meinhof, 1932: 106-107).

It is to be assumed that in an earlier developmental phase of what is now Zulu, the present NPEs were productive, though it must remain unclear to what extent they were ever generalised. There appear to be some differences in degree of generalisation, according to whether NPEs attach to verbal or ideophonic bases, with derivations from relative and noun stems being extremely rare. Attempts to clarify earlier stages of usage must remain largely speculative, and will not be the focus of this thesis. On the other hand, the fact that extensions are subject to changes over time is evinced by the new PE *-isha* recently identified by Koopman (2000). Though productive, this is highly selective, and appears to attach only to (some?) verbs of foreign derivation. Will this in time also come to attach to verbal bases more broadly?

2.2 INFLECTION AND DERIVATION

The traditionally accepted distinction between inflection and derivation (derivation produces new lexemes, inflection forms of lexemes) has become less stable as a result of recent research into a wide variety of languages; indeed, Bauer, 1988: 73,

Matthews, 1974: 42 & 61) and Katamba, 1993: 205, all now consider that it is not possible to distinguish between these two categories across all languages. Bauer produces the most extensive summary of the various distinguishing criteria which have been proposed, but is able to demonstrate that on closer examination none of these is completely satisfactory. He suggests that it may be possible to maintain the distinction between inflection and derivation by reformulating these two concepts in terms of prototypes: 'a prototype is what the most typical member of a class is like across languages, and individual languages will be expected to have actual types which diverge from the prototype to a greater or lesser extent' (Bauer, 1988: 86).

Katamba, on the other hand, proposes that the difference between inflection and derivation (which he sees as being more or less syntactically determined) be seen as a cline rather than as a dichotomy. He uses an English example to elucidate this: 'Prototypical inflected morphemes (eg. verbal affixes in English) are very strongly syntactically determined while prototypical derivational morphemes (eg. -er in worker) are very weakly syntactically determined. In between there is a continuum of syntactic determination. The terms "inflection" and "derivation" simply indicate the degree of syntactic relevance' (Katamba, 1993: 217). This suggestion will be helpful in describing verbal extensions in Zulu.

A final interesting point is that made by Matthews: that the status of affixes, as being either inflectional or derivational in nature, can shift over time. He uses an Indo-European affix to demonstrate how this has shifted from being inflectional in Indo-European, to derivational in Latin, and again to inflectional in modern Italian. The Zulu NPEs would seem to demonstrate one final stage in such development: affixes can cease being regarded as affixes at all, and, from a synchronic point of view,

simply become part of the lexeme. This, of course, raises the question as to at what point the analyst should simply follow the intuitions of the native speaker and treat such derivands as single morphemes.

The attempts at distinguishing between derivation and inflexion are important for this piece of investigation, as they suggest interesting ways of considering the NPEs. We will in due course return to the criteria listed by Bauer and use them to derive a list of questions on which we will base our analysis of NPEs. First, however, we will turn briefly to a particular model of morphology: lexical morphology, which raises some further interesting questions and possibilities.

2.3 LEXICAL PHONOLOGY AND MORPHOLOGY

Almost all work on Zulu verbal extensions has been based on traditional structural morphology, which has in the long term led to a certain repetitiveness. The lexical morphology model which emerged from the generative paradigm during the 1970s offers a somewhat different focus on derivation. This model, too, has been largely developed on the basis of English; and our brief discussion and attempted application will also allow us to ask whether this model is equally applicable to a Bantu language such as Zulu.

The model is still under development, and as yet no consensus has been reached around a range of issues. Hence we will not attempt to present the model in depth, but will simply base our discussion in the main on the broad summary provided by Katamba (1993: 89). (See also Kiparsky (1982) and Mohanan (1986)). Amongst

other things, lexical morphology attempts to explain differences in the behaviour of various groups of affixes (as already noted by Bloomfield 1933: 240). The morphological component of a grammar is held to be 'organised in a series of hierarchical strata.... It is proposed that affixes are added at different strata in the lexicon. Each stratum of the lexicon has associated with it a set of morphological rules that do the word-building. These morphological rules are linked to a particular set of phonological rules that indicate how the structure built by the morphology is to be pronounced' (Katamba, 1993: 92). For English, two strata are commonly distinguished, resulting in the identification of two sets of affixes, termed non-neutral and neutral affixes. 'Neutral affixes have no phonological effect on the base to which they are attached. But non-neutral ones affect in some way the consonant or vowel segments, or the location of stress in the base to which they are attached' (Katamba, 1993: 89). Furthermore, non-neutral affixes (located in Stratum 1) can be predicted to have been added to the stem before any neutral affixes (located in Stratum 2). In addition, 'the hierarchical ordering of strata reflects the degree of generality of word-formation processes. Stratum 1 contains the more idiosyncratic word-formation processes while stratum 2 has the more general ones.... Regarding meaning, stratum 1 affixes tend to be semantically less coherent (in the sense that they rarely have a regular predictable meaning) than stratum 2 ones' (Katamba, 1993: 118).

In this way lexical morphology enables us to make a number of predictions concerning the overall behaviour of affixes. We can predict their position vis-à-vis the stem of the word, and each other; whether they will be phonologically non-neutral or

neutral; their degree of idiosyncrasy or regularity, and finally how semantically coherent the meaning expressed is likely to be.

Clearly, these four predictions are reminiscent of some of the differences between PEs and NPEs, which suggests that the Stratum 1 / Stratum 2 distinction, as formulated above, may well be worth exploring for Zulu. Hence, when presenting the NPEs, we will also consider the various issues raised above.

2.4 A FRAMEWORK FOR A STUDY OF NPEs IN ZULU

We return to Bauer's list of the various criteria which have been suggested as permitting a distinction between derivation and inflection (Bauer, 1988: 73). Our intention, however, is not to propose that a clear distinction between inflection and derivation can be made, as in each case counter-examples can be found. Indeed it will become clear that many intuitive or 'common-sense' assumptions about a distinction between inflection and derivation seem to have been made primarily on the basis of Western languages; and these become rather questionable in the light of structurally very different languages such as Zulu. Rather the various criteria proposed allow us to derive the following questions which will be reflected in our study of NPEs.

1. Can extensions in Zulu (both productive and non-productive extensions) be considered to form a closed set? Or do they appear to belong to an open (and larger) set, which might be further expanded?
2. Can any constraints on the former productivity of NPEs be identified?

3. Where is the NPE under consideration located in the extended word, in relation to the base, and to any other affixes possibly involved?
4. How regular and predictable are the morphological processes involved?
5. Does the use of the NPE lead to a change in word category, for instance from a noun to a verb, or is the word category not affected? (An answer to this question depends not least on how precisely word categories are defined.)
6. Does the use of the NPE have consequences for the syntax?
7. Is the use of the NPE obligatory or not in a typical context?
8. How regular and predictable is the meaning of the NPE under consideration?
9. What categories of meaning are involved? (The meaning may be primarily morphological, for instance involving number, gender, person, case, tense, aspect and voice; or other categories of meaning may be involved.)

CHAPTER 3

MORPHOPHONOLOGY OF NON-PRODUCTIVE EXTENSIONS

3.1 INTRODUCTION

In this chapter we will discuss morphophonological aspects of the extant verbs containing NPEs in Zulu. In addition, to identify morphophonological processes involved in the derivation of those verbs, we will seek to identify some possible constraints on the former productivity of the NPEs. We will begin with a short discussion in general terms of the phonological processes commonly involved, before presenting in schematic terms the various types of bases and NPEs. We focus on the various extensions in conjunction with the stems they select, to see how these two parts can be agglutinated to form one morphological word using various morphophonological processes. Finally, we will present and discuss from a morphophonological perspective the derivation of verbs by means of each individual NPE, as listed in the appendix.

3.2 THE STANDARD PHONOLOGICAL STRUCTURE OF ZULU

3.2.1 Zulu as an Agglutinating Language

In Zulu, agglutination is the combination of simple stems, with or without change of linguistic form, to express compound ideas. According to Crystal (1980: 19), agglutination as a type of language structure was first identified by comparative linguists

who used structural criteria to focus on the characteristics of the word. In agglutinative languages, words typically contain a linear sequence of morphs, in contrast with isolating and inflectional languages. The derivation of verbs by means of NPEs displays the characteristics of agglutination to a considerable degree, and involves a number of phonological processes which will be discussed below.

Words formed by means of these processes must always comply with the basic phonological structure of Zulu. Not only the structure of words, but also NPEs themselves must comply with the phonological rule structures. This leads to the phonological shapes of NPEs, as follows:

Primary Structure of NPEs:

- C - Structure e.g. -s-, -z-, -b-, -m-, -hl-, -ph-, -mb-
- VC - Structure e.g. -al-, -ul-, -uk-, -am-, -ath-, -ek-
- CVC - Structure e.g. -bul-, -bal-, -phal-
- VCVC - Structure e.g. -ezel-, -akal-

Secondary Structure of NPEs.

These are combinations of primary structures:

VC + VC to form secondary structure.

- VCVC - Structure e.g. -alal-, -ulul-, -uluk-

Where the extension starts with an vowel, this initial vowel (IV) becomes juxtaposed with the ultimate vowel (UV) of the stem, and this determines which phonological

process is to be used in the derivation of a new lexeme.

3.2.2 The ultimate vowel (UV)

Every Zulu word ends in an ultimate vowel. While most Bantu roots and verbal suffixes which create verbal stems end in a consonant, the virtually meaningless vowel -a is then added. In some tenses and moods this changes to vowel -e. This -a is labelled by grammarians the basic verbal suffix (BVS) (Katamba, 1993: 111) or the ultimate vowel or terminative (Doke, 1927: 125). Other ultimate vowels can be found in ideophones, nouns, adjectives, relatives and interjectives: -a, -e, -i, -o, -u.

In the derivation of new words, two vowels are often juxtaposed, and then ultimate vowels are affected by phonological processes such as deletion, vowel coalescence, and substitution. In discussing all cases of derivation and affixation, we begin with vowel coalescence as the norm. (If a stem ends in vowel -a, -i, -u (primary vowels), vowel coalescence occurs.) Should this for morphophonological reasons not be applicable, other phonological processes will then be considered.

3.3 PHONOLOGICAL PROCESSES

3.3.1 Vowel coalescence

According to Crystal (1980: 15) coalescence refers to the coming of linguistic units which were originally distinguishable. In Zulu, to avoid juxtaposition, coalescence of primary vowels occurs as follows: $a + a > a$, $a + I > e$, $a + u > o$. Therefore the result of vowel coalescence in Zulu is the production of the vowels e and o. Vowel coalescence is extremely frequent in Zulu, occurring with verbal formatives (PEs and NPEs), the conjunctive formative *na-*, the adverbial formatives nga-, kuna-, njenga- and nganga-, etc. (See Canonici 2000: 47 and Crystal (1980: 65).

3.3.2 Deletion and maintenance

Generally, deletion means the removal or obliteration of written or printed matter by striking it out, and more specifically, deletion refers to the elision of the initial vowel and / or the ultimate vowel in word formation (see Doke, 1927: 22).

In our case, the deletion process can apply to both the ultimate vowel of the stem and the initial vowel of the NPE where these two come into juxtaposition. Hence in the NPE *-(a)th-* the IV *-a* is placed in brackets to indicate the possible application of deletion. For example, in the following example the IV a of the extension *-(a)th-* is deleted and the UV- o of the monosyllabic ideophone lo is maintained.

lo + -(a)th- + -a

lo + Øth- + -a
 lo + -th- + -a, lotha (fire dies down)

The term maintenance, on the other hand refers to the ideophone ultimate vowels -a, -i, -o, -u, which are maintained in the derivation of extended verbs. These vowels are not affected by any phonological change in the formation of such verbs. For instance, in the formation of the verb lokotha, the UV- o of the ideophone loko is maintained while the initial vowel -a of the extension -(a)th- is deleted.

loko + -(a)th- + -a
 loko + -Øth- + -a
 loko + -th- + -a > lokotha (done)

The zero morpheme symbol Ø will be used in this thesis, as here, to indicate deletion. It stands to reason that if vowel coalescence does not apply, deletion and maintenance are possible morphological solutions. Hence deletion and vowel coalescence are commonly paired: if one of two juxtaposed vowels is deleted, the other will generally be maintained. (See Canonici 2000 : 50 and Crystal 1980: 104)

3.3.3 Substitution

According to Crystal (1980: 339) substitution refers to the process of replacing one item with another at a particular place in a structure. For instance, the ultimate vowel -a of the verb denda is substituted by the vowel -e in the derived verb dendebula. The same phonological rule applies to the ultimate vowel -u of the ideophone khanku which is replaced by the second vowel -a of the derived verb khankatha.

3.3.4 Assimilation

Assimilation offers a possible explanation for cases of substitution. Crystal (1980: 35) defines assimilation as the influence exercised by one sound segment upon the articulation of another, so that the sounds become more alike or even identical.

Meinhof (1932: 13) offers a detailed explanation of assimilation. While uttering one sound, the speaker has the next already in mind. Or conversely, the speaker is still thinking of the first sound when he should be attending to the pronunciation of the next. Consequently, the pronunciation of one sound or of both is changed. However, subsequent researchers have tended to see assimilation as a result of phonetic co-articulation (Crystal 1987: 164), i.e., primarily as a function of the vocal organs, which move from sound to sound in a continuous process. At the same time, Crystal notes that the effects of assimilation may be "partly phonological in character, as the rules differ from language to language" (Crystal 1987: 164). The following is an example of assimilation in a derivational context: the UV -a of the verb thenta has its qualities (low central vowel) partially assimilated by the preceding -e of the stem, and hence the UV -a of the verb thenta becomes second vowel -e of the extended verb thentebula. This is an example of progressive assimilation.

