

**ROLE OF CLOSE VOWELS IN JUXTAPOSED
LEXEMES IN SESOTHO AND ISIZULU-A
PARAMORPHOPHONOLOGICAL
ASPECTUAL COMPARISON**

By

ESAU M.R. MAHLASELA

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DECLARATION

I Esau M.R Mahlasela declare that:

**ROLE OF CLOSE VOWELS IN JUXTAPOSED LEXEMES IN SESOTHO AND
ISIZULU-A PARARMOPHOPHONOLOGICAL ASPECTS COMPARISON**

is my own original work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete references.

SIGNATURE

E.M.R. MAHLASELA

DATE

DEDICATION

This work is dedicated to my wife, late Norah Mahlasela (uMaNdlela)

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ABSTRACT

Chapter one outlines the aim of the study, research design and the statement of problem. It further explains the methods of research that will be used. A theoretical background is discussed to clarify the research problem.

Chapter two gives the background to the study of vowels in Sesotho and isiZulu. Highlights through vowel charts have been displayed to show positional differences.

Chapter three concentrates on the origin of SeSotho and isiZulu vowels phonemes. It further looks at the historical background of the close vowels and the alternating roles of vowels [u] and [i] in different languages.

Chapter four deals with the nature of Sesotho close vowels and isiZulu close vowels. A comparisons in terms of the origin of close vowels is conducted in this chapters.

Chapter five examines the role of close vowels in the juxtaposed lexemes. The role of close vowels has been analysed in both SeSotho and isiZulu languages.

Chapter six looks at terminative phonemes in deverbatives in both languages in question. A schematic representation of demorphemized isiZulu /-a-/ and SeSotho /-a/ phonemes in syntactic construction is also investigated.

Chapter seven concludes by summarizing the main findings of this study and it also suggests recommendations for future research.

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CHAPTER ONE

1.0 GENERAL INTRODUCTION

1.1 ORIENTATION OF THE STUDY

It has been observed and ascertained through comparative philology that there are certain phonological phenomena that are caused in some African languages by external factors which have not been determined and spelled out in specific terms. The **phonetic** and **phonemic** changes that are brought about by these phenomena seem identical with the well-known phonological phenomena whose causality can easily be explained. Because of this, it becomes difficult to draw a line of demarcation between the two phenomena that seem structurally identical and yet are intrinsically unidentical.

1.2 INTRODUCTION

Labialisation as a phonological phenomenon always occur when a consonantal phoneme precedes a back vowel. What is entailed in this explanation is that the consonantal phonemic place of articulation is not of importance, that is, it could be **bilabial**, that is, /m/, /b/, /ph/, etc. **Dentilabial**, that is, /f/, /v/, etc. **Alveolar**, that is, /t/, /hl/, /tlh/, etc. **Velar**, /ng/, /kg/, /k/, etc. **Nasal**, that is, /n/, /m/, etc, as long as it is succeeded by /u/, /o/, and /v/ it is labialised. Sometimes labialisation is caused by the **back** vocalic semi-vowel /-w-/. Some authorities discuss this as secondary articulation (Abercrombie, 1967:10-67). Although Ziervogel et al (1967:183:26.19.1) dispute this, the same phenomenon occurs in IsiZulu too.

1.3 AIMS OF THE STUDY

The aims of this study are:

- a. To trace and elucidate vividly the operative phenomena in the theoretical, that is, imaginary, sphere of linguistic structure that generate phonological phenomena whose origin is not easily traceable when viewed on the surface structure. Linguistic forms generated at this **conceptual, theoretical or imaginary level**, appear similar or identical with the well-known phonological phenomena, namely; labialisation, palatalisation, affricatization, assimilation, vowel raising, etc. The difference with the well-known phenomena named above is that the linguistic phenomena to be studied here have a circumlocutionary way of occurring that follows 'predictable' stages. These stages will be thoroughly treated in Chapter 5. Exhaustive examples of Sesotho and IsiZulu lexemes will be provided as evidence of their occurrence in these languages.
- b. To show the extent of the influence of Close Vowels on juxtaposed lexical components (morphs, morphemes and phonemes) in Sesotho and IsiZulu.

1.4 THEORETICAL BACKGROUND

Theoretically it is assumed that many phonological phenomena occur because of incompatibility of close vowels with certain open and semi-close vowels (especially in Sesotho for the latter case) and consonantal morphemes. This incompatibility leads to another phonological phenomenon known as dissimilation. From dissimilation miscellaneous phonological phenomena occur. The following are some morphophonological phenomena that result from the incompatibility of close vowels with some "open" vowels and consonantal phonemes referred to above: Labialisation, alveolarisation, prepalatalisation, aspiration, affricatisation, assimilation, vowel raising, etc.

1.5 RESEARCH METHODOLOGY

This study will be based on comparison of Sesotho and IsiZulu. Since it involves languages, our unit of analysis will be words or, more scientifically, morphemes. Analytical normative approach will be followed. Since at least two languages are compared here, hence the approach will be descriptive.

Data will be collected for this study from books, articles, scientific linguistic works, such as grammar textbooks, phonetic and phonology journals, etc. and even sources such as ordinary newspapers. The aim is to synthesise miscellaneous information collected from varied written sources. Spoken conversation cannot be of any value to this study. We need information written in a text to analyse.

1.6 RESEARCH DESIGN

The modus operandi in this research is based on comparison, analysis and description. Sesotho and IsiZulu will be compared as far as possible in identical linguistic environs to determine the cause of the different phonological results that occur from identical phonetic-phonological inputs (IPPI) to identical lexemes resulting in different phonological outputs. To mention a few examples to elucidate this exposition, take for example the diminutive of *uphapha* in IsiZulu and *lephêphê* in Sesotho. Results are astoundingly different.

1.7 STATEMENT OF THE PROBLEM (HYPOTHESIS)

The hypothesis in this study is straight forward, “juxtaposed phonemic inputs in linguistic locus give rise to predictable phonological phenomena when paralinguistic features are non-influential.”

e.g. C + a = Ca (i.e. consonant → vowel combination of
that consonant with vowel)

$N + b = *Nb > [mp']$ i.e. Nasal consonant + bilabial consonant, become a nasalised bilabial i.e. $*Nb$. This combination is not acceptable in Sesotho phonology. Nb then becomes mp' i.e. $<bN$ i.e. reflexive assimilation: This means that the nasal "N" influences the bilabial "b" to be a voiceless bilabial ejective explosive, $[p']$. In turn, "p" influences the nasal "N" which was formally a voiced alveolar nasal continuant to be a voiced bilabial nasal continuant $[m]$. That is why the equation ends in $[mp']$.

The last equation is preceded by "but", which is given as follows: but $C + V = CV$ but C^W or $[C]$?

The cause for the equation $[C + V]$ as indicated above has to be sought as nothing can occur phonologically without a sound cause. Adding flesh to the equation given above, the following information may be given:

$[C + V > CV]$ This means that a consonant + vowel as a concept has to produce the combination of both phonemes linguistically.

Capital "C" as well as capital "V" imply unspecified consonants and vowels, e.g.

$p + a = pa$

$m + a = ma$

$l + a = la$

$hl + a = hla$, etc.

All the phonological results of the combinations given above could be predicted from the input, i.e. $[C] + [V]$.

The equation $[N+b = (*Nb) > mp']$ implies that when the nasal $[n]$ has been juxtaposed to $[b]$, a phonological reaction takes place. The resultant phoneme becomes $/mp'//$.

The third equation [C + V = CV] but [C^w] or [C]?, has actually formed the gist of this study. It is deviant from the other predictable equations. The input in the linguistic locus does not give rise to a predictable phonological phenomenon. That is why it is followed by a question mark.

1.8 LITERATURE REVIEW

This study is the first one of its kind. A lot has been written on morphonemics and morphophonological aspects of language. Nothing as far as I can trace has been written and researched on paramorphophonological aspects of a language. The concept of “para-” i.e. something occurring outside the linguistic dimension as it is known, will be treated for the first time in this study.

1.9 ARRANGEMENT OF STUDY

CHAPTER ONE

- 1.1 Orientation to the study
- 1.2 Introduction
- 1.3 Aims of the study
- 1.4 Theoretical background
- 1.5 Research methodology
- 1.6 Statement of the problem
- 1.7 Literary review

CHAPTER TWO

- 2.1 Vowels in Sotho and Nguni (Background to the study of vowels in Sesotho and IsiZulu)

CHAPTER THREE

3.1 Origin of Sesotho and IsiZulu vowel phonemes

CHAPTER FOUR

4.1 Nature of Sesotho close vowels vs IsiZulu vowels (<Bourquin's theory)

CHAPTER FIVE

5.1 Role of close vowels in juxtaposed lexemes demorphemisation as concept

CHAPTER SIX

- Terminative phonemes in deverbatives
- Schematic representation of demorphemised IsiZulu /-a/ phoneme in syntactic construction
- Schematic representation demorphemised Sesotho /-a-/ phoneme in syntactic construction

CHAPTER SEVEN

Findings:

- Roles of close vowels in Sotho and Nguni
- *Recommendations*

CHAPTER TWO

2.0 VOWELS IN SOTHO AND NGUNI

2.1 INTRODUCTION

This chapter highlights the role of the close vowels of Southern Sotho and IsiZulu in morphology and phonology. These vowels are not studied in isolation but syllabification plays a dominant role.

The vowels will be taken as the *linguistic segments with semantic value*. Lexemes is derived from lexicology where lexicography is embedded. The deverbative is marked by the presence of /i/ for the personal nouns and /o/ for the impersonal nouns:

loa > molo_i (witch) Southern Sotho

thakatha > umthakath_i (witch) IsiZulu.

The deverbative final morpheme /i/ demonstrates without any reasonable doubts that:

/a/ is a categorial ending marking present tense and positive while

/i/ is a deverbative final morpheme showing the personal noun.

It is imperative to note that the close vowels can be manipulated to show demorphemization. This concept vivifies and illuminates why the linguistic terms such as **vowel replacement** and **vowel substitution** should be revisited for correction.

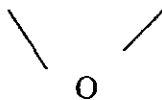
There is a phonological reason why the following structures are:

IsiZulu	IsiXhosa	SiSwati	SeSotho
Ubab <u>a</u>	Utata <u>a</u>	Bab <u>e</u>	Ntate <u>e</u>
IsiZulu	SiSwati	IsiXhosa	SeSotho
Ubab <u>a</u>	Bab <u>e</u>	Utata <u>a</u>	Ntate <u>e</u>

The /a/ of isiZulu and isiXhosa was not substituted or replaced by Swati -e nor SeSotho -e, but this was caused by para morphophonological change of demorphemisation.

It is in the light of demorphemisation that structures with associative copulative construction can be identified:

IsiZulu ngi- + -na- + umuntu



Nginomuntu

SiSwati ngi- + -na- + umuntfu

Nginemuntfu

The -o- in the isiZulu example is caused by vowel coalescence while the Swati -e- is the result of demorphemisation.

2.2 NASALISED SESOTHO VOWELS

2.2.1 Vowels in Sotho ideophones

Guma (1951) in his study of comparative ideophone in Sotho, comes up with striking discovery in the behaviour of Sotho ideophone:

- i. All these consonants together with the vowels and semi-vowels found in the normal grammatical structure of Sotho, also occur in the ideophone. But over and above them, there are other sounds which are only confined to the ideophone and which are not met with elsewhere in Sotho.
- ii. Vowels:
Of the eleven vowels found in Sotho, the ideophone has the full range. In addition to these, however, there are:
Pressed vowels, especially in some Sepedi monosyllabic ideophones such as:

Sepedi: a – a – a ! (of being very bitter)

Sepedi: he! (ditto)

There are vowels that Doke calls “vowels with epiglotal friction. (cf Doke: Zulu Phonetics > par 8)

2.2.2 Vowels with extra or additional characteristics

It is interesting to note that this study reveals the occurrences of the vowels with extra or additional characteristics. These characteristics strengthen the word with more semantic value. The tonological supra-segmental quality of the word occurs when the “pressed”, “nasalised”, “whispered”, “prolonged”, “high pitched toned” vowels are articulated within the syllabic structure of the word. During this state of affairs, there are those consonants that behave like some of these vowels. In this scenario, we are worried because it is difficult for us to locate these vowels on the vowel chart. We do not know whether they should be classified like other vowels with diacritics added to them in order to vivify nasalisation, whispering and prolonged length.

2.2.2.1 Pressed vowels:

Most of the examples of the pressed vowels will be deduced from Southern Sotho.

(i) *Monosyllabic (ideophones):*

He! (of being very bitter)

Te! (of being submerged in water)

Fi! (of suddenly becoming dark)

Hê! (to be astonished)

The! (of shifting a little i.e. a re the!)

(ii) *Disyllabic:*

Fethe! (of striking suddenly)

Hebe! (of whispering)

Hlefe! (of striking with a third)

Sipho! (of having germinated)

Tswete! (of being full to capacity)

(iii) Trisyllabic:

Hlwepheke! (of snivelling)

Ketleke! (NB. Partially pressed: of cutting)

Fa!fa!fa! (of drizzling (of) rain)

2.2.2.2 Nasalised vowels:

They occur in the neighbourhood of the nasal consonants. The sign (-) above the vowel is a diacritic which is used to mark the vowels.

Hēnē – hēnē ! (of muttering cinder breath)

Hōnō – hōnō! (of speaking aside in under tones)

(e.g. *ha re ke re re hōnō – hōnō!*)

(let us talk aside, privately)

2.2.2.3 Whispering vowels:

These are found in large numbers in Sesotho i.e. in monosyllabic and polysyllabic ideophones of varying tones.

e.g. fa! (of light drizzle)

cf. fala (to serape) here the “fa-” is not whispered

fī (of suddenly becoming dark) cf fifala (to darken)

here the fī is not whispered

swahla! (of rustling sound)

qhefe! (of crushing e.g. a louse)

2.2.2.4 Vowels with prolonged length:

These vowels sporadically occur in normal speeches. This is indicated by a colon i.e. ho:le. Usually this lengthening in ideophones is extended more than usually e.g. ho::le for ho – o – o – le (very very far)

In ideophones these abnormal lengthenings are common e.g.