Retrogressive assimilation occurs with the verb phampatha where ph (aspirated bilabial explosive) retrogressively and partially assimilated the qualities of the primary nasal n to become the secondary nasal m. This is picked up by the aspirated explosive ph which soon loses its aspiration to form the nasalised explosive mp. The combination of the

alveolar and the bilabial cannot make one sound, hence partial assimilation occurs. (See Canonici 2000: 48).

3.3.5 Consonantalisation

Consonantalisation is a morphophonological process whereby the vowel -e consonantalises to become the semi-vowel/consonant y, and the vowel -a consonantalises to become the semi-vowel/consonant w. Phonologically, the y and w are consonants because their role in syllables is the same as that taken by [f] - [p], etc. But phonetically, they lack the friction required by the definition of consonant: they are vowel-like in character. Such sounds, as a result, are often called semi-vowels or semi-consonants.

For instance, UV - u of ideophone xhu consonantalises to become the semi-vowel -w in the derived verb xhwala. (See Canonici 2000: 49 and Crystal 1980: 82).

3.3.6 Reduplication

According to Katamba (1993: 180) reduplication is a process whereby an affix is realised by phonological material borrowed from the base. Reduplication may involve the repetition of all or part of the radical element.

In this thesis, we will need to consider the reduplication or repetition of monosyllabic, disyllabic, trisyllabic, quadrisyllabic, quintisyllabic or polysyllabic bases to form a reduplication unit. However, in most cases the extension, whether productive or non-productive, is not involved in the reduplication, as is the case below.

POSSIBLE OUTCOMES : UVs of IDs + NPEs

	-a	-e	-i	-o	-u	
1. DELETION		X			X	
2. VOWEL COALESCENCE	X					
3. SUBSTITUTION		X			X	
4. ASSIMILATION		X			X	
5. CONSONANTALIZATION					X	
6. MAINTENANCE (CATEGORY FOR NO CHANGE)	X		X	X	X	
INVOLVEMENT OF UVs IN REDUPLICATION						
	-a	-e	-i	-o	-u	
1. REDUPLICATION	X	X	X		X	

TABLE 2

Productive extensions:

hambisa (cause to go), hambahambisa (cause to go a little) thandana (love each other), thandathandana (love each other a little).

Non-productive extensions:

fumbatha (hold) > fumbafumatha (hold a little)

limala (be injured) > limalimala (be injured a little)

3.3.7 Overview

Table 2 on p. 40 above indicates the spread of these various processes across the NPEs.

Clearly, a decisive factor will be whether the NPE starts with a vowel or consonant.

3.4 CONSTRAINTS ON THE FORMER PRODUCTIVITY OF NPEs

3.4.1 Possible constraints according to word categories

Table 3 on p. 42 describes the frequencies of the selection of various word categories by NPEs. Several of the NPEs select both IDs and verbal bases; for instance, the contactive -ath- selects ideophone (16) and verbs (12) in almost equal proportions. No NPE selects verbal bases only, but several NPEs (for instance the -b-, -m-, -hl- and -mb- extensions) select only ID bases. The rare noun / adjective stems are concentrated almost exclusively in the denominative category.

XX

FREQUENCY OF SELECTION OF WORD CATEGORIES BY NPEs						
	VERB	IDEOPHONE	NOUN	ADJECTIVE	RELATIVE	INTERJECTIVE
CONTACTIVE -(a)th-	12	16				
STATIVE ACTUAL -al-	7	7			1	
STATIVE DISPERSIVE -alal-	9	14				
STATIVE POSITIONAL -am-	3	10				1
PERSISTIVE -ezel-	13	3				
REVERSIVE -ul-		64				
-uk-		43				
-ulul-		12				
-uluk-	1	18	1			
EXTENSIVE -bul-	6	5				
DENOMINATIVE -ph-				3		1
-phal-	2	3	5	1	2	
-s-		2				
-z-	2	2	3			2
IND. AUG. & DIM -bal-	1	21				1
IND. MOTION -b-		10				
IND. SUDDEN MOVEMENT -m-		13				
IND. FRICTION -hl-		2				
CONT. CLICK CONS. -mb-		4				

TABLE 3

3.4.2 PHONOLOGICAL CONSTRAINTS

3.4.2.1 Possible ultimate vowel constraints (See Tables 4 (1&2), on p.44 and 45.)

Table 4/1 suggests that certain constraints were exercised by the ultimate vowels of ideophones (IUVs). The table indicates that the majority of stems selected by NPEs have the IUV-a and -u. The extensions -uk-, -ulul- and -uluk- select no ideophonic stems with the UV-e, -i, and -o; -a is selected on a limited basis, and in most cases -u is involved.

According to Table 4/1 no IUV is completely excluded from selection, however the frequency of selection varies: -a and u are most frequently selected, followed by -o; -e and -i are chosen on a much more limited basis.

XXX (1)

SELECTION OF I.U.Vs by NPEs					
	-a	-e	-i	-o	-u
CONTACTIVE -(a)th-	X		X	X	X
STATIVE ACTUAL -al-	X				X
STATIVE DISPERSIVE -alal-	X				
STATIVE POSITIONAL -am-	X	X			
PERSISTIVE -ezel-	X	X			
REVERSIVE -ul- -uk- -ulul- -uluk-	X				X X X X
EXTENSIVE -bul-	X	X			X
DENOMINATIVE -ph- -phal- -s- -z-				X X X	X X X
IND.AUG.& DIM. -bal-	X		X	X	X
IND.MOTION -b-	X		X	X	X
IND.SUDDEN MOVEMENT -m-	X		X	X	X
IND.FRICITION -hl-			X	X	
CONT.CLICK.CONS. -mb-	X				X

TABLE 4 (1)

XXX(2)					
POSSIBLE OUTCOMES : UVs OF VERBS + NPEs					
	DELETION	VOWEL COALESCENCE	ASSIMILATION	SUBSTITUTION	MAINTENANCE
CONT. -(a)th-		X			
ST.ACT. -al-		X			
ST.DIS. -alal-		X			
ST.POS. -am-		X			
PERS. -ezel-	X				
RES. -ul- -uk- -ulul- -uluk-	X				
EXTENSIVE -bul-			X	X	X
DENOMINATIVE -ph- -phal- -s- -z-			X	X	
IND.AUG & DIM. -bal-			X	X	
IND. MOTION -b-					
IND.SUDDEN MOV. -m-					
IND.FRCTION -hl-					
CONT.CL.CON.S. -mb-					

TABLE 4 (2)

3.4.2.2 Possible ultimate consonant constraints

Table 5 (p.46 and 47) presents the selection of stems by NPEs, according to their ultimate consonants. Some trends, only will be highlighted below. One of the most frequently occurring consonant is the radical explosive k. Overall, explosives, implosive, fricatives, laterals, nasals, and nasal compounds are more frequently selected; affricates, lateral affricates and semi-vowels are rarely found. The NPE with the broadest selection along these lines is possibly -bal- extension. The ejective explosives p, t, k, on the other hand, are selected by only three NPEs either the ejective explosives or the aspirated explosives, but not both. The denominatives as well as -hl- and -mb- are very selective as to UC. While the extensions -ul-, -uk-, -ulul-, -uluk- select a wide variety of UCs, they select most strongly from the nasals and bilabial and alveolar nasal compounds. The ejective lateral affricate kl is only selected by extensive -bul- and the ejective lateral affricate nhl is selected only by the contactive -(a)th-. It will noted that in many cases NPEs do not select stems containing the same UC as is found in the NPE. (For instance -bal- does not select UC -b-, -p-, -t-, -k-, -l-, -hl-, -dl-, etc; -al- and -alal- do not select ul; am- does not select -m- etc. Yet -th- does not select -th-, -ul- does not select -l- etc. The spread across several NPEs indicates the problematic nature of the traditional label for the -mb- extension (containing click consonants).

XXXX (1)															
SELECTION OF ULT. CONS. IN BASES (1)															
EXPLOSIVES					IMPL.	FRICATIVE LATERAL					AFFRICATES				
	RAD.	EJECT	ASP.			VOICED		RAD.	VOIC.	VOIC.	RAD.	EJEC.	RAD.	EJEC.	VOIC.
	k	p t k	ph	th	kh	bh d g	6	f s sh h	v z h	l	hl	dl	tsh	mf ns	mv j
CONT. -(a)th-	X		X	X	X		X		X	X				X	
ST.ACT. -al-	X		X	X	X	X	X								
ST.DIS. -alal-	X		X	X		X	X								
ST.POS. -am-	X		X	X	X	X		X			X				X
PERS. -ezel-	X					X	X					X			
RES. -ul-		X				X	X	X	X	X					X
-uk-		X				X	X		X	X					
-ulul-											X				
-uluk-	X														
EXT.	X								X						
DEN. -ph-				X		X	X				X				
-phal-															
-s-						X	X								
-z-							X			X			X		
IND.AUG & DIM-bal	X		X	X	X	X	X	X	X	X					
IND.M -b-		X			X		X		X	X		X			X
IND.S.M. -m-	X					X	X							X	X
IND. FR. -hl-	X														
CONT.CL.CON.S. -mb-	X														

TABLE 5(1)

XXXX (2)

SELECTION OF ULT. CONS. IN BASES (2)													
	LAT.AFR.			NASALS	NASAL COMPOUNDS					SEMI.V			
	EJECT		V.	m, n, ng, ny	BILAB.		ALVEOLARS			VEL	VEL	P.PAL	
	kl	nhl	ndl		mp	mb	nt	nd	nz	nk	w	y	
CONT. -ath-		X	X	X	X		X	X			X		
STAT. ACT. -al-				X	X	X							
STAT. DISP. -alal-				X	X	X	X						
STAT. POS. -am-													X
PERSISTIVE -ezel-				X		X		X		X			
REVERSIVE -ul-				X	X	X	X		X			X	
-uk-				X	X	X	X		X				
-ulul-				X	X	X	X			X			
-uluk-				X			X						
EXTENSIVE -bul-	X						X	X	X				
DENOM. -ph-													
-phal-													
-s-							X	X	X	X			
-z-							X	X				X	
IND. AUG & DIM. -bal-					X				X	X			
IND.MOTION -b-						X							
IND.SUD. MOV. -m-													
IND.FRICTION -hl-													
CONT.CL.CON.S. -mb-													

TABLE 5 (2)

XXXX(3)										
CLICK CONSONANTS										
	RADICAL			ASPIRATED			VOICED			NASALISED
	c	q	x	ch	qh	xh	gc	gq	gx	nc nq nx ngc ngq ngx
CONT.ath-										X
STAT.ACT.-al-				X			X	X		
STAT.DISP.-alal-				X						
STAT.POS.-am-								X		X
PERSISTIVE-ezel-										
REVERSIVE-ul- -uk- -ulul- -uluk-							X	X		X
EXTENSIVE-bul-		X	X							
DENOM.-ph- -phal- -s- -z-										X
IND.AUG&DIM. -bal-		X			X					
IND.MOTION -b-										
IND.SUD.MOV. -m-				X	X	X				
IND.FRICTION -hl-										
CONT.CL.CON.S. -mb-	X	X			X					

TABLE 5 (3)

3.4.2.3 Summary

No definite conclusions can be drawn as to constraints exercised by the UVs and UCs of the stems. However, the results suggest, at least, that certain constraints or at least trends in selection may have been in place: it is difficult to explain otherwise the various regularities demonstrated. Such constraints, of course would not have been the only ones: further constraints would doubtless also have been exercised by the meaning of the various NPEs. (See examples in Chapter 6.)

3.5 NON-PRODUCTIVE EXTENSIONS (NPEs)

3.5.1 NPEs as derivational suffixes

In the first phase non-productive extensions are simply affixed between the root and the ultimate vowel; thus, they are structurally affixes and they are both structurally and functionally extensions.

3.5.2 Reduplication of stems with NPEs

Once a verb has been derived by means of a non-productive extension, reduplication, a common phonological process in Zulu, may take place as a further means of derivation.

In disyllabic stems the whole stem is reduplicated including the NPE.

EXAMPLE:

phatha (hold) > phathaphathe (hold a little)

thatha (take) > thathathatha (take a few).

But in trisyllabic stems, only the two penultimate syllables are reduplicated, and hence the extension and the ultimate vowel are not reduplicated even in a combination of extensions.

EXAMPLE:

thakatha (bewitch) > thakathakatha (bewitch a little)
dabula (shoot) > dubudubula (shoot a few)
cambalalisa (cause to) > camacambalalisa (cause to lie stretched out) lie stretched out for a short while).

The suffixes -atha, -ula, and -alalisa are not reduplicated.

3.5.3 Combination of extensions

Frequently, more than one extension at a time is involved in a derivation. On occasion, two different NPEs are involved. Verbs containing NPEs may subsequently combine with one or several productive extensions. The combination may be straight, reversed or twisted and repeated. (These complex forms will be dealt with in detail in chapter 4).