Phu :: (of a very bad smell)

Seuu:: (of many things scattered all over the place)

With disyllabic ideophones it is the final syllable that gets prolonged. Normally the final syllables are relatively short.

2.2.2.5 Monosyllabic ideophones with very high –a

This “a” is higher than the “frontier” variety of the normal Sotho – Tswana a noted by Tucker (cf par. 53) and which is heard when a is followed either by i or u in the next syllable e.g.

Tadi (a species of field – mouse)

Tau (lion)

Tlhapi (fish)

Madi (blood)

Kgati (skipping rope)

2.3 PHONETIC CONDITIONING FACTORS

2.3.1 Intrinsic duration of vowels

The duration of a segment may be determined by the nature of the segment itself i.e. by its point and nature or manner of articulation. The term intrinsic duration may be used to refer to the duration of a segment as determined by its phonetic quality. This duration appears to be correlated with the tongue height.

2.3.2 Segmental conditioning of vowel duration

Much study has been done on English acoustic phonetic techniques. What has been achieved in this study holds true for other languages. House and Fairbanks, (1953); Zimmerman and Sapon, (1958). Peterson and Likiste, (1960), House (1961 and Delattre (1962) agree that it was by coincidence that in English, the voicing of a postvocalic consonant strongly affects the duration of a preceding vowel. This argument demonstrates that unless this factor is taken into account, English is not a very suitable language for determining the influence of following consonants on preceding vowels. Leniste,

(1960:20) elaborates on the discrepancy in the length of vowels before certain consonants are discussed:

The duration of a vowel depends on the extent of the movement of the speech organs required in order to come from the vowel position to the position of the following consonants. The greater the extent of the movement, the longer the vowel.

The underlining by EMR Mahlasela

This explains the fact that all the vowels were shorter before /b/ than before /d/ and /g/, since the different articulators are involved in the sequence vowel + labial. There is no time delay in moving the articulator (i.e. the tongue) from the vowel target to the consonant target.

Leniste (1960:20) argues that /u/ is particularly long before /d/. before /g/, /u/ has an intermediate value; the movement involved is relatively small, but the back of the tongue is not as mobile as the tip of the tongue consequently the closing process takes more time.

Fischer-Jørgensen's findings agree with the observations reported for English by Peterson and Leniste (1960). In this study, the short vowels are found to be longest before /t/, shorter before /k/ and shortest before /p/. For voiced plosives, the order of the duration of short vowels is $g > d > b$ (where the consonant letter means "the vowel before the consonant" and $>$ indicates "longer than" with fricates, vowel length decreased in the order:

$S > s > f$ and $Z > V$, for nasals the order is reversed:

$M > \eta > n$

For long vowels, the decreasing order is as follows:

$t > k > p$

$d > g > b$

$S > s > f$

$Z > z > v$ and

$> n > m$

An increase in the vowel duration, when the point of articulation of the post vocalic consonant shifts further back in the mouth, has also been observed for Spanish. Zimmerman and Sapou, (1958:20) list the average vowel durations before the following consonants in Spanish disyllabic paroxytonic words as follows:

[p] 93 m sec;

[B] 130 m sec;

[t] 104 m sec;

[ʝ] 136 m sec;

[χ] 137 m sec.

It cannot be concluded from this data whether the lengthening before the [B] set is due to voicing or friction.

House and Fairbanks (1953) discovers that English vowels are generally longer before dentals than before labials and velars. Later in House, (1961) it is eluminated that is negligible. The same state of affairs is studied in German by Maack (1953). It is discovered that *front vowels are longer before labials and velars than before dentals*, back vowels are longest before labials and shortest before velars. Maack concludes this point by formulating the rule for the influence of post vocalic consonants on the duration of vowels that is very similar to Fischer Jørgensen's:

The further the point of articulation of a sonant from that of the following consonant, the longer the sonant.

The semantic applicability of the term sonant implies the voiced sound other than a vowel and capable of forming a syllable.

Maack, (1953:21) elucidates his point by stating that: the sonant is proportionally longer, the closer is point of articulation is to that of the preceding consonant.

My curiosity, is then entangled on the ideal that an aspiration by Peterson and Leniste (1960:20) shows that the duration of aspirations is conditioned by the point of articulation

of the consonant. This implies that the average duration of the aspiration after an initial /p/ is 58 m sec for 81 different items.

After an initial /t/ the aspiration lasted 69 m sec for 73 items. For initial /k/ the duration of the aspiration is 75 m sec for 83 items. This data suggests that aspiration may become progressively longer as the point of articulation shifts further back in the mouth. This observation is not supported by a separate analysis of the two main allophones of /k/, /c/, and /t/.

The average for the front allophone /c/ is 39 instances which is 78 m sec, where as the average for the velar allophone [k] followed by the back vowel (44 instances) is 72m sec. Nevertheless, the /t/ aspirations are constantly shorter than the aspirations associated with either of the allophones of /k/.

Fischer-Jørgensen (1964a:22) discovers that the duration of aspiration depends on two factors i.e. the point of articulation of the consonant and the phonetic quality of the following vowel.

For the sequence [pī], the duration of the aspiration was, on the average, 57m sec; for [ti], 74 and for [ki], 77. For the sequence [pu], the average duration of the aspiration is 66m sec and for [ku], 74. With both front and back vowels, the order of durations remains the same, but there are regular differences in the duration of the aspiration when the same consonant is followed by the different vowels.

2.4 SUMMARY

The duration of sounds may be conditioned by the following factors:

- the point and manner of articulation of the segment itself
- the suprasegmental factors (especially by stress) and
- the position of the sound within a higher level of phonological unit

The duration of sounds may function as an independent variable at a word level (quantity) and sentence level (tempo). The domain of quantity patterns may be a simple segment on a higher level phonological unit – a syllable, a disyllable sequence or a word. The possible analysis of quantity includes a treatment of quantity as a segmental distinctive feature, analysis of long sounds as clusters of short sounds or as sequences of two or more moras, inclusion of short and long sounds as separate entities i.e. in the phonemic inventory and extraction of quantity as a prosodeme of length.

CHAPTER THREE

3.0 THE ORIGIN OF SESOTHO AND ISIZULU VOWEL PHONEMES

3.1 INTRODUCTION

Bourquin (1955:49) in his article recorded in the journal called African Studies, vol 14 states some interesting points about “close vowels” in Bantu. It is in this article where the introduction of *i and *u is given.

There is assumption by Meinhof that besides ordinary *i and *u there existed in Ur-Bantu other vowels of similar type which are called “close vowels”. Meinhof believes that “close vowels” might have originated in the contractions involving *i and *u. To prove this philosophy as an axiom, a number of stems containing close vowels from different languages are examined. Bourquin (1955:49) gives the results of this experiment:

It is found that in certain monosyllabic stems the vowels corresponding to original *î and *û alternate in different languages. Other languages again may even have both these vowels together in a single stem and these forms seem to be more original. The alternative of vowels may occur in disyllabic stems also. In some cases a stem seems to have had an initial *i which influenced the vowel of the following syllable. All this seems to support the assumption that the close vowels have arisen through influence of a sound *i or *u.

3.2 HISTORICAL BACKGROUND OF THE CLOSE VOWELS

Meinhof (1932:24) remarks that Ur-Bantu had other vowels of the same type as ordinary *i and *u, which differs from the latter by their pronunciation.

These vowels have caused a lot of changes in preceding primary consonants. Meinhof calls these vowels “close vowels”. He writes them a *î and *û.

These two types of vowels differ even today in their pronunciation in several languages, as, for instance in Sotho and Kikuyu whereas in most languages no distinction is made. Before *û, primitive consonants are usually changed to dentilabials such as f, pf, v, bv, whereas *î has produced alveolar fricatives and affricates such as s, sh, ts, z, dz etc.

The reason Meinhof (1932:24) gives in the different functioning of the “open” and “close” vowels may also have originated in the contraction of vowels. The difference between the “open” and the “close” vowels was that the former were articulated rather back in the mouth, while the latter were found more in front. We observe the following:

“open” u very often changes the preceding consonant into a velar sound e.g.

Sotho ñwana “child” < *mu-+ -ana

Venda -Lixwa “be paid” < ðifwa < *-lipu

“Close” u on the other hand usually changes the preceding consonant into labials. The part of the tongue clearly was raised very much and was quite tense at this u, which explains the fact that alveolars or dentals have also resulted under its influence. Meinhof (1932:24) sums up by this conclusion:

In this case alveolar and dentals, not labial sounds result from the influence of “close” u, which again may explain why the labials before “close” u are as a rule not bi-labial but dentilabial.

“Close” i gives rise to palatal sounds because the tongue comes into contact with the palate for the greater part of its length. NB close vowels were fortes!!!.

In the following examples given, the Southern Sotho examples have been deduced from the Xhosa words. Bourquin (1955:49-50) gives a number of Southern Sotho examples from Xhosa, it is only in page 51 where the Southern Sotho example “motsu” is given.

Before this page, the Southern Sotho lexical items have been provided on the basis of IsiZulu and Xhosa.

The following figure gives a clear distinction between *î, *û and *i and *u.

î ————— û

i ————— u

ε —————

a

Examples:

Ur-Bantu	Xhosa	S Sotho
*-kulu (big)	-khulu (big)	-holo (big)
*-kûlû (tortoise)	Ufudu (tortoise)	Kgudu (tortoise)
*-tuma (send)	-thuma (send)	-roma (send)
*-tûma (wish)	-funa (wish)	
*-luma (bite)	-luma (bite)	-loma (bite)
*-lûmela (allow)	-vumela (allow)	-dumela (allow)
*-pika (contradict)	-phika (contradict)	-pheha (contradict)
*-pîka (arrive)	-fika (arrive)	-fihla (arrive)
*-ti (tree)	Umthi (tree)	-more (tree)
*-tîla (grind)	-sila (grind)	-sila (grind)
*-lima (plough)	-lima (plough)	-lema
*-lîka (go deep)	-zika (go deep)	-tiba (go deep)

The above examples demonstrate that the vowels *î and *û are functionally different from *i and *u. Meinhof (1932:50) says:

They might have originated through a contraction of vowels, close *û* through the influence of the vowel **î* and close **î* in the manner through the influence of **û*.

Some words of such vowels are recorded by Bourquin (1955) show that these close vowels sometimes alternate in various stems of different languages in which they occur. Identical stems which show original **î* in some languages indicate an original **û* in other languages and vice versa. A number of stems will be examined to elucidate this statement. M will represent all the words taken from Meinhof's list and B from Ur.Bantu.

Relevant examples which mostly demonstrate, elucidate and eluminate the behaviour of these vowels in relation to Southern Sotho will be considered consequently be deduced from Bourquin's work.

B* - Xûi (arrow) (Bq): (p51)

Forms with i:

Shambala	mu - \sqrt{i}
Kaguru	mu - vi
Nyanja	mu - bvi
Mbunda	mu - vi
Nkoya	mu - vi
Herero	omu - zi

Forms with u:

Guzii	omo - gu
Kuria	omo - gu
S. sotho	mo - tsu

Forms with the semi-vowels /w/ and /y/ may be ignored as /w/ may occur because of the juxtapositioning of "u" and "i" as in :

Gikuyu	mu - gwi
--------	----------

Pare	mu -vwi
Lamba	umu - fwi
Bemba	mu - fwi

Meinhof (1932:52) gives the following interesting examples:

B* - X û,	*ngû (sheep) (m)
Thonga	nyi - mpfu
Tswa	yi - ru
Venda	nngu
Southern Sotho	nku
Xhosa	i - mvu
Zulu	i - mvu
Herero	oka - zu (small sheep)

Forms with i:

Kwanyama	o - di
Nyaneka	o - ngi

B* - li (root fibre) (m)

Nyoro	omu - zi
Rundi	umu - zi
Nyamwezi	mu - zi
Shona	mu - dzi
Zulu	u - zi
Xhosa	ulu - zi
Souther Sotho	mo - di

This is the generic name of plants of the Hypoxis genus, some of which are used for making ropes.

Forms with u:

Nganya	mu - zu
--------	---------

Tswa mu – tsu

Southern Sotho mo – tso

This is the root, unit or anything of root origin.

Endemann is also referred to as giving three forms in Southern Sotho dialects:

Mo – lu, mo – li, mo – tzōe. According to the present orthography, the first two words would be written thus:

Mo – du and mo – di and the last one could be sometimes like motswe. This is almost the same as:

Nyanja mu – zu and

Tswa mu – tsu

B* - tû (cloud) (m)

Gikuyu i – tu

Rundi iki – chu

Sotho le – ru

Zulu i – fu

Xhosa ili – fu

Forms with i:

Gi – Tonga li – pfi

Lenge di – pri

(there is a remark about the sound “pr”. It is not known what sound it represents, but what matters most is that the word di – pri ends in i.)

B* - tû (trap) (Bq):

Lenje chi – fu

Wisa ichi – fu

Venda tshi – fu

Sotho (Pedi) se – fu

Forms with I:

Southern Sotho se – fi

Zulu has isife form isi – fu form.

B* - kua (die) (m)

Kerewe - fwa

Gikuyu -fua

Pogoro -fua

Makua -kwa

Southern Sotho -shwa

NB In the following languages û or the semi – vowel w has been dropped:

Ganda -fa

Shambala -fa

Swahili -fa

Nyanja -fa

Xhosa -fa

Forms with i:

Ilamba -khia

Guha -kia

Kuanyama -fia

Nyaneka -nkhia

Tumba -kia as well as –kwa

B* - tiku, * -tûku (might, day of 24 hours) (m)

Forms with i:

Nyawezi vu – siku

Ilamba u – tiku

Swahili u – siku

Ila bu – shiku

Tswa	wu – siku
Kuanyama	ou – fiko
Southern Sotho	bo – siu/ bosio

Forms with u:

Gikuyu	u – tuku
Kamba	u – tuku
Kaonde	bu – fuku
Xhosa	ubu – suku
North Lumba	bu – tuku
Kongo	busuku/fuku
Fumu	tsugu

B*Xûili (hair)	(Bq)
Pogoro	vuiru
Hehe	fuiru
Gogo	lu – vuile
Tabwa	lu – vwili

Forms with i only:

Ganda	olu – viri
Zigula	lu – vili, pl. fili
Dzalamo	im – vili
Kami	lu – firi
Southern Sotho	mo – riri

B* - Xûvu (Hippo) (m):

Gikuyu	nguo
Kaonde	m – vubu
Shona	m – vuwu
Thonga	m – pfuvu

Zulu	im – vubu
Mongo	nguvu
Duala	ngubu
Southern Sotho	kubu

Forms with i:

Silele	gibo
Songo	gio
Songomeno	ngio/giu

An intermediate form is found in Ngangeka viz. Ngueve, which leads to forms such as:

Nyaneka	on – geve
Ndombe	on – geve
Mbundu	on – geve

Let us note that the B* - kûpa (bone) has the following:

Nyoro	i – gufa
Bondei	mu – vuha
Nyamwezi	i – guha
Swahili	m – fupa
Nyanja	pfupa
Ngombe	mo – kua

Forms with i (or e):

Lujazi	li – tsiha
Kuanyama	e – kipa
Ndonga	e – sipa
Nyaneka	en – khepa
Tumba	mu – ipa

B* - kûta (fat) (m)

Gikuyu	ma – guta
Shambala	ma – vutha
Lamba	ama – futa
Swahili, Kongo & Ila	ma – futa
Thonga	ma – fura
Southern Sotho	ma – fura
Xhosa	ama – futha

Forms with i:

Nyoro	ma – gita
Hima	ama – zita
Guha	ma – kita
Tumba	ma – ita
Nyangwe	ma – kit'
Kele	ba – ita
Bube	m – ita

B* - kunda (knot, tie) (m):

Rundi & Lamba	i – fundo
Bondei & Swahili	fundo
Nyanja	m-fundo

Forms with i:

Southern Sotho	le – fito
Zulu	- finda (tie a knot)

B* liva (depth) (m):

Nyoro	i – ziba
Shambala & Swahili	ziwa
Lenje	li – shiwa

Shona	dziwa
Xhosa	isi – ziba
Southern Sotho	se – diba

Forms with u:

Caga & Siha	i – ruwa
Nkusu	i – juwa
Bea	ma – jua

B* - lûmbi (rainy weather) (Bq):

Nyanja	m – bvumbi
Bemba	mu – fumbi
Kaonde	ku – vumbi
Shona	mu – brumbi
Sotho	mo – lope or mo – dope
Zulu	um – vumbi

Forms with i:

Zulu dialect	um – vimbi
Xhosa dialect	um – vimbi
Kuanyama	om – dimbi

B* - nûka (smell) (Bq):

Swahili & Venda	-nukha
Rundi & Xhosa	-nuka
Tswa	-nuka
Southern Sotho	-ŋkxha from nuha → Nh > ŋkxh

Forms with i:

Ndonga	-nika
--------	-------

Kuanyama -nyika

Mbundu -neha

Intermediate forms of “n” between “u” and “k” are omitted.

B* - pũlo (froth) (m):

Nyoro i – furo

Shambala fulo

Wisa i – fulo

Mongo lo – fulo

Tswana lofulo / lohulo

Forms with i:

Kerewe i - firo

Southern Sotho le – filo

B* - tũmba (lion, wild cat) (Bq):

Bondei, Nyamwezi, Swahili & Kami -simba

Yao li – simba

Forms with u:

Ila shumbwa

Shona & Karanga shumba

Lujazi ki – shumba (leopard)

B* - vumba (cover) (Bq):

Taila, Swahili, Nyanja & Senga - vimba

Lamba & Bemba - fimba

Forms with u:

Ila & Tonga - vumba

Lenje -fumba

Mango - bumba

B* - tûmo (spear) (m):

Rundi	i – chumu
Nyamwezi, Bemba & Lamba	i - fumo
Swahili	fumo
Shona	pfuno
Sotho	le – rumo

Forms with i:

Gikuyu	i – timo
Kuria	eri – timo
Buwe	i – timo
Guha	simo

B* - vûla , *mbûla (rain) (m):

Nyoro	en – jura
Rundi	im – vura
Nyamwezi & Mongo	m – bula
Swahili	m – vua
Nyanja & Kongo	m – vula
Xhosa	im – vula
Southern Sotho	- pula

B* -kûpi (short) (m):

Swahili, Nyanja, Senga, Xhosa & Ndonga	- fuphi
Kinga	- supi
Karanga	- pfupi

The examples just treated, correspond with the stem given above, i.e. *-kûpi. Meinhof (1932:56) vivifies the above examples as he says:

In some languages the first syllable of the B stem does not seem to have contained a close vowel, and the original stem seems to have been *-kupi:

Zigula, kami – guhi'

Nyamwezi, kaguru - guhi' and

Fipa - guhi'

*on all these examples k has changed to g according to Dahl's law.

Some languages have forms which would correspond to some original stem *- ipi: Lwale has – ihi. In Zigula two forms –gihi and –guhi occur. This may indicate that those forms develop from –ihi with which the prefix ku- was used, i.e. ku – ihi. This was then contracted to the form –kuhi and in the second form to –kihi, k subsequently becoming g according to Dahl's law and resulting ultimately in –guhi and –gihi.

A further development seems to have been that through the influence of the initial –i-, the u of the prefix becomes a close vowel to which a presence of a second –i in the final syllable might have contributed. In this way, the stem *-kupi resulted.

Observation on stems beginning with original B*-pî-: The stem B*-pîka (arrive) is frequently found in Eastern Bantu languages. It appears as –fika in Taita, Swahili, Bemba, Kaonde, Lamba, Zulu and Xhosa. Meinhof (1932:181) after indicating that *î may have originated through the influence of an *u sound, he says:

In Digo, for example, I have often heard in the phoneme fi (B*pî) a w sound (i.e. a non-syllabic u) after the f, so that the syllable sounded like fwi. The labial sound in fwi between f and i has, I suppose, originated from the initial labial sound.

Bourquin (1955:57) records the contradiction in the above Meinhof's quotation:

Either the u sound was originally present and helped to change *p to f; or the semi vowel glide is a secondary sound created later by f.

The term arrive in Wisa is -fika or fwika and for Senga – fwika. Venda has -swika. Venda has -swiswi for darkness while Thonga has -swihala for darkness. In this state of affairs Bourquin, (1955:57):

This sound is perentia to Venda and is a fusion of s and f, and as examples show, corresponds to Sotho fs and sw.

In the case of the Sotho sounds, however, the two elements (the labial and the dental) are still separated, although reversed.

The problem comes up in a different way in Sotho when a word for “darkness” is examined. We encounter the following forms:

Le – fifi; le – fsifsi; le – söifi; le – sufi; le – swiswi.

Is the ö[w] in the third form only a glide or did it appear because in the close *i an *u sound was inherent? In any case we see in the last form that a true close u has replaced the close i of the other forms (cf. also ro – su “blackness”.) In Southern Sotho this would be botsho.

The following words have a close vowel in the last syllable:

B ʃoʃu (elephant) (m)

Ganda	en – jovu
Rundi	in – zovu
Lamba	in – sofu
Xhosa	in – dlovu
Bangi	n – zoku
Southern Sotho	tlou

The following have i in the last syllable:

Guha (40)	nyogi
Tumba (39)	joi
Kele (186)	n – joki

B* -lelú (chin, beard) (m):

Nyoro	aka - leju
Gikuyu	ki - reru
Swahili	ki - devu
Lenje	chi - lesu
Ila	chi - levhu
Sotho	se - lelu (seledu)
Zulu	isi - levu

Forms with i:

Caga (14)	ki - leru
Guho (40)	ka - lesi
Ndonga (90)	ohi - yeswi
Kuanyama	en - dyedi
Nyaneka	onon - dyesi

B* - ilŷu (grass) (Bq):

This case is somewhat different. A close semi-vowel *ŷ. It has been assumed that ŷ has influenced the preceding consonant just as a close vowel *î would do. The semi-vowel has disappeared in most languages which have this stem:

Konde	il - su
Nyanja	u - dzu
Ila	bw - izu
Tonga	bw - izyu
Lenje	w - isu

Forms with i:

Kuanyama	omne - idi
Ndonga	one - izi

The terminal vowel -i corresponding to B*i: This ending is a morpheme in Bantu languages because it carries a semantic value. It is used in the formation of deverbative nouns and also objectives from verbs e.g. Ila mu – solozhi (guide) C – solola preceded and –sepwelesi (weak) from sepweleka (be loose).

It is believed that morpheme has developed from * - yi. This postulation finds support in stems having an N in the final syllable which in a number of languages becomes -nyi when this suffix is added as for instance,

GANDA	- genyi from B* - <u>ɣeni</u> ,
Luvale	- mu- hinyi (handle) from B* - <u>pinî</u>
Thonga	ti –hunyi (fire wood) from B* - <u>kunî</u>

If in this final morpheme a contraction of vowels took place, no *u vowel seems to have been involved, but rather another *i.

The terminal vowel -u corresponding to B*û: It is also used in the formation of adjectives as, for instance, in KONDE – khafu (firm) from –khaka (become firm), Shambala – hufu (light) form –huha (be light), –vizu (lazy) from B* –vila (be lazy).

Röhl, (1911:26) points out that it appears that close vowel *u has resulted from * -ywi and represents a passive formation. He further remarks that in some words the original *wi could occasionally be heard as, for instance, -izwi instead of -izu (ripe). Not much material is available to prove this point, but it may be mentioned that the B. stem *-pokû (*-popû) (blind) (m) appears in Ndonga as –posui and in Kuanyama as -pofi.

3.3 ALTERNATING U AND I IN DIFFERENT LANGUAGES

3.3.1 Sotho

The following words are taken from Endemann's *Worterbuch der Sotho – Sprache*; and represent dialectal differences: Sotho:

-fina = -khuna (tie a knot)

-finyella = -funyella (reach)

-fita = -khuta (stoop)

-khisha = -khusha (swing on arms – as a child)

-khivilu = -khōivilu, -khuvilu (red).

-mo-lulu = mo-lili (pauper)

-luvela = -livelya (drive back)

-mina = -muna (strain, filter)

-pipa = -pupa (cover)

-runa = -rina (kill lice)

mo-ruti = mo-riti (shade): cf also lesōiti

ro-rutho = ro-ritho (heat)

-tutumala = -lilimala (be silent) (-tidimala)

-vua = -tzōiea (skin) cf Venda -via

-vupa = -vipa (swell)

3.3.2 IsiZulu and IsiXhosa

The following words represent dialectal differences in Zulu – Xhosa:

-fishane = -fushane (short)

um-fino = um-funo (edible herbs)

ubu-yimba = ubu-yumba (species of small shrubs)

um-vimbo = um-yumbo (a weal)

uku-viva = uku-yuva (break)

isi-vimbo = isi-yumbo(plug, cork)

ubu-yimba = ubu-yumba (Embo) (stinginess)

3.4 THE POSITION IN SIHA

Fokken, (1905:66) points out that several nouns and adjectives which originally ended in close *i, now end in u and others with original final *û now end in i. This is demonstrated in the following examples:

B* - χ okî	> siha	musu (smoke)
* - vulî	>	buru (goat)
* - <u>k</u> onî	>	sonu (shame)
* - <u>k</u> olî	>	isoru (tear)
* - lelû	>	kileri (ehini)
* - valû	>	ovari (rib)

Fokken (1905) the above phenomenon to vowel assimilation. He maintains that if the first syllable of the stem contains an i or close o, the vowel of the following syllable becomes u. If the first syllable has an a or close e, an u in a succeeding syllable becomes i. With regards to adjectives he mentions – anri (flat), veveri (smooth) – emeri (heavy) where one would expect a final – u. He argues further that the same phenomenon, but working in reverse, occur in sungo (neck) from B* -kingo.

3.5 THE POSITION IN KUANYAMA:

It has been observed that many examples taken from Kuanyama contain a vowel corresponding to the original *î where other language show original *u. The fact that close *û was influenced by an *i which dominates Kuanyama morphological and phonological pattern proves beyond any reasonable doubt that changes taking place in this linguistic scenario is not accidental. This is evident in the following examples:

Ur-Bantu	Kuanyama	Ndonga	Sotho
*- ǀû (sheep)	O – du	On-süi	b-ku
*-kûa (die)	- fia		-shwa/
*-kûma (be removed)	- finana		-tuma
*-lûa (come out)	- dia (leak)	-süiya (leak)	-tswa;du
*-lûli (shadow)	Omu-dile	Omu-zile	
*-nûka (smell)	-nyika	-nika	Nøka>nkg
*-pokû (blind)	-pofi	-posüi	-fofu
*-takûna (chew)	-tafina		-hlafulana
*-vû (earth)		e-vi	Mo-bu

3.6 THE POSITION IN MBUNDU:

In Mbundu the above process has gone an extra mile in the sense that the close vowel *û frequently appears as e. It appears anyway, that the older forms of these words must have had i instead of e. This means that i lost its close articulation. At the same time the original consonant which preceded *û has been retained, with the exception of *p which has become f.