EXAMPLE:

thakatha > thakathanisa
straight: -athanis- Contactive + Reciprocal + Causative
thakatha > thakathisana
reversed: -athisan- Contactive + Causative + Reciprocal

Or

twisted: thakatha > thakathisanisa

repeated: -athisanis- Contact + Causative + Reciprocal + Cause.

3.6 MORPHOLOGY OF NPEs

3.6.1 The contactive -(a)th-

(See Doke, 1927:152); Meinhof, 1932: 106; Du Bois, 1959: 14-15; Cantrell, 1967: 191; Wilkes, 1971: 160; Satyo, 1985: 315; Richards, 1987: 207; Nthoba, 1995: 49-154).

The contactive -(a)th- is attached to monosyllabic and disyllabic verb stems, monosyllabic and disyllabic ideophonic stems and duplicated monosyllabic ideophonic stems. The stems involved end in UV-a (verbs) and UV -a, -o, -u (ideophones). The UVs -a results in vowel coalescence; the UVs -o and u are maintained and the IV of the NPE is deleted.

3.6.1.1 Monosyllabic verb stems

These are verbs with only one syllabic place, for instance, -kha, -tha, -pha. The stem -kha is frequently used with the softening affix -i or yi-, but these vowels are not longer available when the NPE is used.

VS + EXT. + UV

-kha $\begin{array}{c} + \\ \vee \\ a \end{array}$ -ath- + -a
 khath- + -a > khatha (smear)

3.6.1.2 Disyllabic verb stems

VS + EXT. + UV
 thaka $\begin{array}{c} + \\ \vee \\ a \end{array}$ -ath- + -a
 thakath- + -a > thakatha (bewitch)

3.6.1.3 Monosyllabic ideophonic stems

Many monosyllabic ideophonic stems e.g. mfa, phu, -mba, etc are reduplicated before the NPE is added.

IS + IS + EXT + UV
 nhla + nhla $\begin{array}{c} + \\ \vee \\ a \end{array}$ -ath- + -a
 nhlanhlath- + -a > nhlanhlatha

Only mba is also available in the simple form without reduplication.

IS + EXT + UV
 mba $\begin{array}{c} + \\ \vee \\ a \end{array}$ -ath- + -a
 mbath- + -a > mbatha (clothe).

(This is in addition to the form mbambatha (pat).)

3.6.1.4 Combined monosyllabic ideophonic stems

In some cases two monosyllabic ideophonic stems can be combined. The extended verb fumbatha is derived from the two monosyllabic ideophonic stems fu and mba.

IS	+	IS	+	EXT	+	UV	
fu	+	mba	$\begin{array}{c} \diagup + \\ \diagdown \\ a \end{array}$	-ath-	+	-a	
		fumbath-			+	-a	> fumbatha (hold)

3.6.1.5 Disyllabic ideophonic stems

IS	+	EXT	+	UV.	
fuku	+	-(a)th	+	-a	
fuku	+	-th-	+	-a	
fuku	+	-Øth-	+	-a	> fukutha (chew raw meat)

3.6.2 The statives

3.6.2.1 The stative actual -al-

(See Doke, 1927: 151; Meinhof, 1932: 106; Cantrell, 1967: 166; Wilkes, 1971: 165; Satyo, 1985: 312).

The stative actual -al- extension is attached to monosyllabic, disyllabic, trisyllabic verb stems, monosyllabic and one disyllabic ideophonic stem and to one relative stem. Ideophones have -a and -u as UVs. The phonological processes involved are vowel coalescence (verbs and ideophones); deletion (ideophones); and one instance of consonantalisation. According to Du Bois (1959: 14) the stative actual is found in both Nguni and Sotho e.g. Z and SS fudumala (warm up); SS and Z khathala (be tired).

3.6.2.1.1 Monosyllabic verb stems

VS	+	EXT	+	UV	
-kh	$\begin{array}{c} + \\ \vee \\ a \end{array}$	-al-	+	-a	
khal-			+	-a	> khala (cry)

3.6.2.1.2 Disyllabic verb stems

VS + EXT + UV

khatha +
a

-al- + -a

khathal- + -a > khathala (be tired)

3.6.2.1.3 Trisyllabic verb stems

US + EXT + UV

nkonkoma +
a

-al- + -a

nkonkomal- + -a > nkonkomala (be puffed up)

3.6.2.1.4 Monosyllabic ideophonic stems

IS + EXT + UV

bha + -al- + -a

bhal- + -a > bhala (write)

3.6.2.1.5 Disyllabic ideophonic stems

IS + EXT + UV

lupha +
a

-al- + -a

luphal- + -a > luphala (be aged)

IS + EXT + EXT + UV

futhu	+	-(a)m-	+	-al-	+	-a	
↓							
fudu	+	-Øm-	+	-al-	+	-a	
fudu	+	-m	+	-al-	+	-a	> fudumala (be warm)

[cf futhumala]

The aspirated explosive th is substituted by a voiced explosive d influenced by the voiced secondary nasal m since th is voiceless. Between the ideophonic stem fudu and the UV -a are two extensions, the stative position -am- and the status actual -al-.

3.6.2.1.6 Disyllabic relative stem

RS	+	EXT	+	UV
duma	+	-al-	+	-a
	∨			
	a			
dumal-			+	-a
				> dumala (be disappointed)

3.6.2.2 The stative dispersive -alal-

(See Doke, 1927: 151; Meinhof 1932: 107; Cantrell, 1967: 167; Wilkes, 1971: 230; Satyo, 1985: 312).

The stative dispersive -alal- duplicates the stative actual -al-. The -alal- extension is added to disyllabic verb stems and to one monosyllabic and several disyllabic ideophonic stems, all with the UV -a, so that vowel coalescence occurs. There are no monosyllabic verb stems selected.

3.6.2.2.1 Disyllabic verb stems

VS	+	EXT	+	UV	
juba	$\begin{array}{c} + \\ \vee \\ a \end{array}$	-alal-	+	-a	
jubalal-			+	-a	> jubalala (soar in the distance)

3.6.2.2.2 Monosyllabic ideophonic stems

Only nya is selected, and requires two NPEs: The stative positional -am- and the stative dispersive -alal-.

IS	+	EXT	+	EXT	+	UV
nya	$\begin{array}{c} + \\ \vee \\ a \end{array}$	-am-	+	-alal-	+	-a
nyamalal-			+	-a	>	nyamalala (disapper)

3.6.2.2.3 Disyllabic ideophonic stems

IS	+	EXT	+	UV	
camba	$\begin{array}{c} + \\ \vee \\ a \end{array}$	-alal-	+	-a	
cambalal-			+	-a	> cambalala (lie down to rest)

3.6.2.3 The stative positional -am-

(See Doke, 1927: 151; Meinhof, 1932: 107; Cantrell, 1967: 191; Wilkes, 1971: 163;

Satyo, 1985: 313).

The stative positional -am- is attached to monosyllabic and disyllabic ideophonic stems, disyllabic verb stems and one monosyllabic interjective stem.

3.6.2.3.1 Disyllabic verb stems

VS	+	EXT	+	UV	
lula	+	-am-	+	-a	
	$\begin{array}{c} \vee \\ a \end{array}$				
	lulam-		+	-a	> lulama (recover)

3.6.2.3.2 Monosyllabic ideophonic stems

Vowel coalescence occurs in this case.


IS	+	EXT	+	UV	
cha	+	-am-	+	-a	
	cham-		+	-a	> chama (urinate).

In the example below deletion of IV-a of extension -(a)m- occurs and the UV-e of bhe is maintained.

IS	+	EXT	+	UV	
bhe	+	(a)m-	+	-a	
bhe	+	Øm-	+	-a	
bhe	+	-m-	+	-a	> bhema (smoke)

(bhe can attract two different NPEs; the stative positional in bhema and the persistentive in bhebhezela).

3.6.2.3.3 Disyllabic ideophonic stems

IS	+	EXT	+	UV
catha	+	-am	+	-a
				
	a			
catham-		+	-	-a > cathama (stalk)

3.6.3 The persistentive -ezel-

(See Doke, 1927: 153; Cantrell, 1967: 223; Wilkes, 1971: 224; Satyo, 1985: 315).

The -ezel- extension is added to numerous disyllabic verb stems, one trisyllabic verb and two disyllabic ideophonic stems. All ideophonic stems end in UV -e. The deletion process occurs throughout this derivation.

3.6.3.1 Disyllabic verb stems

VS	+	EXT	+	UV
bamb(a)	+	-ezel-	+	-a
bambØ	+	-ezel-	+	-a
bamb-	+	-ezel-	+	-a > bambezela (delay/detain)

3.6.3.2 Trisyllabic verb stem

VS	+	EXT	+	UV
ged(e)	+	-ezel	+	-a
gedØ	+	-ezel-	+	-a
ged-	+	-eze-	+	-a > gedezela (shiver with fear)

3.6.3.3 Reduplicated monosyllabic ideophonic stem

IS	+	IS	+	EXT	+	UV
bhe	+	bh(e)	+	-ezel-	+	-a
bhe	+	bhØ	+	-ezel-	+	-a
bhe	+	bh-	+	-ezel-	+	-a > bhebhezela (encourage to go on)

Apparent cases of -ezel-

In addition to the examples in the appendix, verbs such as sondezela, jwayezela, thandazela, also seem to make use of the NPE -ezel-. In the following, it is indicated that this is in fact not the case and that these have used the applied -el- extension.

VS	+	EXT	+	UV	VS	+	EXT	+	UV
----	---	-----	---	----	----	---	-----	---	----

sondez(a)	+	-el-	+	-a	jwayez(a)	+	-el-	+	-a
sondezØ	+	-el-	+	-a	jwayezØ	+	-el-	+	-a
sondez-	+	-el-	+	-a	jwayez-	+	-el-	+	-a
sondezela (bring nearer)					jwayezela (help get used to)				

VS	+	EXT	+	UV	
thand(a)	+	-ele-	+	-a	
thandØ	+	-elel-	+	-a	
thand-	+	-elel-	+	-a	> thandelela (tie up over again)
		↓			
thand-	+	-ezel-	+	-a	> thandezela (tie up over again).

In this case thandelela has changed to thandezela because of change of -l- to -z-.
 -elel- > -ezel-.

A similar change of consonant has been identified elsewhere. Meinhof (1932:32) says that in some other Bantu languages, l becomes palatalised ɭ as in Shambala for instance. In such cases the palatal friction may even eliminate the l altogether, as in the Pokomo where l > j, or Zulu dialects in which l > y. Finally, in the rapid speech of the Swabili and Quala l in many cases disappears completely.

To return to the Zulu example given above, in this case, an applied productive extension -el- is affixed to the two verb stems thanda (to love) and thanda (to tie up), to form thandela (to love for) and thandela (to tie up repeatedly). The former form cannot be further extended, but thandela (to tie up repeatedly) can be further extended to a quadrisyllabic verb stem thandelela (to tie up over again). The quadrisyllabic verb

thandelela has the -ele- extension which is converted to -ezel- by changing the lateral fricative l to a secondary fricative -z-.

3.6.4 The reversives

The reversive extensions are attached to numerous ideophonic stems, to only one verb stem and to only one noun stem. The majority of ideophone stems are disyllabic and end in vowel -u. They all apply the deletion process.

3.6.4.1 The reversive -ul-

(See Doke, 1927: 153; Meinhof, 1932: 106; Cantrell, 1967: 184; Wilkes, 1971: 170; Satyo, 1985: 308).

The extension -ul- is added to one noun stem, a few monosyllabic and trisyllabic ideophonic stems but mostly to disyllabic stems. Two monosyllabic ideophonic stems end in vowel -a and also apply deletion.

3.6.4.1.1 Monosyllabic noun stem

NS	+	EXT	+	UV	
c(u)	+	-ul-	+	-a	
cØ	+	-ul-	+	-a	
c-	+	-ul-	+	-a	> cula (sing)

3.6.4.1.2 Monosyllabic ideophonic stems

IS	+	EXT	+	UV
gq(u)	+	-ul-	+	-a
gqØ	+	-ul-	+	-a
gq-	+	-ul-	+	-a > gqula (thrust down)

3.6.4.1.3. Disyllabic ideophonic stems

IS	+	EXT	+	UV
bov(u)	+	-ul-	+	-a
bovØ	+	-ul-	+	-a
bov-	+	-ul-	+	-a > bovula (thrash/stab).

3.6.4.1.4 Trisyllabic ideophonic stems

IS	+	EXT	+	UV
dlokov(u)	+	-ul-	+	-a
dlokovØ	+	-ul-	+	-a
dlokov-	+	-ul-	+	-a > dlokovula (run wildly)

3.6.4.2. The reversive -uk-

(See Doke, 1927: 153; Meinhof, 1932: 107; Cantrell, 1967: 187; Wilkes, 1971: 172; Satyo, 1985: 305).

The reversive -uk- extension is attached to two monosyllabic ideophonic stems and to trisyllabic ideophonic stems. Verb stems do not attract the reversive -uk- extension. All of these ideophonic stems end in UV -u and the deletion process occurs.