This argument will be elucidated in the following examples:

Ur-Bantu	Mbundu	Sotho
*- X ûvu (hippo)	o-ngeve	Kubu
*-k ûkama (kneel)	-kekama	
*-k ûma (be removed)	-kemana	tuma
*-kupa (bone)	-e-kepa	
*-l ûmba (rain)	e-lembi (rainy day)	
*-l ûmba (smell)	e-lemba (odour)	
*-n ûla (be rich in fat)	-nela	
*-p û (stomach)	e-fe	
*-p ûka (mature)	u-feko (girl)	
*-p ûla (swell up)	-felä (swell)	
(boil up)	-feluka (boil)	
*-puta (pay)	-feta (cf. Luvale –fweta)	
*-v û (earth)	e-ve	

CHAPTER FOUR

4.0 NATURE OF SESOTHO CLOSE-VOWELS AND ISIZULU CLOSE VOWELS

4.1 INTRODUCTION

In this chapter an attempt will be made to discuss the Sesotho close vowels and their counter parts in IsiZulu. In previous chapters it has been elucidated beyond any reasonable scepticism that Sesotho close vowels are actually close to the palate than those of IsiZulu which are half way the mark. The mark in this case is the position of closeness to the palate for the vowel to get in order to qualify for this closeness.

Some authorities who have written phonetic and phonological phenomena in IsiZulu have also fallen into the trap of closeness with reference to IsiZulu [i] and [u].

4.2 Nature of SeSotho close-vowels vs the so-called isiZulu close vowels:

When Nyembezi (1982:12) explains the IsiZulu [i] and [u] he says:

“i- *unkamisa ongaphambili ovalekile*
u- *unkamisa ongemuva ovalekile*”.

According to his definition [i] and [u] are closed vowels. In actual fact there are no closed vowels. What exists are open and close vowels. The so-called “geslote vokale” in Afrikaans, is actually close vowels in English, which ought to be “onkamisa abasondele” or “onkamisa abangavulekile” and not “abavalekile”! The concept of “closeness” becomes difficult to ascribe in IsiZulu, as the case is in Afrikaans. In “sedumammoho sa pele se patisaneng” and not “se kwalehileng”, whilst [u] would be defined as “sedumammoho sa morao se patisaneng” i.e. “close back vowel”, and not closed! If it can be closed it cannot be pronounced. It must be remembered that a vowel is not a consonant! As far as consonants are concerned their air flow is sometimes partially or

completely occluded! This is not the case with the vowels! That is why vowels can never be closed!

Paros (1961:348), explains –“patisa” as to squeeze, to press; to keep close; to put in straits, to oppress.... Inter alia, I would like to concentrate on to keep close and to put in straits. These two explanations do not mean to close up but mean to reduce the space. This is what [i] and [u] are. Their location in the mouth cavity has reduced space towards the palate.

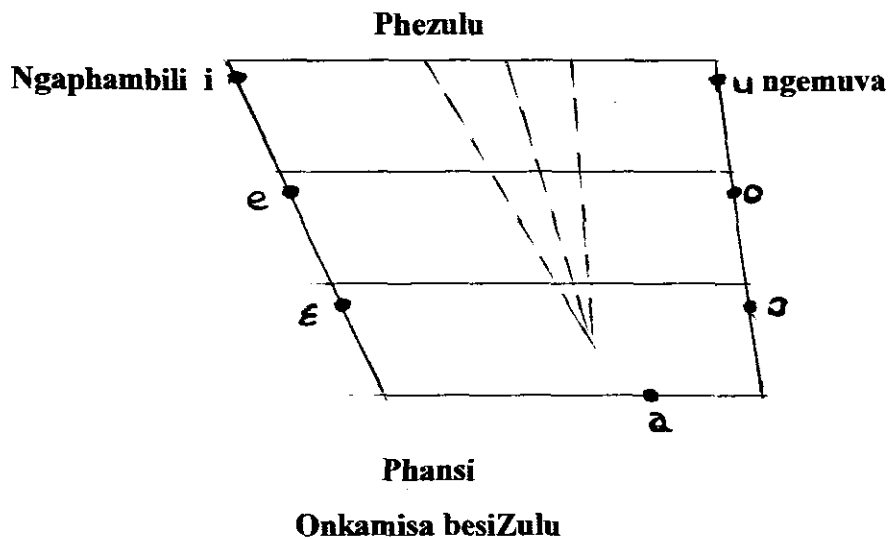
Senekal et al, (1972:08) tried by all means to avoid the usage of “geslote –“ and “ongeslote – vokale” instead they use for [i] as” ’n ongeronde, hoë voorvokaal” and [u] as “’n hoë agtervokaal.”

Meyer et al (Ons Moedertaal, Vierde Druk E-77, p.4) have also the following to say about [i] and [u]:

As julle byvoorbeeld ‘n [i] vorm, sal julle vind dat dit voor in die mond geskied en dat die tong hoog in die mond rus. Vorm nou ‘n [u] dan vind julle die tong is nog hoog in die mond, maar het verskuif n agter. Volgens hierdie posisies van die tong, d.w.s. of dit (horisontaal – gesproke) voor of in die middel of agter is en of dit (vertikaal – gesproke) hoog of middelhoog of middellag of laag in die mond lê, word die vokale benoem.

There is no mention of closure in the production of [i] and [u].

4.3 UHLELO LONKAMISA/VOWEL CHART (ACCORDING TO NYEMBEZI CLS (1982:11))



When Nyembezi (1982: 13) explains the loci of IsiZulu [i] and [u] in relation to the vowel chart he adds the quality of height (+H) to the position of [i] and [u] on the vowel chart. He says:

[i] -unkamisa ongaphambili ophakeme ovalekile. [It is a high front closed vowel]

[u] -ngunkamisa ongemuva ophakeme ovalekile. [It is a high back closed vowel]. He further goes on and explains that in normal orthography there is no need to differentiate between [ɛ] and [e] and also [] and [o] as they are related!

“Lokhu –ke kusho ukuthi sinonkamisa abahlanu olimini lwesiZulu. Nampa: [a e i o u] Yizo lezi izimpawu ezisetshenziswayo ekubhaleni. Uma-ke sesahlukanisa umkhaya ka [e] no [o] ngokuphakama kolimi sithola onkamisa abayisikhombisa esibabhala kanje: [a ɛ i o u] kodwa-ke njengoba sekuchaziwe, ekubhaleni kusebenza kuphela a e i o u.”

This means that we have five vowels in IsiZulu language. They are: [a e i o u] These are the signs used in orthography. When we separate the related ones of e and o because of

the tongue height we find seven vowels we write as follows: a ε i u. Though as explained, in orthography only a e i o u are functional” (p.13).

According to Bourquin’s theory, there is a great difference between *î* and *û* as found in Sotho and *i* and *u* found in Nguni and Sotho. In Sotho languages, **î* and **û* represent the close vowels that are identical with cardinal vowels numbers one and eight respectively. These vowels are identical with cardinal vowels numbers one and eight, identical with Ur-Bantu **î* and **û*, and lastly with common Bantu vowels *i* and *u*.

The Sotho [i] and [u] as indicated above are identical with Ur-Bantu **î* and **û* and have originated because of the fusion of **i* and **u*. According to notes on the “close vowels” in Bantu (p.49) by W. Bourquin (Journal: African Studies, Vol.14, 1955) a detailed account of the origin of *î* and *û* from the fusion of **i* and **u* is given.

“It is assumed by Meinhof that, besides ordinary **i* and **u*, there existed in Ur-Bantu other vowels of similar type which he calls “close vowels” p.49. Meinhof believes that they might have originated in the contractions involving **i* and **u*. To ascertain this belief as an axiom, a number of stems containing close vowels from different languages are examined. It is found that in certain monosyllabic stems the vowels corresponding to original **î* and **û* alternate in different languages. Other languages again may even have both these vowels together in a single stem and these forms seem to be more original.” (loc.cit).

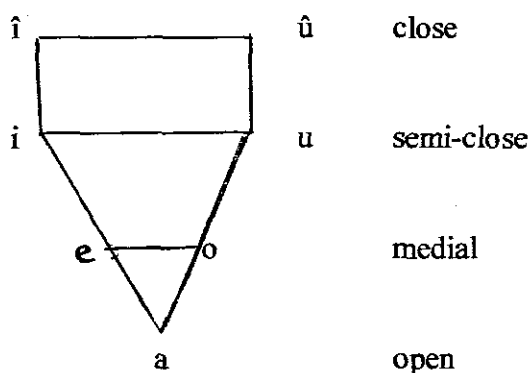
Meinhof (1932:24), inter alia, gives the different functions of the “open” and “close” vowels. These functions are brought about by their places of formation. The “open” are articulated far back in the mouth, whilst the “close” ones are articulated more in front. The following is noticed: “open” *u* very often changes the preceding consonant into a velar sound, e.g. Sotho *úwana* “child” < **mu-ana*. Venda – *liɣwa* “be paid” < **-lifwa* < **-lipua* “close” *u* on the other hand usually changes preceding consonants into labials, ... The front part of the tongue clearly was raised very much and was quite tense at this *u*, which explains the fact that alveolars or dentals have also resulted under its influence.

This also explains the fact that why labials before “close” u are as a rule not bilabial but dentilabial (p.24).

“Close” i gives rise to palatal sounds because the tongue comes into contact with the palate for the greater part of its length. It should be noted that close vowels are fortes and the open ones do not have the tenseness of the organs.

The following Sesotho examples have been deduced via isiXhosa and isiZulu words as they had not been provided in the article by Bourquin, except from page 51(6) where motsu is given for Sesotho

The following examples show that *î and *u are functionally different from *i and *u. Schematically they can be represented thus:



EXAMPLES

Ur-Bantu	isiXhosa	Sesotho
*- kulu	-khulu (big)	<u>-holo</u>
*- kûlû	Ufudu (tortoise)	<u>Kgudu</u>
*- tuma	-thuma (send)	<u>-roma</u>
*- tûna (-taka)	-funa (wish)	
*- luma	-luma (bite)	-loma
*- lûmela	-vumela (allow)	-dumela
*- pika	-phika (contradict)	-pheha
*- pîka	-fika (arrive)	-fihla

*- ti	Um-thi (tree)	More
*- tīla	-sila (grind)	-sila
*- lima	-lima (plough)	-lema
*- līka	-zika (go deep down)	-dikela (to go down)

Since the Sesotho close vowels are identical with Ur-Bantu close vowels, so their source should be identical with those of Ur-Bantu. Sesotho is fortunate to have these close vowels as phonemic in its array or vowel distribution. In some African languages, these vowels have fused with the semi-close ones or have been lowered to be identical with the semi-close ones. The last point is found in Nguni languages, especially isiZulu. In isiZulu there is no difference between [i] and *î of Ur-Bantu. The same is also found between [u] of isiZulu and *û of Ur-Bantu. Because of no-difference existing between semi-close and close vowels in isiZulu vowels, the close vowels ceased to exist in isiZulu.

The phenomenon that exists when one compares the close vowels in Sesotho with those of isiZulu, the isiZulu [u] and [i] phonemes represent the Sesotho [v] and [u] and also [i] and [I] respectively. Examples of lexemes supporting this argument had been treated in chapter three.

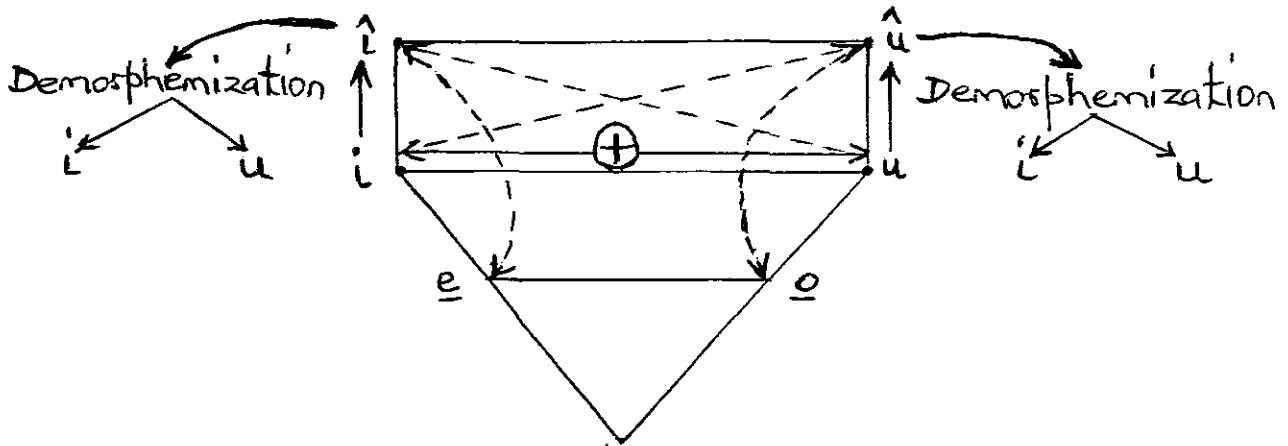
Meinhof (1934:24), after explaining that “close” vowels may also have originated in the contraction of vowels”, further elaborates how this contraction could have occurred. He says, (op. Cit, p.25),

With regard to the origin of û, it is instructive to observe that in Venda the well-known stem –kumi “ten” becomes fumi, which would correspond to B –kûmi. The li-prefix which stood before –kumi has penetrated into the stem. This would mean that fumi < *kiumi and that û < iu².

In like manner, î may have originated through the influence of an u sound³...

In a nutshell one would safely say, in every \hat{i} there is an \underline{i} , and in every \hat{u} there is an \underline{u} . When \hat{i} is broken down into its constituents, \underline{i} and \underline{u} are produced. In like manner, when \hat{u} is broken down, \underline{u} and \underline{i} are produced as by products.

4.4 ORIGIN OF CLOSE VOWELS



This sketch summarises what has been argued above:

- i. $\hat{i} + \underline{u} > \hat{i}$ or \hat{u}
- ii. when either \hat{i} or \hat{u} are demorphemized or broken down into their constituents each will produce \underline{i} and \underline{u} as semi-close front and back vowels.
- iii. IsiZulu [i] represents Sesotho [I] and [i]. Likewise, the isiZulu [u], represents Sesotho [v] [u].
- iv. Vowel lowering takes place in some languages. In Nyanja $o < \hat{u}$, and in Herero $e < \hat{i}$.
- v. Some examples from Bourquin will show that \underline{i} and \underline{u} alternate in some monosyllabic stems without any change of meaning. Sometimes even \hat{i} and \hat{u} may also alternate in some stems without any change of meaning. Note the following examples: (M stands for words from Meinhof, and B from Ur-Bantu. Bq will stand for those from Bourquin.)

B. * - $\chi\hat{u}\hat{i}$ (arrow) (Bq): (p.51)

Forms with i:

Shambala, Kaguru, Mbunda, Nkoya all have mu-vi

Herero has omu-zi

Forms with u:

Guzi and Kuria have omo-gu

Sesotho has motsu

Note that forms with the semi-vowel w, may be ignored as w might have occurred due to juxtapositioning of “u” and “i”, as in

Gikuyu	<u>mu-gwi</u>
Pare	<u>mu-vwi</u>
Lamba	<u>umu-fwi</u>
Bemba	<u>mu-fwi</u> , etc

In page 52 in an article by Bourquin, interesting examples also occur:

B *~~ŋ~~û, *-ngû (sheep) (m):

Thonga	nyi-mpfu
Tswa	yi-vu
Venda	mgu
Southern Sotho	nku
Zulu and Xhosa	i-mvu
Herero	oka-zu (small ship)

Forms with i:

Kwanyama	o-di
Nyaneka	o-ngi

B. *-lī (root, fibre) (M)

Nyoro	omu-zi
Rundi	umu-zi
Nyamwezi	mu-zi
Shona	mu-dzi
Zulu	u-zi
Xhosa	ulu-zi
(Southern Sotho	mo-di: genus name of plants of the Hypoxis
genus, some of which are used for making ropes)	

Forms with u:

Nyanja	mu-zu
Tswa	mu-tsu
(Southern Sotho	mo-tso: root, unit, origin of root...)

Endemann is also referred to as giving the following three forms in Sotho dialects. Mo-lu, mo-li, mo-tzōe. According to the present orthography, the first two words would be written thus: mo-du, mo-di and the last one could be something like motswe. This is almost the same as Nyanja mu-zu and Tswa, mu-tsu.

B. *-tū (cloud) (m):

Gikuyu	i-tu
Rundi	iki-chu
Sotho	le-ru
Zulu	i-fu
Xhosa	ili-fu

Forms with i:

Gi-Tonga li-pfi

Lenge di-pri. (There is a remark here about the sound “pr”. It is known what sound it represents, but what matters most is that the word di-pri, ends in -i).

B.*-tû (trap) (Bq)

Lenge chi-fu

Wisa ichi-fu

Venda tshi-fu

Sotho (Pedi) se-fu

Forms with i:

Southern Sotho se-fi

Zulu has isife as well as isi-fu

B.*-kûa (die) (m): (p.53)

Kerewe -fwa

Gikuyu -kua

Pogoro -fua

Makua -kwa

(Southern Sotho -shwa: not given in the text)

Note in the following languages the semi-vowel has been dropped:

Ganda, Shambala, Swahili, Nyanja, Zulu, Xhosa, all use -fa.

Forms with i:

Ilamba -khia

Guha -kia

Kuanyama -fia

Nyaneka -nkhia

Tumba -kia as well as -kwa

B. *tîku, *-tûku (night, day of 24hrs) (m):

Forms with i:

Nyamwezi	vu-siku
Ilamba	u-tiku
Swahili	u-siku
Ila	bu-shiku
Tswa	wu-siku
Kuanyama	ou-fiko
Southern Sotho	bo-siu (not initially given)

Bosio is more correct.

Forms with u:

Gikuyu and Kamba use	u-tuku
Kaonde	bu-fuku
Xhosa	ubu-suku
North Luba	bu-tuku
Kongo	bu-suku, fuku
Fumu	tsugu

B. * -vûili (chair) (Bq):

Pogoro	vuirî
Hehe	fuirî
Gogo	lu-vuile
Tabwa	lu-vwili

Forms with i only:

Ganda	olu-viri
Zigula	lu-vili
Dzalamo	im-vili
Kami	lu-firi

(Southern Sotho mo-riri not given in the text)

B. *fûvu (hippo) (m):

Gikuyu	nguo
Kaonde	m-vubu
Shona	m-vuwu
Thonga	m-pfûvu
Zulu	im-vubu
Mongo	nguvu
Duala	ngubu

(Southern Sotho kubu: not given in the text)

Forms with i: (p 54)

Silele	gîbo
Songo	gio
Songomeno	ngio, giu

An intermediate form is found in Ngangela, viz. Nguere, which leads to forms such as:

Nyameka	on-gave
Ndombe	on-geve
Mbundu	on-geve

From here, only forms that have relation with either Nguni or Sotho will be provided to be more relevant to our study.

B. *-kûta (fat) (m):

Gikuyu	ma-guta
Shambala	ma-vuta
Swahili, longo and I/a	ma-futa
Lamba	ama-futa
Thonga & Southern Sotho	mafura (not given in the text for Sesotho)

Xhosa

ama-futha

Forms with i:

Nyoro	ma-gita
Hima	ama-zita
Guha	ma-kita
Tumba	ma-ita
Nyangwe	ma-kit'
Kele	ba-ita
Bube	m-ita

B.*-kûnda (knot, tie) (m):

Rundi and Lamba	i-fundo
Bondei and Swahili	fundo
Nyanja	m-fundo

Forms with i:

Southern Sotho	le-fito
Zulu	-finda (tie a knot)
	i-findo (a knot)

B. *-liva(depth) (m) :

Nyoro	i-ziba
Shambala and Swahili	ziwa
Lenje	li-shiwa
Shona	dziwa
Xhosa & Zulu	isi-ziba
(Southern Sotho	se-diba (not given in a text)

Forms with u:

Caga and Sihu	i-ruwa
Nkusu	i-juwa
Bea	ma-juwa as well as ma-jiba.

B *-lũmbi (rainy weather) (bq)

Nyanja	m-bvumbi
Bemba	mu-fumbi
Kaonde	ku-vumbi
Shona	mu-bvumbi
Sotho	mo-lupe (orth. modupe)
Zulu	um -vumbi

Forms with i:

Zulu dialect	um - vimbi
Xhosa dialect	um - vimbi
Kwanyama	omu – dimbi

B *-nũka (mell) (Bq):

Swahili and Venda	- nukha
Rundi and Xhosa	-nuka
Twa	-muha

(Southern Sotho nkx^ha probably from muha → nh > nkx^h.not provided in the text.)

Forms with i:

Ndonga	-nika
Kuanyama	-njika
Mbundu	-ncha.

(Intermediate forms of "n" between "u" and "c" are omitted).

B* -pulo (frotto) (m) (p. 55):

Nyoro	i-furo
Shambala	fulo
Wisa	i-fulo
Mongo	lofulo
(Tswana	lofulo/lohulo)

Forms with i:

kerewe	i-firo
Southern Sotho	le-filo

B *-timba (lion, wild cat) (Bq):

Bondei, Nyawezi, Swahili and Kance all use simba.

Yao	li-simba
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Forms with u:

I/a	Shumba
Shona and Karanga	Shumba
Luyazi	ki-Shumba (leopard).

B. *-vimba (cover) (Bq)⊗p. 55).

Taita, Swahili, Nyanja and Sebga all use -vimba

Lamba & Bemba	-fimba
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Forms with u

Ila & Tonga	-rhumba
Lenje	-fumba
Mongo	-bumba

B *-tumo (spear) (m)(p. 56)

Rundi	i-chumo
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Nyamwezi, Bemba

and Lamba	i-fumo
Swahili	fumo
Shoma	le-rumo

Forms with i:

Gikuyi and Buwe	I-timo
Kuria	eri-timo
Guha	simo

B * -vula, *mbula (rain) (m):

Nyoro	en-jura
Rundi	im-vura
Nyawezi and Mongo	m-bula
Swahili	m-vua
Nyanja & Kongo	m-vula
Xhosa	im-vula
(SiSotho	pula< * n (i) vula <nv(b)> np.

Forms with i:

Guha	m-bila
Nyameka & Ndombe	om-bila
Tumba	bira
Kuvale	om-bira

Intermeditae form:

Bengu	m – bwia, m – bwiya
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B * -vwima (hunt, chase) (m) :

Nyamwezi	-bwima
Hehe and lenje	-fuima

Ila and Yonga	-vwima
Kinga	-swinga

Forms with i:

Shona, Suena and Venda	-vina
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*Forms with u:

Southern Sotho	-tsoma (hunt, take by surprise)
Zulu	-zuma (take by surprise)
Xhosa	-zuma (lie down in ambush)
Kongo	-zoma (pursue, hunt)

“32 Finally we turn to a stem in which the circumstances which have led to the formation of close *u seem to be more easily discernible” p.56 (op. Ut).

B. * - kupa (short) (m) (p. 56)

Swahili, Nyanja, Senga, Xhosa

And Ndonga: -fuphi

Kinga -supi

Karanna -pfuphi.

The examples just treated correspond with the stem given above i.e. * - kupa. “In some languages given first syllable of the B. stem does not seem to have contained a close vowel and the original system seems to have been * - kupa:

Zigula, Nyamwesi, Kami, Kaguru and Fipa all use -gupa.

(* In all these examples k has changes to g according to Dahl’s law.) (ke. Ah.)

B. * -pika (arrive).

There is a lot that is said in relation to stems beginning with original B. *-pi-. The stem is frequently found in eastern Bantu languages. (The term Bantu has been substituted by african). It appears as -fika in Tita, Swahili, Bemba, Kawonde, Lamba, Zulu, Xhosa, etc. Meinhof, after saying that *I may have originated through the influence of an * u sound (p.25), continues: "In Digo, for example, I have often heard in the phenome fī (B. *pī) w sound (i.e. a non-syllabic u) after the f, so that the syllable sounded like fwi..... The labial sound in fwi between f and i has, I suppose, originated from the initial labial sound" (p.57). (for further reading read both paragraphs of 33 and page 57.

B. * -roru (elephant (m):

Xhosa	indlovu
S. Sotho	tlou (not in the text)
Gaunda	en-jovu
Rundi	in-zovu
Bangi	n-zoku

The following has i in the last syllable:

Guha (40)	nyogi
Tumba (39)	joi
Kle (186)	n-joki

B * -lelu(chm, beard) (m)

Nyoro	aka-leju
Gikuyu	ki-reru
Swahili	ki-devu
Lenje	chi – lesu
lla	chi-levu
Sotho	se- lelu(seledu)
Zulu	isi-levu

Forms with i:

Caga (17)	ki-leru
Guho (40)	ka-lesi
Ndonga(90)	olu-yeswi
Kuanyama	en-dyedi
Nyameka (92)	onon-dyeri
Rombi (210)	n-jadi.

Examples of alternating u and i in different languages:

(NB. Only Sotho and Zulu –Xhosa examples will be given)

(a) Sotho:

These words have been taken from Endemann's *Worterbuch der Sotho-Sprache* and represent didactical differences:

-fina	=	-khuna (tie a knot)
-finyella	=	-funyella (reach)
-fita	=	-khuta (stoop)
-khisha	=	-khusha (swing on arms –as a child)
-khivilu	=	-khoivili –khuivili (red)
mo lulu	=	mo –lilili (pamper)
-luvela	=	-livela (drive back)
-mina	=	muna (strain, filter)
-pipa	=	-pupa (cover)
-rina	=	-rina (kill lice)
mo-ruti	=	mo-riti (shade), of also le-soiti
vo-rutho	=	vo-ritho (heat)
-tutumala	=	lilimala (be silent)
-vua	=	-tzoiea (skin): of Venda -via
-vupa	=	vipa (swell)

(b)	Zulu-Xhosa		
	-fishane	=	-fishane (short)
	um-fino	=	um-fumo (edible herbs)
	ubu-vimba	=	ubu-vumba (species of small shrub)
	um-vimbo	=	um-vumbo (a weal)
	uku-viva	=	uku-vuva (break)
	isi-vimbo	=	isivumbo (plug, cork)
	ubu-vimba	=	ubu-vumba (Embo) (stinginess)

To conclude the argument of the origin to close vowels \hat{i} and \hat{u} in Ur-Bantu, one may give a compendium of the summary of Bourguin's Article which has been extensively used in this section. In his summary marked 43 in page 60, inter alia, he says:

- (a) Forms corresponding to an original monosyllabic B. stem with a close vowel (either $*\hat{i}$ $*\hat{u}$) are found in some languages with u and in others with i. In others again, both these vowels appear together, in which case u often occurs as a semi-vowel w. These seem to be the more original forms. **In some languages these vowels ultimately merged into one two vowel (either: i or u), as, for instance, B. $*\text{-v}\hat{u}i$, $*\text{-v}\hat{u}$, $*\text{-v}\hat{i}$ (grey hair). My underlining.** Whether there was originally a consonant between the two vowels cannot be ascertained.
- (b) Some of the stems show evidence of an initial: - i which might have penetrated into the stem, thereby contributing to the formation of a close vowels.
- (c) Disyllabic seems with close vowels in the first syllable, may have i and u alternating in different languages. Some forms may have both vowels in them:
- B. $*\text{-r}\hat{u}i$ (hair),
 $*\text{-k}u$ iti (witch),
 $*\text{-v}w$ ima (hunt).

Another form of this type is found in kuvale.

u-tuike (might) < B. *-tîku,
*-tîku.

Benga has B. *-vûla as m-bwia, m-bwiya.]

(d) This is interesting. Close *î occurring in the last syllable of nouns representing the agent nouns i.e. **nomina agent**, seems to **have resulted from *î plus *i and not from *u plus *i**. (my emphasis). It appears that there was originally a consonant between these two vowels.