3.6.4.2.1 Monosyllabic ideophonic stems

IS	+	EXT	+	UV		
v(u)	+	-uk-	+	-a		
vØ	+	-uk-	+	-a		
v-	+	-uk-	+	-a	>	vuka (wake up)

3.6.4.2.2 Disyllabic ideophonic stems

IS	+	EXT	+	UV		
dab(u)	+	-uk-	+	-a		
dabØ	+	-uk-	+	-a		
dab-	+	-uk-	+	-a	>	dabuka (be torn)

3.6.4.2.3 Trisyllabic ideophonic stems

IS	+	EXT	+	UV	
thandab(u)	+	-uk-	+	-a	
thandabØ	+	-uk-	+	-a	
thandab-	+	-uk-	+	-a	> thandabuka (deceive)

3.6.4.3 The reversive -ulul-

(See Doke, 1927: 153; Meinhof, 1932: 106; Cantrell, 1967: 184; Wilkes, 1971: 197; Satyo, 1985: 310).

The reversive -ulul can be seen as reduplicating the NPE -ul-. The -ulul extension selects mostly disyllabic ideophonic stems, and one disyllabic verb stem. All the ideophonic stems end in UV-u and the verb stem end in UV-a and apply the deletion process.

3.6.4.3.1 Disyllabic ideophonic stems

IS	+	EXT	+	UV	
vuth(u)	+	-ulul-	+	-a	
vuthØ	+	-ulul-	+	-a	
vuth-	+	-ulul-	+	-a	> vuthulula (take out).

3.6.4.3.2 Disyllabic verb stem

VS	+	EXT	+	UV	
----	---	-----	---	----	--

hlamb(a)	+	-ulul-	+	-a	
hlambØ	+	-ulul-	+	-a	
hlamb-	+	-ulul-	+	-a	> hlambulula (cleanse)

3.6.4.4 The reversive -uluk-

(See Doke, 1927: 153; Meinhof, 1932: 107; Cantrell, 1967: 190; Wilkes, 1971: 212; Satyo, 1985: 311).

The -uluk- extension is a combination of -ul- + -uk > -uluk-. This extension is attached to disyllabic ideophonic stems only which end in the UV -u , where the deletion process occurs.

3.6.4.4.1 Disyllabic ideophonic stems

IS	+	EXT	+	UV	
vumb(u)	+	-uluk-	+	-a	
vumbØ	+	-uluk-	+	-a	
vumb-	+	-uluk-	+	-a	> vumbuluka (uncover)

3.6.5 The extensive -bul-

(See Doke, 1927: 154).

The extensive -bul- is suffixed to one monosyllabic ideophonic stem, quite a number of disyllabic verb stems and a few disyllabic ideophonic stems. The monosyllabic ideophonic stem and disyllabic verb stems end in UV-a and all disyllabic ideophonic stems end in UV -u. All UVs are maintained.

3.6.5.1 Disyllabic verb stems

VS + EXT + UV

qaqa + -bul- + -a > qaqabula (unfold)

VS + EXT + UV

denda + -bul- + -a



dende + -bul- + -a > dendebula (molest cruelly)

The change of the UV -a to UV-e in the verb dendebula can be explained as progressive assimilation, caused by the preceding vowel -e.

3.6.5.2 Monosyllabic ideophonic stem

IS + EXT + UV

gwa + -bul- + -a > gwabula (open by force)

3.6.5.3 Disyllabic ideophonic stems

IS + EXT + UV

veke + -bul- + -a > vekebula

bhaxu	+	-bul-	+	-a	
↓					
bhaxa	+	-bul-	+	-a	> bhaxabula (hit thoroughly)

Here, too, the vowel -u- of the ideophone bhaxu is affected by progressive assimilation due to the preceding vowel -a to form bhaxabula.

3.6.6 The denominative -ph-, -phal-, -s-, -z-.

(See Doke, 1927: 155; Meinhof, 1932: 107; Cantrell, 1967: 184; Wilkes, 1971: 183).

The denominative -ph- and -phal- are attached to noun, ideophone, adjective and interjective stems, while the demoninative -s- and -z- are attached to relative and interjective stems. Dole (1927:155) notes that in Zulu, denominative verbs or verbs derived from noun or adjectival roots are extremely rare, and so far only seven have been identified. This study claims to have identified an additional four, and in the appendix we list eleven denominatives verbs.

3.6.6.1 The denominative -ph-

The denominative -ph- is attached to the following: noun, adjective and interjective stems, to form denominative verbs.

3.6.6.1.1 Monosyllabic noun stem

NS	+	EXT	+	UV	
-tho	+	-ph-	+	-a	> thopha (name the parts)

3.6.6.1.2 Disyllabic noun stems

NS	+	EXT	+	UV	
-hloni	+	-ph-	+	-a	> hlonipha (obey/respect)

3.6.6.1.3 Trisyllabic noun stem

NS	+	EXT	+	UV	
hlakani	+	-ph-	+	-a	> hlakanipha (be wise/clever)

3.6.6.1.4 Monosyllabic adjective stems

ADJ.S.	+	EXT	+	UV	
-bi	+	-ph-	+	-a	> bipha (start to cry)
-de	+	-ph-	+	-a	> depaha (grow deep)
-nci	+	-ph-	+	-a	> ncipha (become small)

3.6.6.1.5 Monosyllabic interjective stems

INT.S.	+	EXT.	+	UV	
nxa	+	-ph-	+	-a	> nxapha (be annoyed).

3.6.6.2 The denominative -phal-

According to Meinhof (1932: 107), -phal- extension is a combination of denominative

-pha- and stative actual -al-; -ph- + -al- > -phal-. The denominative -phal- is attached to two verbs stems, one adjective stem and three ideophonic stems.

3.6.6.2.1 Disyllabic verb stems

VS	+	EXT	+	UV	
nona	+	-phal-	+	-a	
↓					
nono	+	-phal-	+	-a	> nonophala (be sleek)

The UV -a of nona (verb) is substituted by the vowel -o , yielding the extended verb nonophala.

3.6.6.2.2 Disyllabic adjective stems

ADJ.S.	+	EXT	+	UV	
khulu	+	-phal-	+	-a	> khuluphala (be fat).

3.6.6.2.3 Disyllabic ideophonic stems

IS	+	EXT	+	UV	
nxungu		+	-phal-	+	-a > nxunguphala (to be anxious)
ngongo	+	-phal-	+	-a	> ngongophala (to be scared)

3.6.6.3 The denominative -s-

(See Doke, 1927: 156).

We need to distinguish structurally between the causative -is- which is productive and

attached to verbs only, and the denominative -s- which is non-productive and attached to disyllabic relative stems and disyllabic ideophonic stems. The relative stems end in UV -i and the ideophonic stems end in UV -u. The ultimate vowels are maintained because the extension starts with a consonant. There is deletion of nasal m of the relative stem -(m)nandi when the -s- extension is attached.

3.6.6.3.1 Disyllabic relative stems

RS	+	EXT	+	UV		
-(m)nandi	+	-s-	+	-a		
-Ø nandi	+	-s-	+	-a		
-nandi	+	-s-	+	-a	>	nandisa (sweeten).
RS	+	EXT	+	UV		
-manzi	+	-s-	+	-a	>	manzisa (dampen).

3.6.6.3.2 Disyllabic ideophonic stems

IS	+	EXT	+	UV		
godu	+	-s-	+	-a	>	godusa (take home)

3.6.6.4 The denominative -z-

(See Doke, 1927: 156; Wilkes, 1971: 181).

The denominative -z- is added to one disyllabic and two trisyllabic noun stems, two monosyllabic ideophonic stems, a few disyllabic ideophonic stems and two disyllabic interjective stems. Noun stems end in UV- o, -u; ideophonic stems end in UV -e, -o, all of which are maintained in the derivation of denominative verbs.

3.6.6.4.1 Disyllabic noun stem

NS + EXT + UV

-mbulu + -z- + -a > mbuluza (deceive)

3.6.6.4.2 Trisyllabic noun stems

NS + EXT + UV

-mbongolo + -z- + -a > mbongoloza (bray).

3.6.6.4.3 Monosyllabic ideophonic stems

IS + EXT + UV

mbo + -z- + -a > mboza (cover over).

3.6.6.4.4 Disyllabic ideophonic stems

IS + EXT + UV

shuku + -z- + -a > shukuza (shake)

3.6.6.4.5 Disyllabic interjective stems

INT.S. + EXT + UV

hawu + -z- + -a > hawuza (surprise, praise/applaud joyfully)

3.6.7 The extension -bal- (indicating augmentation and diminution)

(See Meinhof, 1932: 107).

The extension -bal- is added to a few monosyllabic and two disyllabic ideophonic stems, with the UV a, i, o, u, which are maintained in the derived verbs.

3.6.7.1 Disyllabic ideophonic stems

IS + EXT + UV

dundu + -bal- + -a > dundubala (reach the summit)

gogo + -bal- + -a > gogobala (rest a while)

bhaza + -bal- + -a > bhazabala (sit lazily)

thithi + -bal- + -a > thithibala (be shy).

3.6.7.2 Disyllabic verb stems

VS + EXT + UV

sitha + -bal- + -a

sithi + -bal- + -a > sithibala (be clouded).

The UV-a of the verb sitha is replaced by -i to form an extended verb sithibala. This may also be some form of partial progressive assimilation, due to the vowel i of sithi.

3.6.7.3 Disyllabic interjective stem

INT.S.	+	EXT	+	UV	
shishi	+	-bal-	+	-a	> shishibala (be stunted/undersized)

Meinhof (1932:107) considers the extension -bal- to be a combination of ba + ala, but gives no further explanation.

3.6.8 Extension -b- (indicating motion)

(See Doke, 1927: 157).

The extension -b- is added to a few monosyllabic and two disyllabic ideophonic stems, with the UVs -a, -i, -o, -u, which are maintained in the derived verbs.

3.6.8.1 Monosyllabic ideophonic stems

IS	+	EXT.	+	UV	
dlo	+	-b-	+	-a	> dloba (rise in anger)
jwi	+	-b-	+	-a	> jwiba (throw off)
shu	+	-b-	+	-a	> shuba (be saturated)
ga	+	-b-	+	-a	> gaba (dig holes).

3.6.8.2 Disyllabic ideophonic stems

IS	+	EXT.	+	UV	
toto	+	-b-	+	-a	> totoba (walk slowly)

khokho + -b- + -a > khokhoba (crawl)

3.6.9 Extension -m- (indicating sudden movement)

(See Doke, 1927: 158).

The derived verbs in this category are formed by attaching the extension -m- to five monosyllabic and a quite a few disyllabic ideophonic stems which end in UVs -a, -i, -o, -u, which are maintained in the derived verbs.

3.6.9.1 Monosyllabic ideophonic stems

IS	+	EXT	+	UV	
du	+	-m-	+	-a	> дума (roar)
mfo	+	-m-	+	-a	> mfoma (ooze)
qha	+	-m-	+	-a	> qhama (be right)

3.6.9.2 Disyllabic ideophonic stems

IS	+	EXT	+	UV	
chichi	+	-m-	+	-a	> chichima (overflow)
gaga	+	-m-	+	-a	> gagama (come upon unawares).

3.6.10 Extension -hl- (indicating friction)

(See Doke, 1927: 158).

There are only two disyllabic ideophonic stems that attach the extension -hl-. The stems end in UVs -i and -o and because the extension starts with a consonant, the UVs are maintained when structuring these derived verbs.

3.6.10.1 Disyllabic ideophonic stems

IS	+	EXT	+	UV		
hliki	+	-hl-	+	-a	>	hlikihla (rub)
soko	+	-hl-	+	-a	>	hlokohla (polish)

3.6.11 Extension -mb- (used with click consonants)

(See Doke, 1927: 158; Wilkes, 1971: 155).

The extension -mb- is attached to four disyllabic ideophonic stems which contain click consonants.

3.6.11.1 Disyllabic ideophonic stems

IS	+	EXT	+	UV		
caca	+	-mb-	+	-a	>	cacamba (split to pieces)
qhaka	+	-mb-	+	-a	>	qhakamba (show out distinctly).

CHAPTER 4

THE COMBINATION OF EXTENSIONS

4.1 INTRODUCTION

In this chapter we will consider ways in which verbs which have been derived by means of NPEs can turn be further extended by PEs. Before presenting some detailed examples, we will discuss some basic principles of such combinations of extensions.

Firstly, the ongoing use of the productive verbal extensions is a major stylistic feature of Zulu, allowing speakers considerable flexibility and precision of expression. While each extension adds its particular significance to the basic verb, the final extension in the chain retains an especial weight. All six productive extensions can be combined (and repeated) in whatever order is found most appropriate to what is being expressed. Chains of four or five are possible, but much less frequently encountered, and bring with them the danger of semantic overload.

Secondly, PEs, and chains of PEs, can also be attached to verbs which have been derived by means of NPEs, leading to the following inflexible string: STEM + NPE(s) + PE(s). Such a structure clearly points to the theory of lexical morphology outlined in Chapter 2. In terms of this theory, Zulu verbal extensions can be subdivided into two strata, with NPEs being added in Stratum 1, and PEs in Stratum 2, and with all Stratum 1 extensions preceding Stratum 2 extensions. In the majority of cases, only one extension is added in Stratum 1, though here too some combinations are possible; but the order of such

combinations is clearly fixed, and no variation is permitted. At Stratum 2, on the other hand, full variation both in terms of the number of extensions selected, and in terms of their order, is possible; constraints exist only with regard to the passive extension.