(e) In Kuanyama and Ndonga forms corresponding with B. stems with close *û frequently have i and not u. This still shows that in *û there is i and u. In Mpundu this has further developed to e. I would say the vowel i has been lowered to e:

e.g.	Ur-Bantu	Mbudu
	*-îvu (hippo)	o-ngeve
	*-kûkama (kneel)	-kekama
	*-lûmba (smell)	e-lembi (rainy day)
	*-nûka (smell)	-neka
	*-vû (earth)	e-ve (Sotho: mo-bu)
	*-vûla (rain)	om-bela (Sotho: pu-la)

In closing this argument of the origin of close vowels, Bourquin says:

The observations recorded in this paper seem to support the assumption that the close vowels have originated through the influence of a second *i or u and the stronger influence must be attributed to *i. Both vowels are still sometimes discernible but in most cases they have merged into one.

CHAPTER FIVE

5.0 ROLE OF CLOSE VOWELS IN JUXTAPOSED LEXEMES IN SESOTHO AND ISIZULU

5.1 INTRODUCTION

So far the nature and functions of the close vowels have been highlighted in SeSotho and isiZulu in particular. When one talks of “close vowels” in Sesotho one’s reference of closeness is not the one used in Nguni languages. It has been demonstrated in chapters three and four that the Sesotho close vowels are more close to the palate than the Nguni or specifically, through, it has been demonstrated that the isiZulu, so-called or referred to as **close vowels**, have a dual role when compared with the Sesotho close vowels.

5.2 IsiZulu “close vowels” and SeSotho semi-close and close vowels

The isiZulu “Close Vowels” can functionally represent the Sesotho **semi-close** and **Close Vowels**. To support this:

(a) isiZulu [u] = [v] and [u] in Sesotho.

e.g.	umuntu [umunt’u] (person)	=	motho [møtho]
	ubuntu [ubunt’u] (personality)	=	botho [bøtho]
	umuzi [umuzi] (village)	=	mose [møts’I]
	-buya [-bujə] (come)	=	-boya [-bojə]

(b)	imvula [imvøvula] (rain)	=	pula [p’ula]
	-vula [vula] (open)	=	bula [bula]
	-vuza [vuza] (lick)	=	dutla [dutl’a]
	imvu [imvøvu] (sheep)	=	nku [ŋk’u]

- (c) isiZulu [i] = [ɪ] and [i] in Sesotho.
- e.g. ilitshe [ilits'e] (stone) = lejwe [lɛzwe].
 Isitsha [isits'a] (dish) = sejama [sɛzama]
 Isihlahla [isihlahla] (shrub) = sehlahla [sehlahla]
 Imizi [imizi] (villages) = mitse [mits'e]
- (d) izinkomo [izinkomo] (cattle) = dikgomo [dikxhomo]
 izilonda [izilonda] (sores) = diso [diso]
 izimbuzi [izimbuzi] (goats) = dipodi [dipodi]
 izingwenya [izingwenya] (crocodiles) = dikwena [dikwena]

5.3 The dual role of isiZulu [i] and [u] vowels

The dual role of isiZulu [i] and [u] vowels when compared with Sesotho semi-close and close vowels, indicates that though the Nguni, so-called close vowels have been lowered acoustically and on the vowel chart, functionally, they are still stretched to cover the rules of the close vowels in Sesotho and also those of the semi-close ones. One could also safely say, the ur-Bantu *i and î, and also *u and û have fused in Nguni to [i] and [u]. That is why each vowel covers the roles of two vowels in Sesotho. This concept will be more discernible when the concept of demorphemization is fully discussed.

5.4 Demorphemization

In order for one to comprehend the concept demorphemization, the following equation has to be put in mind:

$$\underline{[C + V = CV]} \text{ but } [C^w] \text{ or } [C]?$$

This equation forms the gist of this study or is through demorphemization that certain phonological phenomena became unpredictable. Language A may have phonetic input with language B but both languages producing different phonological results. Some results may appear of uler as though phonological

rules had not been adhered to. In siSwati for instance one may say ya + umuntfu > yemuntfu. In isiZulu ya + umuntu > yomuntu: one who has not mastered or comprehended the manner demorphemization operates, may be inclined to criticise emaswati as though their phonology is wrong. One would have based his argument on the fact that a + u > o and not e. instead a + i > e !! This would not be wrong either, but there are “paralinguistic factors” that operate and exert their influence on the standard linguistic formulae that are known to produce specific sounds or results under specific phonetics environments, but only to produce puzzling results. [e] is produced instead of [o]. Could one say EmaSwati do not know phonology because their [a] + [u] produce [e]? This could be a false conclusion to reach, as the theory of demorphemization would elucidate.

5.4.1 Definition of Demorphemization

It is a phenomenon whereby polymorphemic lexical items are demorphemized into their constituent parts before they can be involved in phonological reaction with adjacent lexemic structures. Their component parts may be morphemic, morphic, phonemic and phonic. The resultant lexemes appear exceptional to the rule. (Mahlasela, 1998:01, Demorphemization – (Fact or Fallacy?). (unpublished paper delivered at DUC in 1999).

5.5 Labialization of consonant by back vowel in SeSotho and isiZulu.

After this paper speaker elaborated factually drawing his argument for the known premise that in African languages, say, for example, in this case, Sesotho and isiZulu any consonant followed by a back vowel [Bv], gets labialized by the latter:

$$C + Bv \quad - - \quad \rightarrow \quad C^w$$

This is a norm! When on the other hand, a front vowel follows a consonant and labialization takes place, the cause for this has to be sought as the rule or norm appears to be broken:

$$C + Fv \longrightarrow C^w (?)$$

e.g. thipa (knife) (sesotho) + -ana (Dim – suff)

→ thitswana and not *thipana

This phenomenon occurs sporadically in some African languages. The question is: why should it occur? Some examples are:

Thapi (fish) + -ana(dim-suff)

→ S/ch: [p'] > [ts^w']

Selepe (are o + -ana (dim – suff).

Seletswana and not *selepana

→ S/ch [p'] > [ts^w']

It is interesting to note that lemati (xoon), behaves differently from the previously given examples:

Lemati + -ana (dim-suff)

→ Lematjana and not *lematjivana

S/ch: [t'] > [tʃ] ≠ [tʃ^w'].

Good examples in isiZulu can be:

umhlaba + -ana

umhlabaana

umhlabwana - Libialisation

umhlabyana -

umhlatshyana – semi-vowel deletion

umhlatshana – Palatalization

inhlamba + -ana

inhlambaana

inhlambwana – Libialization

inhlambyana – semi-vowel deletion

inhlanjana - palatalization

CHAPTER SIX

6.0 DETERMINANTS OF TERMINATIVE PHONEMES OF DEVERBATIVE NOMINALS IN SESOTHO AND ISIZULU

6.1 INTRODUCTION

The linguistic problem that is existed in the researcher's mind regarding this topic was, why should terminative vowels phonemes of the deverbative nominals in Sesotho and isiZulu, mostly end in either -o/ -o/ or -i/ -i/ in Sesotho, or isiZulu, despite the fact that these deverbatives originated from verbal stems that terminated in /-a/ phonemes.

As explained in an introduction, the linguistic problem that existed in the researcher's mind concerning the origin of the terminative -o/ -o and either -i/ -i/ or "e" /-I / phonemes in the deverbative nouns of Sesotho and isiZulu, initiated this research. The answer to the question was, however, found in para- or extralinguistic factors or elements latent, so to say, in the /a/ phonemes of Sesotho and isiZulu. Any researcher who may study his "target" language in isolation from others, may be unable to detect that paralinguistic on phonologic elements that around certain vowels phenomes due to their situatedness on the vowel chart. Everytime a particular vowel phoneme is utilised lexically it carries with it semantic elements relative.

6.2 Examples of places of articulations with siutable lexemes.

Bilabial:

-bina [-bi:na] → mimino [mimi:no] (music)

-bona [-bo:na] → pono [p'o:no] (vision)

-memma [-me:ma] → memo [me:mo] (invitation)

When the terminative morphemes of the lexemes given above are compared i.e. those followed by /-a/ phonemes as in -bina (sing), -bona (see) and -memma

(invite) with their counter-parts, that is, those succeeded by back vowel phonemes, e.g. /-o/, labialization takes place. In “-bina”, the /-n-/ phoneme is an ordinary voiced alveolar nasal continuant, and yet in mmino (music), the /-n-/ phoneme is a bilabial voiced alveolar nasal continuant. The “rounding” or labializing characteristics on the /-n-/ phoneme are brought about by the back vowel [-o] which is the terminative phoneme of the vowel. The same phenomenon happens again in pono[pono]. In -mema (invite) which becomes memo [me:mo] (invitation), the /-m-/ which is a terminative morpheme of -mema [-me:ma], is an ordinary voiced bilabial nasal continuant and yet in [me:ma] (invitation) it is a libialized voiced bilabial nasal continuant : this may sound a bit queer, i.e. to talk about “libialized” refers to a secondary articulation or characteristics of the bilabial phoneme /m/. Abercrombie (1967: 60-67) discusses the phenomenon secondary articulation in detail in chapter 4.7 “Secondary and double articulations”. Inter alia, he explains that for secondary articulation(s) to be effected, there must be a relationship between the role of the tongue in the mouth cavity and the “space” created in the vocal tract.

“This is true, though less obviously so, of consonant segments as well: the sound that is produced depends on the entire vocal tract. But the location of the highest point of the tongue on two axes, together with the lip posture, provide a fair indication of the configuration of the whole vocal tract in the case of a vowel (with the exception to be mentioned later on in this section), in the case of a consonant, the total configuration can hardly at all be inferred from the place and manner of the structure” (p.61).

To illustrate what has been quoted above, it is further stated that:

“The primary articulation of a voiced labial nasal, the first segment of the English word me for example, is a structure of a complete closure between the two lips. Behind this primary articulation lies the whole of the rest of the vocal tract, in which the tongue is free to assume any shape since it is not involved in the

primary articulation There is undoubtedly a difference between the m of me and the m of move in tongue position (though it needs training to observe this)." (loc. Cit.).

In page 62, it is further explained that:

"The raising of the front of the tongue, in the one case, and its retraction towards the back wall of the pharynx, in the other, are therefore regarded as articulations which, though secondary to the primary labial secondary to the primary labial one, at the same time should not be ignored: they must find a place in the classification of the segments, and a fourth term must be added to their labels. If the tongue is raised to the close front position, that is to say close to the hard palate, the secondary articulation is one of palatalization if this tongue is low in the mouth and retracted towards the back wall of the pharynx, the secondary articulation is one of pharyngalization ..."

After describing that many articulations can be distinguished we selected few of those that are commonly encountered

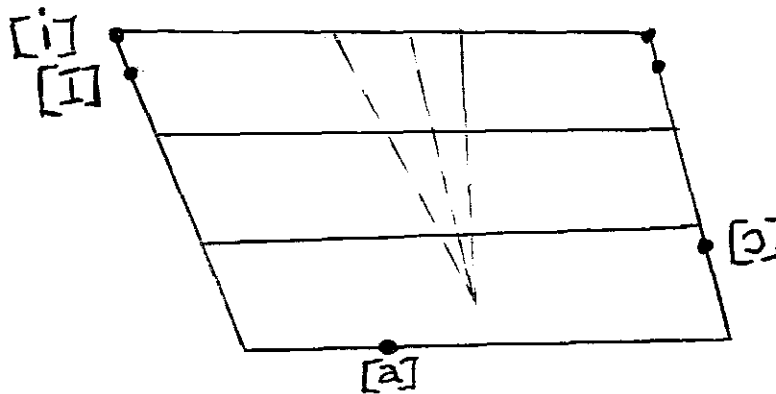
"It should be remembered that when we include a secondary articulation in the labelled of a segment, we are drawing attention to some posture of the articulators other than those concerned in the primary articulation; hence it would be meaningless to describe, for example, a palatal consonant as being at the same time palatalization." (op.cit. p62).

" Labialization consists of rounding the lips during the production of the segment, just as for a rounded vowel. (This same action of the lips is not regarded as a secondary articulation in the case of vowels, because both the tongue-action and the lip-action one of equal importance: the one to its situatedness, i.e. +F (front), +B (back), + L (low), +C (close), + O (open), etc. These elements play a remarkable role during the formation of new lexical items. Their formation

depend on the conjugation of the verb, i.e. verbal inflection. Looking at the vowel position on the vowel chart, one may have the following conclusions: if a vowel is frontal, it is negative back, i.e. <-B>. if it is a back vowel, it is negative front, i.e. <-F>. So, when it is open <+O>, it is negative close, i.e. <-C>, Etc.

6.3 Definition of vowels

Vowels to be defined here are those involved in the terminatives of the deverbatives, i.e. -o {-o}, -i [-i] and “-e” ([-I] . “a” [-a] will also be looked into as it features in the terminative phoneme of the verbal forms from which the deverbatives in question have been formed.

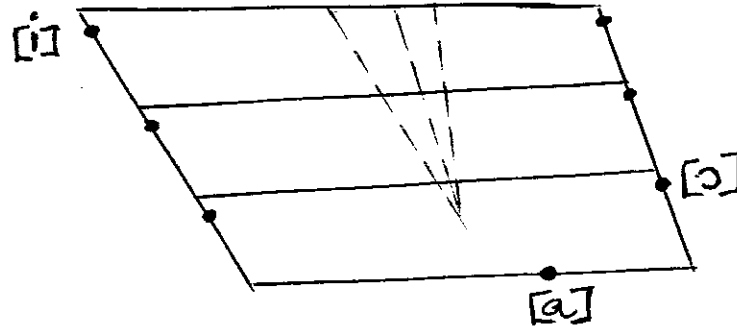


“[i]: the i of Southern Sotho is a close, front vowel and is practically identical with cardinal vowel no. 1 e.g. pitsa [pɪ'ts'a] (pot).” (Ziervogel, D et al 1967, p. 135). Taking from the definition the Sesotho [i] is:

[i]
<+F>
<+C>
<-O>
<-B>

Whenever [i] is used in any linguistic situation, these elements are there.