Thirdly, in the application of all of these extensions, phonological change is restricted to some few processes, which are applied almost without exception. As is predicted by the theory of lexical morphology, phonological and especially morphological processes are considerably less predictable at Stratum 1, encompassing as this does derivation, but on a highly selective basis, from both verbs and ideophones, and even from a few noun, relative and interjective stems. At Stratum 2, both morphological and phonological processes are highly predictable and regular. However, this useful application of lexical morphology to Zulu does run up against one problem: the fact that the productive passive extension regularly produces palatalization of preceding bilabial consonants. (Example: vimbezela - vinjezelwa.) It will be shown that this process is applied both to consonants in any but initial position in the original stem, and also to NPEs such as -bal- and -bul-, once they have become part of a derived verb. Admittedly this palatalization is applied with great regularity, but lexical morphology does not predict phonological changes across the boundary of Stratum 2 extensions.

4.2 THE COMBINATION OF PRODUCTIVE EXTENSIONS

4.2.1 Types of productive extensions

Passive	-w-, -iw-	bon -w-a, ph-iw-a (be seen, be given)
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Neuter	-ek-	thand- ek- a (be loved)
Applied	-el-	hamb -el- a (go for)
Reciprocal	-an-	thand- an- a (love each other)
Causative	-is-	khul- is- a (cause to grow)
Intensive	-isis-	thand- isis-a (love intensively)

Given the limited number of NPEs in Zulu, clearly the bulk of combinations of extensions will involve PEs alone. In the following I give a number of examples of disyllabic, trisyllabic and polysyllabic combinations of PEs, to give some idea of the enormous flexibility in their use. It will be noted that with the more complex combinations, there is great difficulty in rendering these subtle shifts of meaning in English. Clearly, Zulu has morphological and stylistic devices which are not available in English, or which can only be expressed in syntactic terms.

4.2.2 Disyllabic combination of PEs

The examples below of some possible combinations of two productive extensions also indicate how they may be reversed or twisted (see also Satyo, in Gowlett, (1992: 310)). It will be noted that there is great flexibility in the order in which these extensions may be used, with the exception of the passive which is always in final position.

EXAMPLE

<u>Combined Extensions</u>	<u>Type</u>	<u>Extended Verb</u>
-elis-	Applied + Causative	thand-elis-a (cause to love for)
-isel-	Causative + Applied	ngxam-isel-a (cause to be

		annoyed for)
-iswa-	Causative + Passive	khul-isw-a (be caused to grow)
-anis-	Reciprocal + Causative	thand-anis-a (cause to love each other)
-isan-	Causative + Reciprocal	khul-isan-a (cause each other to grow)
-elan-	Applied + Reciprocal	hamb-elan-a (go for each other)
-anel-	Reciprocal + Applied	bon-anel-a (see each other for)
-anek-	Reciprocal + Neuter	bon-anek-a (get each other seen)

EXAMPLES OF USE IN SENTENCES

- (i) Abantu babonanela esitolo.
(The people see / Recip. – Applied / at the store)
(The people see for each other at the store)
- (ii) Ubaba uthandelisa ingane intambo.
(Father wraps / Applied – Causative / the child the rope)
(Father wraps for the child the rope)
- (iii) Izingane zikhuliswa ngabazali.
(The children grow / Cause – Passive/ the parents)
(The children are made to grow by the parents.)

4.2.3 Trisyllabic combination of PEs

A third productive extension adds a further layer of flexibility and complexity to verbal constructions. In this process it is possible to repeat an extension to add further emphasis.

<u>Combined Extensions</u>	<u>Features</u>	<u>Extended Verb</u>
-ekisisw-	Neuter + Intensive + Passive	bon-ek-isis-w-a (be seen closely)
-anisisek-	Reciprocal + Intensive + Neuter	bon-an-isis-ek-a (get each other seen closely)
-anelan-	Reciprocal + Applied + Reciprocal	bon-an-el-an-a (see each other for each other)
-isanel-	Causative + Applied + Reciprocal	khal-is-el-an-a (cause to cry for each other)

EXAMPLES IN SENTENCES

- (i) Izingane zibonanelana zonke izinsuku.
 (The children see / Recip - Applied – Recip / everyday)
 (The children see each other for each other everyday)
- (ii) Izingane zibonanisiseka obala.
 (The children see / Recip - Intens. – Neuter / in the open)
 (The children get each other to be seen closely in the open)
- (iii) Abantwana bakhaliselana ukudla
 (Children cry / Caus - Applied – Recip / food)
 (Children make each other cry for food)

In sentence (i), reciprocation is stressed in that the reciprocal -an- is repeated. In sentences (ii) and (iii), the focus of the combined extension is on the last PE, as none of the PEs involved is repeated. It is at such level of complexity, that the difficulty of rendering these nuances in English becomes very manifest.

4.2.4 Polysyllabic combination of PEs

The much rarer polysyllabic (quadrisyllabic and quintisyllabic) combinations of extensions, too, are all the more likely to involve repetition of an extension. For instance, in the second example below both the causative -is- and the reciprocal -an- are repeated.

EXAMPLE

-isanelan-	Caus.+Recip.+Applied+Recip.	bonisanelana (cause each other to see for each other)
-isanelisan-	Caus.+Recip.+Applied+Caus.+Recip.	khulisanelisana (cause each other to help to grow for each other)

4.3 COMBINATION OF NON-PRODUCTIVE WITH PRODUCTIVE EXTENSIONS

In the following we will give examples of typical combinations of productive extensions

with verbs which have been derived by means of non-productive extensions. We will begin with simple forms and proceed to more complex forms.

4.3.1 Disyllabic combination of NPEs with PEs

The following examples give some indication, on a highly selective basis, of how one productive extension can combine with a non-productive extension. All NPEs can combine in this way with PEs.

4.3.1.1 The contactive -ath-

(i) The contactive + Passive

CONT. + PASS. + UV

thungatha -ath- + -w- + -a > -athw- > thungathwa
 (search) (be searched)

fukutha -(a)th- + -w- + -a > -thw- > fukuthwa
 (chew) (be chewed)

(ii) The contactive + Neuter

CONT. + NEUTER + UV

phatha -ath- + -ek- + -a > -athek- > phatheka
 (hold) (holdable)

fumbatha -ath- + -ek- + -a > -athek- > fumbatheka

(hold)

(holdable)

(iii) The contactive + Applicative

CONT. + APPL. + UV

singatha -ath- + -el- + -a > -athel- > singathela

(support)

(support for)

mumatha -ath- + el- + -a > -athel- > mumathela

(keep in mouth)

(keep in mouth for)

(iv) The Contactive + Reciprocal

CONT. + RECIP. + UV

thakatha -ath + -an- + -a > athan- > thakathana

(bewitch)

(bewitch each other)

4.3.1.2 The Stative Actual -al-, Dispersive -alal-, Positional -am

(i) The Stative Actual + Applicative

STATIVE A + APPL. + UV

limala -al- + -el- + -a > -alel- > limalela

(get wounded)

(get wounded for)

fudumala -am- + -al + -el + -a > -amalel > fudumalela.

(get warm)

(get warm for)

In the case of fudumala there seem to be three extensions that are combined i.e. -am, al-

(both NPEs) and -el- (PE).

(ii) The Stative Actual + Causative

	STATIVE A	+	CAUS.	+	UV		
qakala	-al-	+	-is-	+	-a	>	-alis > qakalisalisa
(start)							(cause to start)
limala	-al-	+	-is-	+	-a	>	-alis > limalisa
(be injured)							(cause to be injured)

(iii) The Stative Dispersive + Causative

	STATIVE D.	+	CAUS.	+	UV		
shabalala	-alal-	+	-is-	+	-a	>	-alis- > shabalalisa
(die out)							(cause to die out)

(iv) The Stative Positional + Causative

	STATIVE P	+	CAUS	+	UV		
khama	-am-	+	-is-	+	-a	>	-amis- > khamisa
(squeeze)							(cause to squeeze)

(v) The Stative Positional + Intensive

	STATIVE P	+	INTENS	+	UV		
phaphama	-am-	+	-isis-	+	-a	>	amisis- > phaphamisisa
(wake up)							(cause to wake up thoroughly)

4.3.1.3 The Persistentive -ezel-

(i) The Persistentive + Neuter

PERS.	+	NEUTER	+	UV	
vimbezela	-ezel-	+	-ek-	+	-a > -ezelek- > vimbezeleka.
(besiege)					(be besiegeable)

(ii) The Persistentive + Causative

PERS.	+	CAUS.	+	UV	
bambezela	-ezel-	+	-is-	+	-a > -ezelis- > bambezelisa
(besiege)					(be besieged)

(iii) The Persistentive + Reciprocal

PERS	+	RECIP.	+	UV	
gubuzela	-ezel	+	-an-	+	-a > -ezelan- > gubezelana
(attack)					(attack each other)

(iv) The Persistentive + Applied

PERS	+	APPL	+	UV	
cindezela	-ezel-	+	-el-	+	-a > -ezelel - > cindezelela
(press down)					(press down for)

4.3.1.4 The Extensive -bul-

(i) The Extensive + Causative

EXTENS + CAUS + UV

qaqabula -bul- + -is- + -a > bulis- > qaqabulisa
(unfold) (cause to unfold)

(ii) The Extensive + Neuter

EXTENS + NEUTER + UV.

khekhebula -bul- + -ek- + -a > -bulek- > khekhebuleka.
(skin extensively) (be skinned extensively)

(iii) The Extensive + Reciprocal

EXTENS + RECIP + UV

hahabula -bul- + -an- + -a > -bulan- > hahabulana
(scold severely) (scold each other severely)

(iv) The Extensive + Applied

EXTENS. + APPLIED + UV

gwabula -bul- + -el- + -a > -bulel- > gwabulela
(open by force) (open by force for)

4.3.1.5 The Reversive -ul-

(i) The Reversive + Passive

REVERS + PASS + UV

vula -ul- + -w- + -a > -ulw- > vulwa
 (open) (be opened)

(ii) The Reversive + Neuter

REVERS + NEUTER + UV
 hluthula -ul- + -ek- + -a > -ulek- > hluthuleka
 (snatch out) (be snatched).

(iii) The Reversive -ul- + Applied

REVERS + APPLIED + UV
 dabula -ul- + -el- + -a > -ulel- > dabulela
 (tear off) (tear off for)

(iv) The Reversive + Causative

REVERS + CAUS + UV
 gawula -ul- + -is + -a > -ulis > gawulisa
 (chop) (cause to chop down)

4.3.1.6. The Reversive -uk-

(i) The Reversive + Neuter

REVERS + NEUTER + UV
 simbuka -uk- + -ek- + -a > -ukek- > simbukeka
 (uproot) (be uprootable)

(ii) The Reversive + Applied

REVERS	+	APPLIED	+	UV	
hluthuka	-uk-	+	-el-	+	-a > -ukel- > hluthukela.
(snatch out)					(snatch out for)

4.3.1.7 The Reversive -ulul-

(i) The Reversive + Applied

REVERS	+	APPLIED	+	UV	
hlambulula	-ulul-	+	-el-	+	-a > -ululela- > lambululela
(purify)					(purify for)

(ii) The Reversive + Neuter

REVERS	+	NEUTER	+	UV	
thukulula	-ulul-	+	-ek-	+	-a > -ululek- > thukululeka
(untie)					(be untied)

(iii) The Reversive + Causative

REVERS	+	CAUSE	+	UV	
thombulula	-ulul-	+	-is-	+	-a > -ululis- > thombululisa
(unwind)					(cause to unwind)

(iv) The Reversive + Reciprocal

REVERS	+	RECIP	+	UV	
thukulula	-ulul-	+	-an-	+	-a > -ululan- > thukululana
(untie)					(untie each ther)

4.3.1.8 The Reversive -uluk-

(i) The Reversive + Applicative.

REVERS	+	APPLIED	+	UV	
dazuluka	-ukuk-	+	-el-	+	-a > -ulukel- > dazulukela
(cry out)					(cry out for)

(ii) The Reversive + Neuter

REVERS.	+	NEUTER	+	UV	
bhongculuka	-uluk-	+	-ek-	+	-a > -ulukek- > bhongculukeka
(take out)					(be taken out)

(iii) The Reversive + Causative.

REVERS.	+	CAUS	+	UV	
nyomuluka	-uluk-	+	-is-	+	-a > -ulukis- > nyomulukisa.
(come out)					(cause to come out)

4.3.1.9 The Denominative -ph-

(i) The Denominative + Causative.

DENOM	+	CAUS	+	UV
-------	---	------	---	----

hlonipha -ph- + -is- + -a- > -phis- > hloniphisa
 (respect) (cause to respect)

(ii) The Denominative + Neuter.

DENOM + NEUTER + UV
 hlonipha -ph- + -ek- + -a > -phek- > hlonipheka
 (respect) (be respected)

(iii) The Denominative + Applied

DENOM. + APPLIED + UV
 hlakanipha -ph- + -el- + -a > -phel- > hlakaniphela
 (be clever) (be clever for)

4.3.1.10 The Denominative -phal-

(i) The Denominative + Causative

DENOM	+	CAUS	+	UV	
khuluphala	-phal-	+	-is-	+	-a > -phalis- > khuluphalisa.
(be sleek)					(cause to be sleek)

(ii) The Denominative + Applied

DENOM	+	APPLIED	+	UV	
nonophala	-phal-	+	-el-	+	-a > -phalel- > nonophalela
(get fat)					(get fat for)

(iii) The Denominative + Neuter

DENOM.	+	NEUTER	+	UV	
nyinyiphala	-phal-	+	-ek-	+	-a > -phalek- > nyinyiphaleka
(start to cry)					(be starting to cry)

4.3.1.11 The Denominative -s

(i) The Denominative + Causative.