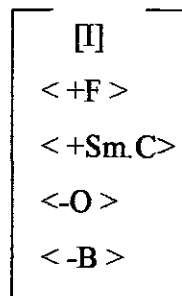
6.4 IsiZulu Vowel Chart



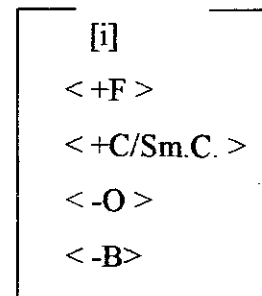
Doke (1971) defines the Zulu *i* as the high forward vowel. Tongue position somewhat lower than that for cardinal vowel no. 1. With lips decidedly spread” (p.2), Ziervogel, D., et al. (1967:85), says the *i* of Zulu is a close or high front vowel, slightly lower than cardinal vowel no.1. e.g. –vimba [vimba] (stop). It is important to emphasize here that, Ziervogel, D, et al mentions the idea of closeness of the Zulu [i] which to the ear of the listener seems to be similar to the Sesotho [ɪ] which is not identical vowel no. 1, but lies between cardinal vowels nos. 1& 2.

Acoustically the Zulu [i] is identical with Sesotho [ɪ], as shown above, e.g. Sesotho lema (plough) = lima in isiZulu. Characteristically the Sesotho [ɪ] and isiZulu [i] look as shown:

Sesotho:



IsiZulu:



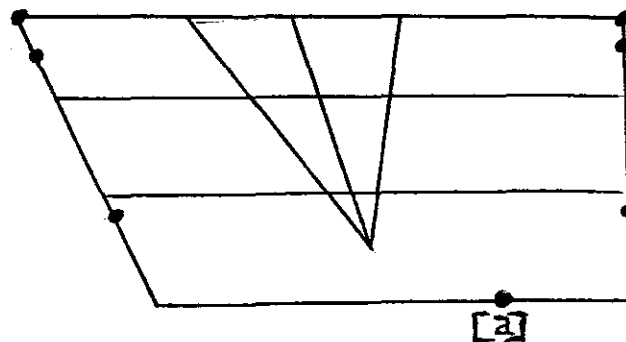
The Sesotho [o] is almost identical with C/V. no. 6 but slightly open. It is a semi-open back vowel, e.g. [-bona (sea). Ziervogel, D. et al (1967: 85) define the Zulu [[o] as “a semi-open middle back vowel which lies about half way between cardinal vowels 5 & 6 e.g. -bola [bola], (be bad).

Note! It is never stated that it is almost identical with cardinal vowel no.6 but slightly open.

“[a]: There is only one vowel a in Zulu which lies between (cardinal vowels, nos. 4 and 5, somewhat nearer to no. 5. The a of Zulu is therefore an open or low middle vowel, e.g. -thanda [-thanda] (love). Ziervogel, D., et al. P. 85.

From the definition given above, the Zulu [a] is a back vowel or at least a semi-back vowel. It is therefore [a] and not [a] as it is usually phonetically written.

Doke and Mofokeng (1957: 03) define Southern Sotho “a” as low vowel i.e. the Tongue -vowel nos. 4 and 5 (phon. a). **It must be considered, however, as definitely a back vowel.** (my emphasis). The mouth is fairly widely opened and the lips somewhat rounded”



Ziervogel, D, et al (1967: 1350) on the other hand define Southern Sotho [a] as an open middle vowel which lies between cardinal vowel nos. 4 & 5 somewhat more forward i.e. towards no.4. according to this definition, it is a semi-front vowel. It is an [a] and not an [a].

From the two definitions of the /a/ phonemes of Zulu and Southern Sotho, it is obvious that they are unlikely to behave the same in all their functional slots. As their positional qualities will effect the nature or quality of new phonemes.

This will be illustrated briefly in the treatment of the deverbatives,

e.g.	Sesotho	v/s	IsiZulu
	-rata > lerato		-thanda > uthando
	> morati		> u(m)thandi
	-bona > pona		-cula > iculo
	> mmino		> umculo
	> sebini		> umculi

6.5 Definition of deverbative nouns:

Doke (1971:66) explains the rule for the formation of nouns from verb stems as follows: "Personal nouns are formed by changing the final -a of the verb stem to -i, and prefixing the class prefixes; impersonal nouns are formed by changing the final -a of the verb stem to -o, and prefixing the class prefixes,". As though Doke was aware that something was amiss in relation to his definition of the formation of deverbative nouns; he further warns his Zulu students to be aware against the tendency of coming nouns according to these rules at random as "the cases I which such formations occur must be ascertained, as not every verb can be treated in this way (lot. Cit.). It needs to be further explained here that the so-called suffixation of -o and/ or -i in the formation of deverbative nouns is not a simple process of addition and substitution, but rather a process determined by parophonological phenomena in conjunction with generative rules of the language in question. Doke and his contemporaries do not want to involve themselves into this issue. In this regard, see also, Cole (1955: 113, 4.21). they only concern themselves with what happens on the surface structure.

6.6 Formation of Personal Nouns.

Final -a is changed to -i and the suitable class prefix is used:

- | | | | |
|-------|-------------------|---|---------------------------------|
| (i) | -hamba (travel) | > | umhambi (traveller) (Zulu) |
| | -tsamaya (travel) | > | motsamayi (traveller) (Sesotho) |
| (ii) | -fika (arrive) | > | umfiki (new comer) (Zulu) |
| | -fihla (arrive) | > | mofihli (new comer) (Sesotho) |
| (iii) | -alusa (herd) | > | umalusi (herdmen) (Zulu) |
| | -alosa (herd) | > | moalosi (herdmen) (Sesotho) |
| | -disa (herd) | > | modisa (herdmen) (Sesotho) |

Deverbative nouns can be found in almost all the nominal classes, like for instance sebui/ isikhulumi (speaker/ expert talker), (-bua / -khuluma, Meinhof 11.9 etc.).

6.7 Formation of impersonal nouns

The final -a of the verb stems are changed to -o. This phenomenon occurs in Sesotho and in IsiZulu. Examples are given at random:

- | | |
|-------------------------------|--------------------------------|
| -rata > rato (m. cl. 9) | -thanda > intando (liking) |
| -tsamaya > motsamao (m.cl. 3) | -hamba > uhambo (journey) |
| -botsa > potso (m.cl. 9) | -buza > umbuzo (question) |
| -bopala > papadi (m.cl.9) | -dlala > umdlalo (play) |
| mmapalo (m.cl.3) | |
| -bitsa > lobitso (m.cl. 5) | -biza > ibizo (names) |
| -bala > palo (m.cl.9) | -bala > isibalo. (sum) |
| -thaba > thabo (m.cl.9) | -jabula > injabulo (happiness) |

The list may be open ended. Let us look at those examples that do not change their terminative vowels. There are deverbatives from the passiveness. In Tswana cl.I. nominals may have alternative forms with -i:

e.g. rongwa (be sent) > morongwa/ morongwi (Tsw.) (messenger)
-nyalwa (be married) > monyalwa/ nonyadivi (bride).

Note! In Sesotho for morongwa and morongwi, the following forms exists moromuwa and morongwe. Monyaliva and monyadwi in Tswana, would be monyaduwa. In Zulu for monyaduwa we would have umlobokazi <-lobolwa. For morongwa/morongwi (Tswana), moromuwa/ morongwe (Sesotho) one would have umthunywa, isithunywa< -thunywa.

6.8 Structural correlation v/s semantic correlation

It does always follow that deverbatives from identical verbal stems in Sesotho and IsiZulu are to be structural identical. What is important is the equivalent,:

-rata (love) > lerato, morati, serati (Sesotho).
-thanda (love) > uthando, umthandi. (IsiZulu)
-dumela (believe) > tumelo, modumedi, sedumedi (Sesotho).
-kholwa (believe) > inkolo, ikholwa (isiZulu)

6.9 Determinants of suffixation of i, o, and a to various deverbatives

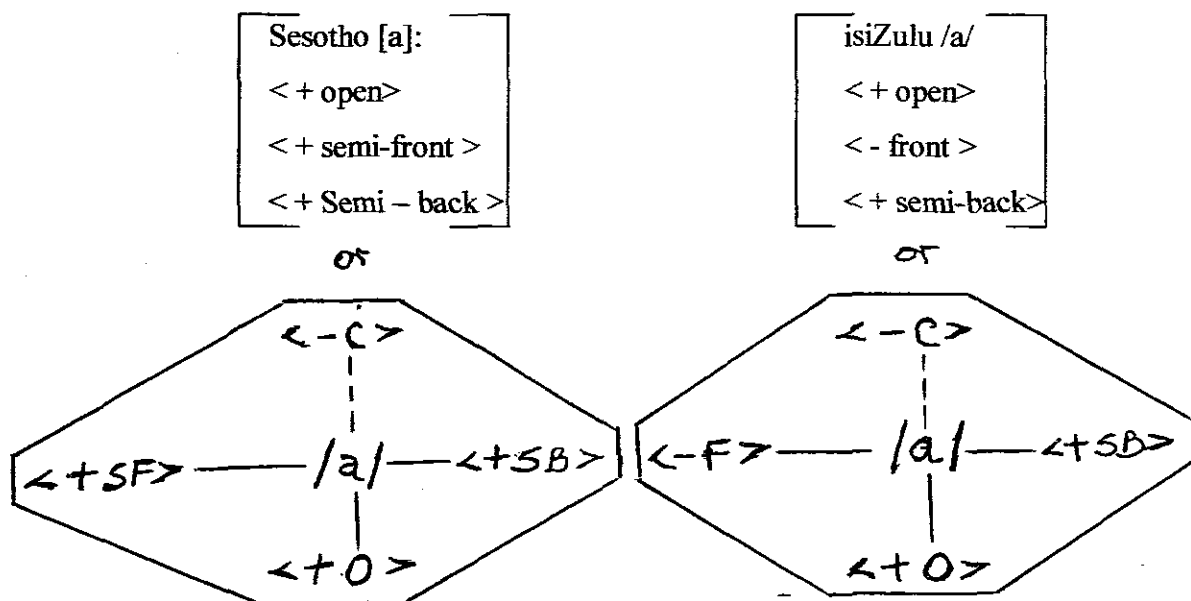
The phenomenon to be discussed here takes us to the definition of [i], [o] and also [a] of Sesotho and isiZulu as provided in 1.2.4.

However a verbal stem is used in Sesotho and IsiZulu for the formation of a new lexical item, many processes are operative in the deep structure (Ds).

Firstly, the breaking down process (BDP) of the terminative vowel of the verbal stem takes place.

If the verbal stem ends in /-a/ phoneme, this phoneme is broken down into its basic components or “semantic elements” or features. This is termed demorphemization. In the case of a morpheme consisting of one phoneme, i.e. /a/ which “is a word in itself” (Lawrence, et a, The new book of knowledge, 1994: 01), the term dephoemization may be used. Let us take /a/ as an example of this type of a morpheme i.e. uniphonemic morpheme monophonemic

It will serve the theory of BDP well, as it may be called a simplex. According to the definitions of Sesotho /a/ and isiZulu /a/ phonemes as given earlier, they would look as shown:



What has been provided under each “a” phoneme are positional components of each phoneme on the vowel chart. Those components are not acoustic features of these phonemes but effect the synthesis of these phonemes in the construction of new lexical items in the language. We will however, concentrate on the deverbatives in this paper.

Note the following process carefully:

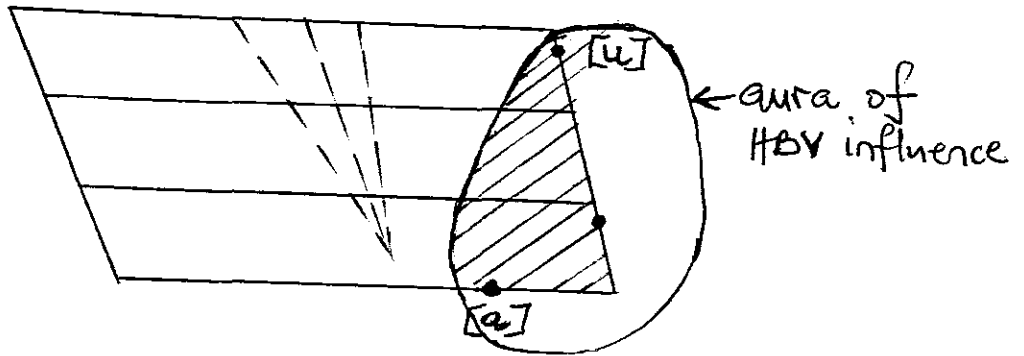
v-stem: -ngola > no – ngolo

i.e. nongolo < mongola + positional Inf).

Since the Sesotho /a/ phoneme is an open semi-front vowel, it is always under the influence of the highest front vowel (HFV) in Sesotho, i.e. [i], identical with cardinal vowel no.1. It is also identical with Ur-Bantu *i . (For all details about the origin of this vowel, read Mahlasela 1994, “Demorphemization : Fact or Fallay?” unpublished article delivered at UZ: Umlazi Campus on 27/05/ 94) and also “Functional Comparisons of /a/ phonemes in Sesotho and isiZulu – A parophonological phenomenal approach,” (unpublished article presented at ALASA E.Region function held at Unizul on 28 October 1994 to confer Honorary membership of ALASA on Prof. A.C. Nkabinde in recognition of his outstanding contribution of research in the field of African languages).