DENOM.	+	CAUS.	+	UV	
manzisa	-s-	+	-is-	+	-a > -sis- > manzisisa.
(dampen)					(cause to be damp)

(ii) The Denominative + Intensive

DENOM	+	INTENS	+	UV	
nandisa	-s-	+	-isis-	+	-a > -sisis- > nandisisisa
(sweeten)					(cause to be very sweet)

4.3.1.12 The Denominative -z-

(i) The Denominative + Reciprocal

DENOM	+	RECIP	+	UV	
mboza	-z-	+	-an-	+	-a > -zan- > mbozana
(cover over)					(cover over each other)

(ii) The Denominative + Neuter

DENOM	+	NEUTER	+	UV	
putuza	-z-	+	-ek-	+	-a > -zek- > putuzeka
(crumble)					(be crumbled)

(iii) The Denominative + Applicative

DENOM.	+	APPLIED	+	UV	
mbuluza	-z-	+	-el-	+	-a > -zel- > mbuluzela
(deceive)					(deceive for)

(iv) The Deonomivative + Causative

DENOM	+	CAUS	+	UV	
mbongoloza -z-	+	-is-	+	-a > -zis-	> mbongolozisa.
(cry loudly)					(cause to cry loudly)

4.3.1.13 The Extension -bal- (indicating Augmentation and Diminution)

(i) Augmentative + Causative

AUG	+	CAUS	+	UV	
dundubala -bal-	+	-is-	+	-a > -balis-	> dundubalisa
(reach top)					(cause to reach top)

(ii) Augmentative + Intensive

AUG	+	INTENS	+	UV	
qhoqhobalisisa -bal-	+	-isis-	+	-a > -balisis-	> qhoqhobalisisa
(be bullied)					(cause to be very bullied)

(iii) Diminutive + Causative.

DIM	+	CAUS	+	UV	
dikibala -bal-	+	-is-	+	-a > -balis-	> dikibalisa
(be fed up)					(cause to be fed up)

(iv) Diminutive + Applied.

	DIM		+		APPL		+		UV	
nyukubala	-bal-		+		-el-		+		-a	> -balel- > nyukubalela
(screw face)										(screw face for)

4.4.1 Trisyllabic combination of NPEs with PEs

We move now to the cases in which two different productive extensions are suffixed onto non-productive extensions in extended verb stems. It should be noted that the greatest stress lies with the PE placed in final position. A more limited number of examples is given here, as the basic principles will be clear.

As it is virtually impossible to render these subtle shifts of meaning in English, these examples will not be translated.

(i) Reversive -uluk- + Applicative + Reciprocal

sombulukelana -ulukelan-

-uluk- non-productive reversive extension.

-el- productive applicative extension.

-an- productive reciprocal extension.

(ii) Reversive -uk- + Applicative + Causative.

vumbulukelisa -ukelis-

-uk- non-productive reversive extension

-el- productive applicative extension

-is- productive causative extension

(iii) Contactive -ath- + Reciprocal + Intensive

thakathanisisa -athanisis-

-ath- non-productive contactive extension

-an- productive reciprocal extension

-isis- productive intensive extension

(iv) Stative Actual -al- + Applicative + Reciprocal

bhalelana -alelan-

-al- non-productive stative actual extension.

-el- productive applicative extension

-an- productive reciprocal extension.

(v) Stative Dispersive -alal- + Causative + Neuter.

nyamalaliseka -alalisek-

-alal- non-productive stative dispersive extension

-is- productive causative extension

-ek- productive neuter extension

(vi) Stative Positional -am- + Causative + Passive

phaphamiswa or phaphanyiswa -amisw- or -anyisw-

-am-/-any- Non-productive stative positional extension

-is- productive causative extension

-w- productive passive extension

The palatalization produced by the passive extension in the above example is discussed under 4.5 below.

(vii) Persistentive -ezel- + Intensive + Passive

-ezel- non-productive persistentive extension

-isis- productive intensive extension

-w- productive passive extension

(viii) Extensive -bul- + Applicative + Causative

bhaxabulisela -bulisel-

-bul- non productive extensive extension

-is- productive causative extension.

-el- productive applicative extension.

(ix) Denominative -ph- + Causative + Reciprocal

hlakaniphisana -phisan-

-ph- non-productive denominative extension

-is- productive causative extension -an- productive reciprocal extension.

-an- reciprocal extension

(x) Denominative -phal- + Applicative + Reciprocal

khuluphalelana -phalelan-

-phal- non-productive denominative extension

-el- productive applicative extension

-an- productive reciprocal extension

(xi) Denominative -s- + Causative + Neuter

manziseka -sisek-

The extension -s- of manzisa is not the causative -is- , as in hambisa. The adjective stem is manzi- + denominative extension -s- + ultimate vowel -a.

- s- non-productive denominative extension
- is- productive causative extension
- ek- productive neuter extension

(xii) Denominative -z- + Applicative + Reciprocal

mbuluzelana -zelan-

- z- non-productive denominative extensions
- el- productive applicative extension
- an- productive reciprocal extension

4.4.2. The Quadrisyllabic combination of NPEs and PEs

A few examples are listed, including those involving the typical repetition for emphasis.

(i) The Contactive + Applied + Causative + Reciprocal

singathelisana -athelisan.

- ath- non-productive contactive extension.
- el- productive applicative extension.
- is- productive causative extension
- an- productive reciprocal extension.

(ii) The Stative P. + Causative + Applicative + Passive

phakanyiselwa -amiselw-/-anyiselw-

- am-/-any- non-productive stative P. extension
- is- productive causative extension
- el- productive applicative extension.
- w- productive passive extension

(iii) The Persistent + Applicative + Reciprocal + Causative

bambezelelanisa -ezelisanis-

- ezel- non-productive persistent extension
- is- productive causative extension
- an- productive reciprocal extension
- is- productive causative extension

4.4.3 The Quintisyllabic combination of extensions

These combinations are possible, but rare and are highly likely to involve repetition.

(i) The reversive -uk- + Applicative + Causative + Reciprocal + Causative.

vumbukelisanisa -ukelisanis-

- uk- + -el- + -is- + -an- + -is-
- uk- non-productive applied extension
- el- productive causative extension
- is- productive causative extension
- an- productive reciprocal extension
- is- productive causative extension

(ii) The Contactive + Causative + Applicative + Reciprocal + Cause. + Passive

In the example below, the combination end with the passive -w- and there is no palatalisation occurring with the stem or the extension.

thakathiselaniswa - athiselanishw-

-ath- + -is- + -el- + -an- + -is- + -w-

-ath- non-productive contactive extension

-is- productive causative extension

-el- productive applied extension

-an- productive reciprocal extension

-is- productive causative extension

-w- productive passive extension

4.5 THE EFFECT OF PASSIVE EXTENSIONS ON NPEs AND THEIR DERIVATIONS

As indicated above, the phonological changes regularly produced by the passive extension are unexpected in terms of the theory of lexical morphology. In this section we present a series of examples, demonstrating that the palatalization of preceding bilabial consonants effects both original stems and NPEs.

4.5.1 Palatalization occurring within the original stem (OS)

The full range of possible sounds is involved.

b	>	tsh
bh	>	j
d	>	j
t	>	tsh
mb	>	nj
mp	>	ntsh
ngc	>	nj

COMBINATION:	DENOM	-z-	+	PASSIVE	-w-	>	-zw-
	DENOM		+	PASSIVE		+	UV
toboza		-z-	+	-w-		+	-a > totshozwa
(feel by pressing)							(be felt by pressing)

Palatalization : b > tsh

COMBINATION:	PERSIS	-ezel-	+	PASSIVE	-w-	>	-ezelw-
	PERSIS.		+	PASSIVE		+	UV
bhebhezela		-ezel-	+	-w-		+	-a > bhejezelwa
(encourage to go on)							(be encouraged to go on)

Palatalization : bh > j

COMBINATION: PERSIS -ezel- + PASSIVE -w- > -ezelw-
 PERSIS + PASSIVE + UV
 gedezela -ezel- + -w- + -a > gejezelwa
 (shiver with fear) (be shivering with fear)

Palatalization : d > j

COMBINATION : REVERS -ul- + PASSIVE -w- > -ulw-
 REVERS + PASSIVE + UV
 petula -ul- + -w- + -a > petshulwa
 (turn inside out) (be turned inside out)

Palatalization : t > tsh

COMBINATION: REVERS -ulul- + PASSIVE -w- > -ululw-
 REVERS + PASSIVE + UV
 vumbulula -ulul- + -w- + -a > vunjululwa
 (cover) (be covered)

Palatalization : mb > nj

COMBINATION: CONTACT -ath- + PASSIVE -w- > -athw-
 CONTACT + PASSIVE + UV
 phumphutha -ath- + -w- + -a > phuntshuthwa
 (search) (be searched)

Palatalization : mp > ntsh

COMBINATION : CONTACT -ath- + PASSIVE -w- > -athw-
 CONTACT + PASSIVE + UV
 cangcatha -ath- + -w- + -a > canjathwa
 (make straight) (be made straight)

Palatalization : ngc > nj

4.5.2 Palatalization occurring within NPEs

The following sounds only are involved.

b > tsh
 m > ny
 ph > ph

COMBINATION: EXTENS -bul- + PASSIVE -w- > -bulw- > -tshulw-
 EXTENS + PASSIVE + UV
 gagabula -bul- + -w- + -a > qaqatshulwa
 (unfold) (be unfolded)

Palatalization : b > tsh

COMBINATION: EXTENS -m- + PASSIVE -w- > -mw- > -mjw-
 EXTENS + PASSIVE + UV
 mfoma -m- + -w- + -a > mfonywa
 (ooze) (be oozed)

Palatalization : m > ny

COMBINATION :	DENOM	-ph-	+	PASSIVE	-w-	>	-phw-	>	-shw-
	DENOM		+	PASSIVE		+	UV		
hlonipha	-ph-		+	-w-		+	-a	>	hlonishwa
(respect)									(be respected)

Palatalization : ph > sh

4.5.3. Palatalization occurring within both the stem and the NPE

UC and NPE	UC and NPE
mb and b	nj and tsh
d and m	j and ny
nd and b	nj and tsh

	UC	+	NPE	+	PASSIVE	+	UV	
bhambabula	-mb-	+	-bul	+	-w-	+	-a	
	-nj-	+	-tshul	+	-a-	+	-a	> bhanjatshulwa
(be hit all over)								(be hit all over)

	UC	+	NPE	+	PASSIVE	+	UV	
bhadama	-d-	+	-am-	+	-w-	+	-a	
	-j-	+	-any-	+	-w-	+	-a	> bhajanywa
(catch red - handed)								(be caught red - handed)

	UC	+	NPE	+	PASSIVE	+	UV	
dundubala	-nd-	+	-bal-	+	-w-	+	-a	
(reach the summit)	-nj-	+	-tshal	+	-w-	+	-a	> dunjutshalwa (the summit searched)

4.6 SUMMARY

In this chapter we have discussed ways in which verbs derived by means of NPEs are regularly combined with single or multiple PEs, leading to a subtle and flexible modification of meaning. While the relative position of NPEs and of PEs can be adequately explained in terms of the theory of lexical morphology, it must be noted that the palatalization in both stems and NPEs regularly produced by the productive passive extension is not predicted by this theory and requires future explanation.

CHAPTER 5

THE SYNTAX OF NPEs

5.1 INTRODUCTION

This brief chapter will examine the impact of NPEs on the syntax of sentences. Clearly, the standard syntactical rules of Zulu (such as concordial agreement, the very extensive range of verbal conjugations etc) will apply fully, once the verbs are derived; it is not necessary to discuss these aspects. In this chapter, therefore, the main focus will be on transitivity. While there are rarely changes in transitivity with regard to the derivations from verbs, derivation from ideophones does, on occasion, involve a change in transitivity. However, in many cases the changes of meaning involved render this question meaningless; we will therefore focus on those cases where the meaning stays relatively constant.

It should be noted that in this regard there is, once again, a substantial difference between the NPEs and the PEs. With the PEs, numerous shifts in transitivity can be observed; indeed, as will be discussed in Chapter 6, the 'meaning' of PEs is substantially linked to their effect on transitivity.

In the examples below, we will frequently also include the passive extension (which is, of course, a PE), as the main change in transitivity involving the NPEs (the original subject is now placed in an object position) is similar, though not identical, to the effect of the passive extension on verbal stems.

5.2 TRANSITIVITY

Let us at the outset distinguish between the terms transitive, intransitive, and semi-transitive.

TRANSITIVE: The predicate takes an object.

- (i) Mono - transitive - the predicate takes only a primary object: e.g.

Umfana ubambezele intombazane.

(The boy delays the girl)

- (ii) Di - transitive - the predicate takes a primary and a secondary object:

e.g. Insizwa ibhalela intombi incwadi.

(The lad wrote the girl a letter)

INTRANSITIVE: The predicate takes no object.

e.g. Indoda iyalulama.

(The man is recovering)

SEMI - TRANSITIVE: The predicate takes an adverbial or adjunct:

e.g. Umfana ulimele idolo.

(The boy is injured in the knee)

Clearly, while some predicates are used with more than one object, others have one object or none at all. However, some predicates may be flexible in selecting their objects: one and the same predicate may be used with different structures of transitivity. (See Hlongwane 1976: -vii-; Satyo 1985: 104; Katamba 1993: 277.)

5.3 PRINCIPLES OF APPLICATION TO VERBS DERIVED BY NPEs

5.3.1 Transitivity effects of NPEs on verbal stems

Our examples are limited due to the fact that a substantial change in meaning is often involved, in which case a discussion of possible changes in transitivity seems to be meaningless. With verbal stems, in many cases, no change in transitivity is involved.

- (i) Ubaba ubamba indoda
(Father holds the man.)
- (ii) Ubaba ubambezela indoda.
(Father delays the man.)

In other cases, there is a change in transitivity.

- (i) Indoda ikhatha amafutha.
(The man smears the oil.)
- (ii) Indoda ikhathala ntambama.

The extended verb *khatha* is transitive because of the object *amafutha*, whereas the addition of a further extension to create *khathala* produces a semi-transitive verb, which is followed by an adverbial. (Of course, in many cases a Zulu transitive verb can also be used without the direct object, i.e. intransitively, by means of the infix *-ya-*.)

Some NPEs are fully predictive as regards the transitivity of verbs they derive: for instance, verbs

derived by the stative positional –am- may all be intransitive *or* semi-transitive. However, some NPEs are less predictable: *bulala* of extension -al- is transitive while *limala* of the same extension is semi-transitive; *cibalala* of extension -alal- is transitive while all others derived from –alal- are intransitive or semi-transitive. (See Doke 1927: 151-159; Wilkes 1971: 148:188).

5.3.2 Transitivity effects of NPEs on ideophone stems

Here a substantial number of examples can be studied, in that the meaning of the derived verb only infrequently changes. Ideophones have an unusual transitivity status in that when used in a sentence they do not take an object; instead they take an adverbial which makes the predicate semi-transitive. This status of semi-transitivity holds for all the ideophones without any exceptions. For most derived verbs, on the other hand, the use of an adverbial is no longer obligatory. In some cases, the derived verb is used with the same subject, so that effects on transitivity are limited; in others, the original subject is now used in the object position, requiring the introduction of a new subject.

With no change in intransitivity:

- (i) Inja ithi nya ntambama.
(The dog disappears in the afternoon.)
- (ii) Inga inyamalala ntambama.
(The dog disappears in the afternoon.)

The predicates of both (i) and (ii) are semi-transitive. There is no change in transitivity from the ideophone to the derived verb.

With change in transitivity: introduction of an obligatory object.

- (i) Umfana uthi mfa ngamazinyo.
(The boy feels with the teeth.)
- (ii) Umfana umfamfatha inyama ngamazinyo.
(The boy feels the meat with the teeth.)

In example ii) the direct object is now obligatory, and hence we have a change from a semi-transitive ideophone to a transitive predicate.

With change in transitivity: the former subject is used in the object position.

- (i) Inyama ithi fuku emlonyeni.
(The meat moves in the mouth.)
- (ii) Indoda ifukutha inyama emlonyeni.
(The man eats the raw meat.)

5.4 EXAMPLES OF TRANSITIVITY

5.4.1. The Contactive -ath-

-ath- extension selects only transitive verbs; and all derived verbs from these verb stems are transitive. In these cases there is no change in transitivity. In derivations from ideophones, however, there is a change in transitivity.

Verb - Verb example:

- (i) Ubaba ubamba indoda.
(Father holds the man).
- (ii) Umfana ubambezela indoda.

(Father delays the man).

(iii) Ubaba uyabambezele.

(Father is delaying).

Ideophone - Verb example:

(i) Inyama ithi fuku emlonyeni. (The adverbial is compulsory.)

(The meat moves in the mouth).

(ii) Indoda ifukutha inyama emlonyeni. (The compulsory adverbial is replaced by an object.)

(The man eats the raw meat).

(iii) Indoda iyafukutha.

(The man is eating the raw meat).

(iv) Inyama ifukuthwa yindoda.

(The raw meat is eaten by the man).

The productive passive extension is included to indicate how the original subject, *inyama*, here returns to the subject position.

5.4.2. The Stative Actual -al-

-al- extension selects transitive verb stem; and the derived verb stems are either transitive, intransitive or semi-transitive. Changes in transitivity are unpredictable. Verbs derived from

ideophonic stems, too, may or may not change their transitivity.

Verb - Verb example:

- (i) Ingane ikha amanzi.
(The child fetches the water).

- (ii) Ingane ikhala izinyembezi.
(The child sheds tears).

- (iii) Ingane iyakhala.
(The child is crying).

Ideophone - Verb example:

- (i) Inyama ithi futhu emlilweni.
(The meat warms up in the fire).

- (ii) Inyama ifudumala emlilweni.
(The meat warms up in the fire).

- (iii) Inyama iyafudumala.
(The meat is warming up).

5.4.3. The Stative Dispersive -alal-

-alal- extension selects transitive verb stems, but produces derived stems which may be transitive, intransitive or semi-transitive. Similarly, verbs derived from ideophones are unpredictable as regards their transitivity.

Verb - Verb example:

(i) Indoda iciba umkhonto.

(The man shoots the spear).

(ii) Indoda icibalala umkhonto.

(The man flies the spear like a shot). (transitive use of verb – object obligatory)

(iii) Umkhonto uyacibalala.

(The spear is flying like a shot). (intransitive use of verb; change of subject; no object possible.)

(iv) Umkhonto ucitshalalwa yindoda.

(The spear is sent off like a shot by the man).

Ideophone - Verb example:

(i) Izincwadi zithe caka etafuleni.

(Books are scattered on the table).

(ii) Umfundi ucakalala izincwadi etafuleni.

(The learner scatters the books on the table).

- (iii) Izincwadi zicakalalwa umfundi etafuleni.

(The books are scattered by the learner on the table).

5.4.4 The Stative Positional -am-

-am- extension selects transitive verb stems, but produces either intransitive or semi-transitive verbs. With ideophones, all of which are semi-transitive, the derived verbs may be transitive, intransitive or semi-transitive.

Verb - verb structure.

- (i) Ingane ilula ingalo.

(The child stretches the arm).

- (ii) Ingane ilulama esifweni.

(The child recovers from the disease).

Ideophone - verb example:.

- (i) Ingane ithi phapha ebusuku.

(The child wakes up at night).

- (ii) Ingane iphaphama ekuseni.

(The child wakes up in the morning).

5.4.5. The Persistent -ezel-

-ezel- extension selects transitive and semi-transitive verb stems, and produces transitive, intransitive and semi-transitive derivands. There is only one ideophonic stem which derives a transitive verb.

Verb - Verb example.

- (i) Indoda ibamba isela.
(The man catches the thief).

- (ii) Indoda ibambezela isela.
(The man delays the thief).

- (iii) Indoda iyabambezela.
(The man is delaying).

Ideophone - Verb example.

- (i) Umlilo uvutha uthi bhe emnyango.
(The fire burns in high flames outside).

- (ii) Indoda ibhebhezela abafana.
(The man encourages the boys to go on).

5.4.6. The Reversives

5.4.6.1 The Reversive -ul-

-ul- extension mostly attaches to ideophonic stems, and the resulting verbs are transitive or intransitive.

Ideophone - Verb example:

- (i) Umuthi uthe gawu ehlathini.
(The tree falls down in the forest).

- (ii) Ubaba ugawula imithi.
(Father chops down the trees).

- (iii) Umuthi ugawulwa ngubaba.
(The tree is chopped down by father).

5.4.6.2. The Reversive -uk-

The reversive -uk- only selects ideophonic stems, and the derived verb stems are semi-transitive (or intransitive).

Ideophone - Verb example:.

- (i) Unwele luthi ngqothu ekhanda.
(The hair comes out from the head).

- (ii) Unwele lungqothuka ekhanda.
(The hair comes out from the head).

- (iii) Unwele luyangqothuka.
(The hair is coming out).

5.4.6.3. The Reversive -ulul-

Here, too, ideophones predominate as the source of derived verbs which, with one exception, are all transitive.

Ideophone - Verb example:

- (i) Imbongolo ithi thuku esihlahleni.
(The donkey unties from the tree).
- (ii) Umfana uthukulula imbongolo (esihlahleni).
(The boy unties the donkey) (from the tree).
- (iii) Imbongolo ithukululwa ngumfana.
(The donkey is untied by the boy).

5.4.6.4. The Reversive -uluk-

The ideophones selected result in verbs which are intransitive or semi-transitive.

Ideophone - Verb example:

- (i) Amanzi athi dambu ebhodweni.
(Water pours into the pot).

- (ii) Umama udambuluka amanzi ebhodweni.
(Mother pours water slowly into the pot).
- (iii) Umama uyadambuluka.
(Mother is pouring slowly).
- (iv) Amanzi adanjulukwa ngumama ebhodweni.
(Water is poured slowly by mother into the pot).

5.4.7. The Extensive -bul-

-bul- extension selects transitive verb stems without any change in transitivity. The semi-transitive ideophones, on the other hand, produce derived verb stems which are transitive.

Verb - Verb example:

- (i) Ubaba ubhamba ingane.
(Father hits the child).
- (ii) Ubaba ubhambabula ingane.
(Father hits the child all over the body.)

Ideophone - Verb example:

- (i) Induku ithi bhaxu emzimbeni.
(The stick hits the body.)

- (ii) Umama ubhaxabula izingane ngenduku.
(Mother flogs the children with a stick.)
- (iii) Umama uyabhaxabula.
(Mother is flogging).
- (iv) Izingane zibhaxatshulwa ngumama ngenduku.
(Children are flogged by mother with a stick.)

5.4.8. The Denominatives

Only the denominatives -s- and -z- select ideophones, and the derived verbs are generally transitive, with the exception of fukuza which is semi-transitive, being followed by an adverbial.

5.4.8.1. The Denominative -s-

Ideophone - Verb example:

- (i) Izinkomo zithi godu emini.
(The cattle go home at noon).
- (ii) Umfana ugodusa izinkomo emini.
(The boy sends cattle home).
- (iii) Izinkomo zigoduswa ngumfana emini.
(The cattle are sent home by the boy).

mba (of covering)	>	mbula (uncover)
muu (of skedding abundant tears)	>	mula (celebrate good behaviour)
ndla (of sighting)	>	ndlula (fold)
ntu (of blinking the eyes)	>	ntula (want / search)
phu (of groping blindly)	>	phula (break / take pot away from the fire)

From disyllabic ideophonic stems.

balu (of pointing out)	>	balula (count / point out)
bhadu (of walking)	>	bhadula (walk on foot)
bovu (of stabbing)	>	bovula (thrash / stab)
caku (of scooping up liquid)	>	cakula (fetch a little / scoop up liquid)
cathu (of walking slowly)	>	cathula (baby learns to walk /walk very slowly)
cwethu (of clearing)	>	cwethula (weather clearing up)
dabu (of tearing)	>	dabula (tear off)
dazu (of splitting apart)	>	dazula (split apart)
dephu (of tearing)	>	dephula (tear off)
dluku (of shaking)	>	dlukula (take out by force)
dlwengu (of raping)	>	dlwengula (rape)
fuzu (of bursting)	>	fuzula (remove by force)
gadu (of galloping)	>	gadula (run jumping / gallop)

gagu (of selecting / shouting out)	>	gagula (mention / speak bodily)
gawu (of chopping down)	>	gawula (chop down)
gqanqu (of jumping)	>	gqanqula (jump around)
gudu (of plastering)	>	gudula (plaster with mud)
guqu (of changing)	>	guqula (change)
gwabu (of hurried action)	>	gwabula (let loose forcefully and hurriedly)
habu (of drinking)	>	habula (drink a little)
hadu (of racing)	>	hadula (race along)
hhemu (of showing two colours)	>	hhemula (shade two colours)
hhephu (of slashing)	>	hhephula (scrape off)
hlathu (of working for a while)	>	hlathula (work for a while only)
hlephu (of breaking off)	>	hlephula (break off)
jabu (of being happy)	>	jabula (be happy)
jumpu (wrenching off)	>	jumpula (wrench off)
khafu (of spitting to)	>	khafula (spit to / out)
khubu (of replanting)	>	khubula (replant)
khukhu (of sweeping)	>	khukhula (erode / sweep)
khumu (of taking off)	>	khumula (unclothe / take off)
lamu (of interference)	>	lamula (interfere / separate fighters)
gqimu (of collapsing in)	>	ngqimula (throw down in a heap)

monyu (of pulling out)	>	monyula (pull out)
nosu (of pulling apart)	>	nosula (tear / pull apart)
ngqothu (of coming out)	>	ngqothula (come out)
nqamu (of amputating apart)	>	nqamula (cut off / amputate)
petu (of turning inside out)	>	petula (turn inside out)
phaku (of finishing off)	>	phuakula (finish up)
phefu (of breathing)	>	phefumula (breathe / pass an opinion)
phendu (of turning)	>	phendula (turn around / over)
phucu (of rubbing)	>	phucula (rub smooth)
phundu (of misleading)	>	phundula (lead astray)
qugu (of opposing)	>	qagula (mention by name / oppose in speech)
qwagu (of calling)	>	qwagula (call by name)
shudu (of treading)	>	shudula (tread / shuffle on the ground)
shuku (of rubbing)	>	shukula (rub clean)
shumpu (of wringing off)	>	shumpula (wring / wrench off)
thimu (of sneezing)	>	thimula (sneeze)
xhegu (of growing off)	>	xhegula (grow old)
xhuku (of screwing mouth)	>	xhukula (screw mouth in case of anger)
zuthu (of striking a crippling blow)	>	zuthula (strike a crippling blow)

From trisyllabic ideophonic stems

dlokovu (of running)	>	dlokovula (run widely)
gabangu (of half doing something)	>	gabangula (act vehemently)
gabavu (of acting slightly)	>	gabavula (gallop slightly and proudly)
gadafu (of galloping lazily)	>	gadafula (gallop lazily)
gadavu (of galloping quickly)	>	gadavula (gallop quickly)

7. THE REVERSIVE -uk-

From monosyllabic ideophonic stems

phu (of groping blindly)	>	phuka (be broken)
vu (of rising up)	>	vuka (wake up)

From disyllabic ideophonic stems

cothu (of taking out)	>	cothuka (taken out)
dabu (of tearing)	>	dabuka (be torn)
dazu (of stretching legs)	>	dazuka (stretch legs sideways)
dephu (of falling down)	>	dephuka (fall apart)
gebhu (of cracking)	>	gebhuka (crack)
genu (of falling)	>	genuka (fall backwards)
godu (of going home)	>	goduka (go home)

gqabu (of cutting)	>	gqabuka (cut off)
gubhu (of cutting)	>	gubhuka (stand up fast)
guqu (of changing)	>	guquka (change)
gxambu (of popping)	>	gxambuka (poke nose / be involved)
hashu (of liking)	>	hashuka (like to eat meat)
hlamu (of leaving)	>	hlamu (leave friends / organisation)
hlephu (of breaking)	>	hlephuka (broken off)
hlubu (of shinning)	>	hlubuka (skin off / leave church of worship)
hluthu (of snatching)	>	hluthuka (be angry / snatch out)
hwamu (of drying up)	>	hwamuka (dry up)
julu (of sweating)	>	juluka (sweat)
khumu (of taking clothes off)	>	khumula (take clothes off)
khuphu (of going up)	>	khuphuka (go up)
khwebu (of snatching)	>	khwebuka (snatch out)
monyu (of pulling out)	>	monyuka (pull out)
ngqothu (of coming out)	>	ngqothuka (come out)
nqothu (of taking out)	>	nqothuka (take out)
petu (of turning inside out)	>	petuka (turn inside out)
phahlu (of saying something)	>	phahluka (say something unaware)
phendu (of turning)	>	phenduka (turn around)
phethu (of crowding over)	>	phethuka (crowd over)

phubu (of laughing)	>	phubuka (laugh instantly)
putu (of crumbling)	>	putuka (crumble)
phundu (of forgetting)	>	phunduka (forget / make a mistake)
qhezu (of cracking)	>	qhezuka (crack / change direction)
qhumbu (of penetrating)	>	qhumbuka (puncture)
qhuzu (of hitting)	>	qhuzuka (hit stone with toes)
simbu (of uprooting)	>	simbuka (give away)
sudu (of giving way)	>	suduka (give way)
thaphu (of smelling)	>	thaphuka (smell spreads all over)
vuthu (of coming out)	>	vuthuka (come out)

From trisyllabic ideophonic stem

gegemu (of avoiding)	>	gegemuka (avoid / run away from)
gqagqamu (of riding)	>	gqagqamuka (ride a horse)
thandabu (of deceiving)	>	thandabuka (deceive / loose trend of thought)

8. THE REVERSIVE –ulul-

From disyllabic ideophonic stems

conzu (of dividing)	>	conzulula (divide into parts)
cumbu (handling)	>	cumulula (handle with fear)
hlambu (of purifying)	>	hlambulula (purify / make

			pure / holy)
mamu (of eating)	>	mamulula (eat first meal of the	day)
nconzu (of taking)	>	nconzulula (take in different	parts)
nqothu (of uncorking)	>	nqothulula (uncork)	
sombu (of unwinding)	>	sombulula (unwind)	
thombu (of unwinding)	>	thombulula (unwind)	
thuku (of untying)	>	thukulula (untie)	
vumbu (of uncovering)	>	vumbulula (uncover)	
vuthu (of coming)	>	vuthulula (take out)	
xazu (of unfixing)	>	xazulula (unfix)	

From disyllabic verb stems.

hlamba (wash)	>	hlambulula (cleanse)
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9. THE REVERSIVE -uluk-

From disyllabic ideophonic stems

dambu (of pouring)	>	dambuluka (pouring something	slowly)
dlamu (of escaping)	>	dlamuluka (escape)	
dlemu (of scolding)	>	dlemuluka (scold now and	again)

dwangu (of losing)	>	dwanguluka (lose trend of thought)
dwengu (of crying)	>	dwenguluka (cry loudly)
dwedu (of falling)	>	dweduluka (fall apart)
gonyu (of vomiting)	>	gonyuluka (vomit without water)
hlambu (of speaking)	>	hlambuluka (speak the truth out)
khanu (of shouting)	>	khanuluka (shout out)
namu (of opening)	>	namuluka (flowers open up)
nqothu (of uncorking)	>	nqothuluka (uncork)
phazu (of saying something)	>	phazuluka (say something unaware)
sombu (of unwinding)	>	sombuluka (unwind)
thombu (of unwinding)	>	thombuluka (unwind)
thuku (of untying)	>	thukulula (untie)
vumbu (of uncovering)	>	vumbuluka (uncover)
vuthu (coming out)	>	vuthuluka (come all out)
xaxu (of unfixing)	>	xaxuluka (unfix)

10. THE EXTENSIVE –bul-

From monosyllabic ideophonic stem.

gwa (of opening)	>	gwabula (open by force)
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From disyllabic verb stems.

bhamba (hit)	>	bhambabula (hit all over the body)
denda (act lethargically)	>	dendebula (act lethargically)
haha (be greedy)	>	hahabula (scold severely)
klakla (make incisions / pierce the ear)	>	klaklabula (thunder violently)
qaqa (untie)	>	qaqabula (unfold / untie)
thenta (beat)	>	thentebula (beat extensively)

From disyllabic ideophonic stems

bhaxu (of flogging)	>	bhaxabula (flog / hit with whip)
thaxu (of striking)	>	thaxabula (thrash extensively)
veke (of incessant talk)	>	vekebula (expose, scold)
vuku (of uncovering)	>	vukubula (uncover)

11. THE DENOMINATIVE -ph-, -phal-, -s-, -z-

(i) -ph-

From monosyllabic adjective stems.

-bi (ugly)	>	bipha (commence to cry / be ugly)
-de (long)	>	depha (grow deep)
-nci (small)	>	ncipha (become small)

From monosyllabic noun stems.

-tho (limb) > thopha (pay respect due to
modesty)

From disyllabic noun stems.

-hloni (shyness) > hlonipha (pay respect due to
modesty)

-khali (sharpness) > khalipha (be sharp)

-vila (laziness) > vilapha (be lazy)

From trisyllabic noun stems.

-hlakani (intelligence) > hlakanipha (be intelligent / clever)

From monosyllabic interjective stems.

nxe (of annoyance) > nxapha (utter a click of annoyance
or vexation)

ii) -phal-

From disyllabic verb stems.

nona (be fat) > nonophala (get richer / fatter)

nyinya (screw) > nyinyiphala (screw up face due to
disappointment or anger)

From disyllabic adjective stem.

khulu (big) > khuluphala (be sleek)

From disyllabic ideophonic stems.

dlongo (of towering)	>	dlongophala (tower with rage)
ngongo (of being scarce)	>	ngongophala (be scarce)
ngungu (of being anxious)	>	ngunguphala (be anxious)

iii) -s-

From disyllabic relative stems

manzi (damp)	>	manzisa (dampen / moisten)
(m)nandi (sweet)	>	nandisa (sweeten)

From disyllabic ideophonic stems..

godu (of going home)	>	godusa (take something home)
bhobo (of piercing)	>	bhobosa (pierce)

iv) -z-

From disyllabic noun stems.

-mbulu (fabulous lizard)	>	mbuluza (deceive)
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From trisyllabic noun stems.

-mbongolo (donkey)	>	mbongoloza (bray)
-mbumbulu (treachery)	>	mbumbuluza (act treacherously)

From monosyllabic ideophonic stems.

mbo (of being covered over)	>	mboza (cover over)
ntwe (of sailing along)	>	ntweza (sail along)

From disyllabic ideophonic stems.

bhobo (of piercing)	>	bhoboza (pierce)
bhodlo (of basking)	>	bhodloza (bask)
bihli (of sliding apart)	>	bihliza (slide apart)
buku (of coming out)	>	bukuza (come out)
fuku (of movement)	>	fukuza (work diligently)
gubha (of fluttering)	>	gubhuza (flutter)
phethu (of crowding over)	>	phethuza (crowd over)
pitshi (of squashing)	>	pitshiza (squash)
potsho (of spitting)	>	potshoza (spit)
qhofo (of crushing in)	>	qhofoza (crush in)
qhumbu (of puncturing)	>	qhumbuza (puncture)
shudu (of shuffling on the ground)	>	shuduza (shuffle on ground)
shuku (of shaking)	>	shukuza (shake)
tobo (of squashing)	>	toboza (squash softly)
vuthu (of dropping)	>	vuthuza (drop)

From disyllabic interjective stems

- | | | |
|----------------------------|---|--------------------------------------|
| hawu (of joyful surprise) | > | hawuza (surprise / joyfully) |
| khwibi (of springing back) | > | khwibiza (scare away birds or fowls) |

12. THE EXTENSION –bal-

From disyllabic ideophonic stems.

- | | | |
|-----------------------------------|---|---|
| bhabha (of sitting) | > | bhabhabala (sit carelessly) |
| bhaza (of sitting) | > | bhazabala (sit lazily) |
| diki (of being fed up) | > | dikibala (be fed up) |
| dlondlo (of growing) | > | dlondlobala (grow big / tower with
rage) |
| dundu (of reaching the
summit) | > | dundubala (reach the summit) |
| gungu (of swelling up) | > | gungubala (expand / swell up) |
| qasha (of getting rich) | > | qashabala (be rich / wealthy) |
| qhoqho (of overriding) | > | qhoqhobala (override / gain a higher
position) |
| dodo (of feeling depressed) | > | dodobala (feel depressed) |
| dondo (of weakening) | > | dondobala (be weak) |
| fofo (of dressing warmly) | > | fofobala (dress warmly) |
| gogo (of resting) | > | gogobala (rest a while) |
| gongo (of being weak) | > | gongobala (have no strength) |
| hwaqa (of frowning) | > | hwaqabala (frown) |

khokho (of being ashamed)	>	khokhobala (be ashamed)
khoso (of sitting ashamedly)	>	khosobala (sit ashamedly)
khwanta(of disappointing)	>	khwantabala (be disappointed)
ququ (of acting for a while)	>	ququbala (do something for a while)
soso (of humiliating)	>	sosobala (feel small and humiliated)
thithi (of being shy)	>	thithibala (be shy)
thotho (of being sick)	>	thothobala (be sick)

From disyllabic interjective stems.

shishi (of stopping something)	>	shishibala (be stunted / undersized or undergrown)
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From disyllabic verb stems.

sitha (shade)	>	sithibala (be clouded)
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13. EXTENSION –b- (indicating motion)

From monosyllabic ideophonic stems.

dlo (of rising in anger)	>	dloba (rise in anger)
ga (of digging holes)	>	gaba (dig holes)
hu (of crawling on belly)	>	huba (crawl on belly)
jwi (of throwing off)	>	jwiba (throw off)
nyi (of stealing away)	>	nyiba (steal away)

shu (of becoming saturated)	>	shuba (become saturated)
shwi (of throwing underhand)	>	shwiba (throw underhand)
zwi (of swinging)	>	zwiba (swing / jump)

From disyllabic ideophonic stems.

toto (of slow motion)	>	totoba (walk slowly)
khokho (of crawling)	>	khokhoba (crawl)

14. EXTENSION –m- (indicating sudden movement)

From monosyllabic ideophonic stems.

du (of roaring)	>	duma (roar)
mfo (of oozing)	>	mfoma (ooze)
qha (of being bright)	>	qhama (be bright)
qhu (of bursting)	>	qhuma (burst)
xhu (of hopping)	>	xhuma (hop / jump)

From disyllabic ideophonic stems.

chichi (of overflowing)	>	chichima (overflow)
cwazi (of winking)	>	cwazima (wink)
gaga (of coming upon)	>	gagama (come upon unaware)
giji (of running)	>	gijima (run)
hloko (of make noise)	>	hlokoma (make harsh noise)

phuthu (of hurrying)	>	phuthuma (hurry)
shuku (of shaking)	>	shukuma (shake in a container)
xoko (of making an uproar)	>	xokoma (make an uproar)
xhuxhu (of becoming restless)	>	xhuxhuma (become restless)

15. Extension –hl- (indicating friction)

From disyllabic ideophonic stems.

hliki (of rubbing)	>	hlikihla (rub)
soko (of polishing)	>	sokohla (polish)

16. Extension –mb- (used with click consonants)

From disyllabic ideophonic stems.

caca (of splitting to pieces)	>	cacamba (split to pieces)
qaqa (of aching)	>	qaqamba (ache)
qhaka (of showing out distinctly)	>	qhakamba (show out distinctly)
qhuqhu (of burning in patches)	>	qhuqhumba (burn in patches, as green grass)