In IsiZulu, the /a/ phoneme will always be under the influence of the highest back vowel (HBV) before it comes into contact with another phoneme. The HBV in IsiZulu is [u] which is acoustically not similar to Sesotho [u]. The difference being that the Sesotho [u] is identical with cardinal vowel no. 8, and Ur - Bantu *u. The IsiZulu [u] is not identical with Ur-Bantu *u and CV No. 8. It is however, similar with Sesotho [v] nos. 7 and 8, which is a semi-close back vowel. Functionally, the IsiZulu /u/ phoneme serves the needs of Sesotho /v/ and /u/ phonemes.

In a nutshell it means that whenever an /a/ phoneme is used in IsiZulu word, it is under the influence of [u] vowel since it is a back vowel. Watch the sketch.



A deverbative noun from -bhala > umbhalo or Umbhali

and non like * umbhala. Why? Watch:

(i) -bhala → -bhala + (positional influence → Bv -Infl.) substitute (P I) with (B v - Inf.)

i.e. -bhala + (Bv - Inf)

i.e. -bhal(a + Bv - Inf)

Bv - Inf = *u



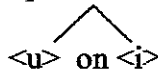
BDP (Demorphemization)



*(u + i) } theory of origin of "close vowels" in Bantu by Bourquin.



free phonemic selection (FPS)



-bhal(a + u)



-bhal-o

nominal class prefixation. Umbhalo

(ii) -bhala > umbhali

-bhala + Positional Inf (HBv - Inf).

Substitute PI by HBv - Inf

i.e. -bhala + HBv

→ -bhala + *u



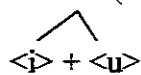
BDP (Demorphemization)

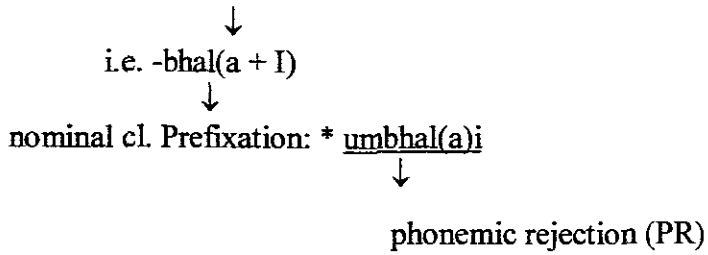


*u → u + i



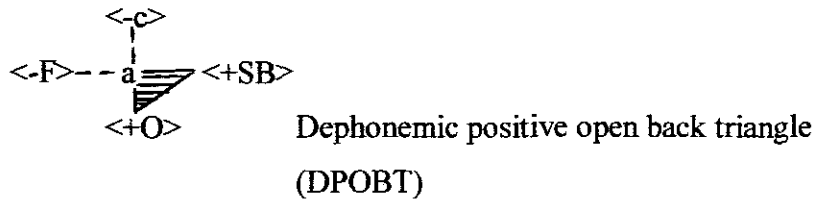
FPS (free phonemic selection)



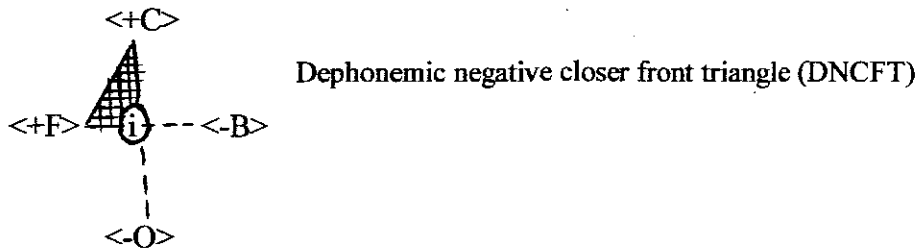


The rejection or dropping of /a/ phoneme here may be due to the dephonemic triangle that /i/ forms opposite the one of /a/ phoneme. One phoneme has to be picked up. Note the following sketches.

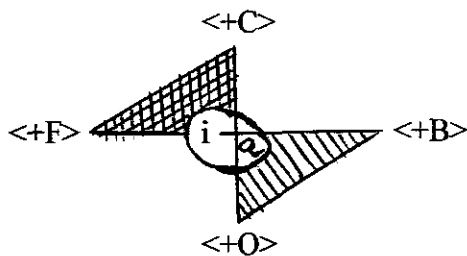
(a) Dephonemization of /a/ phoneme:



(b) Dephonemization of /i/ phoneme.



(c) Superimposition of /a/ and /i/ dephonemic triangles:



From the above structure where the powers of the triangles Fci and aBO balance, the option rests on the generative rules of the language to pick up on one phoneme. In this case /i/ has been picked up. From *umbhali the /a/ phoneme is deleted because it is unacceptable in this structure. Umbhali comes into being.

In Sesotho the same process (phenomenon) is followed:

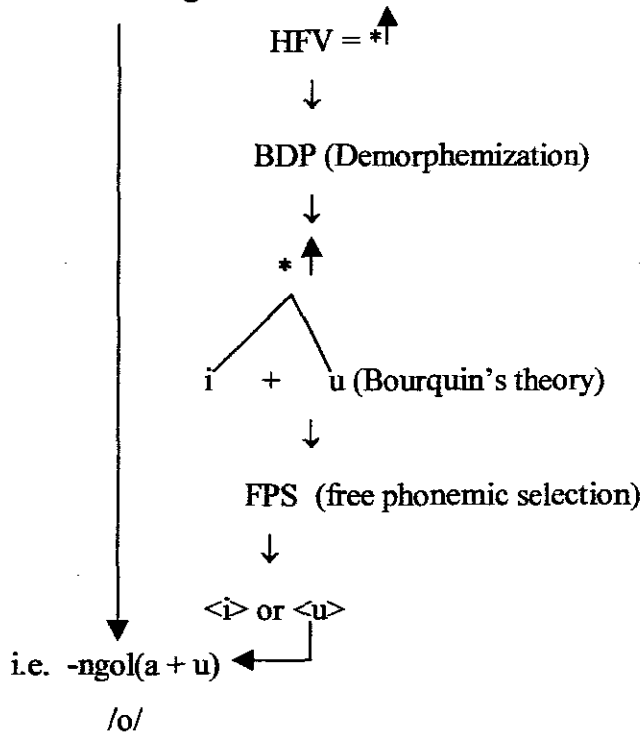
*Note also that the crosses FIB and CIO are identical to FaB and CaB and CaO i.e. i and they share the common point:

(iii) -ngola (write) > mongolo

i.e. -ngola + (positional Inf.) → (HFV)

→ -ngola + (substitution of PI by HFV.

i.e. -ngola + HFV



nominal class prefixation:

→ mongolo.

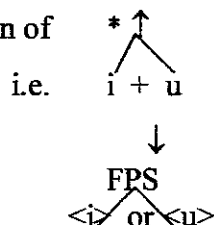
(iv) -ngola (write) > mo-/se -ngodi.

(a) -ngola + (PI) → HFV.

(b) -ngola + substitution of PI by HFV.

i.e. -ngola + * ↑

(c) demorphomization of



(d) -ngol(a + i)

Norminal class prefixation i.e. mo- /or se-

-ngola = i

> -ngolai > mo-}ngolai

se- }ngolai.

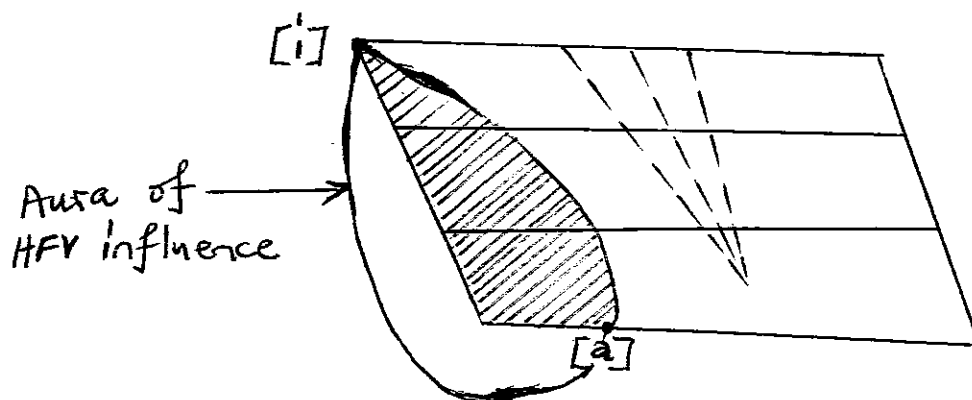
*mo / sengoa(i) - Phonemic Rejection.

The steps that took place in (ii) a, b & c are also repeated here. At the end of the process, /i/ is picked up. In Sesotho, the phoneme /-i-/ + /-i-/ changes to /d/ + /i/ i.e. [-di].

Sengoli → sengodi

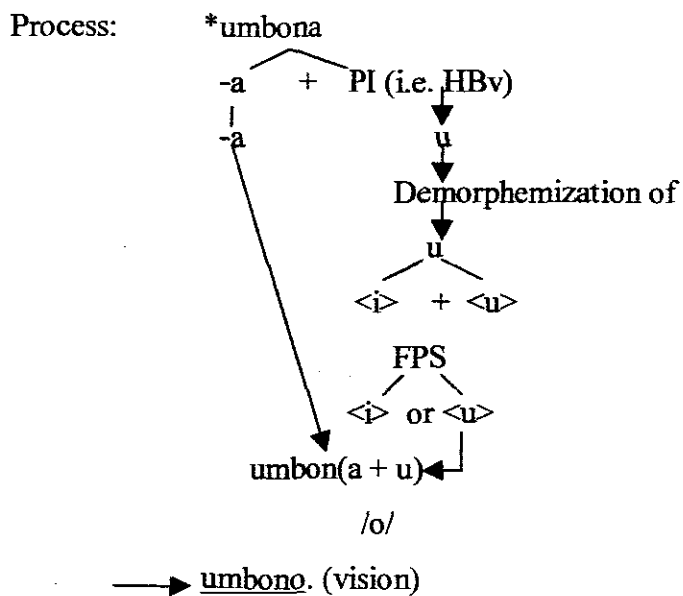
Mongoli → mongodi

The Sesotho /a/ phoneme when used linguistically is always under the influence of the HFV i.e. [i], which is identical with CV no. 1



Further examples:

(v) -bona (see) > umbono < *um(u)bona (vision, sight)



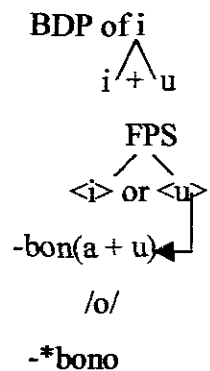
Sesotho.

(iv) -bona (see) > pono < *nibona [nibo:na]

process (brief steps).

-bona + P I (i.e. HFV)

i.e. -bona + *I (HFV)



nominal class prefixation:

ni + bono

→ *nobono

→ n(i)bono

→ n bono

→ initial strengthening and nasal elision.

→ pono (vision)

(vi) -khuluma (talk) > inkulumo < *inkhuluma. < *inkhuluma

(brief steps given)

*inkuluma

-a + PI (i.e. HBV - Inf).

Substitute PI by HBV - Inf (because they are functionally similar)

i.e. -a + HBV

i.e. -a + (HBV = u)

substitute PI by HBV-inf (because they are functionally similar)

i.e. -a + HBV

i.e. -a + (HBV = u)

subst. HBv - inf by *u

i.e. -a + *u

↓

BDP (Demorphemization)

↓

u

i + u } Bourquin's theory

↓

FPS (free Phonemic Selection)

<i> or <u>

i.e. *khuluma (a + u)

↓

/o/

i.e. → ink(h)ulumo. (speech)

(vii) -jala (saw, cultivate) > tjalo < *nijalo < uB. *-vyala.

*nijalo *nijala + PI (i.e. HFV – Inf).

Substitute PI by HFV – Inf/.

i.e. -jala HFV- inf = *î

i.e. -jala + HFV

= -jala + (*î)

↓

Demorphemization (BDP)

i.e. *î = i + u} Bourquin's theory.

↓

FPS (free Phonemic Selection)

i.e. -jala + <î> or <u>

i.e. -jal(a + u)

/o/

Normal class Prefixation → *nijalo

N(i) j – Elision of /i/ phoneme

*nj-

j > tj (Plosivation)

Ø tjalo (cultivation)

Mojadi was determined after FPS

i.e. BDP of *î = i + u

jala + (<î> or <u>)

FPS

i.e. -jal(a+i)

→ *nijal(a)i

Phonemic Rejection due to positional in compatibility in this case

→ -ja(lti)

d

i.e. mojadi

Words of this category are:

-jala > mojadi (uMtshali (umZulu).

njalo > mmonyadi

bala > mmandi etc

The process of -jala > + jalo, occurs in -tshala > isitshalo in IsiZulu.

Briefly:

(i) -tshala > isitshalo < *isitshala.

i.e. -tshala + PI (i.e. Bv – inf).

i.e. -tshala + sub of PI by Bv – inf

i.e. -tshala + Bv – inf

i.e. Bv – inf = *û.

Demorph. of *û → i + u tshal(a + u)

i + u → FPS o

prefixation

i.e. -tshala + <i> or <u> i.e. isitshalo.

So far o have tried to illustrate the point that in the formation of deverbative nouns the terminative morphemes are not haphazardly suffixed to the verbal stems, but are brought about by parophonological forces that are operative in the linguistic deep structure or format. *for instance in Sotho languages it is never spoken of a + u > o. this is because Sotho languages assimilation of a + I > e, is, however, sporadically experienced in words such as:

*maitsi > metsi (water)

*maimo > meno (teeth).

The phenomenon of a + u > o can be appreciated to have occurred even in Sotho languages when discussing the issue of deverbative nouns ending in -ô. [-o] as a phonological example derived from /a/ + /u/ phonemes. The process of demorphemization is not limited as deverbatives but even percolates certain of the word structures.

In IsiZulu, for instance it is said umuntu (person):

abantu (people) umuzi (home stead): imizi (village)

<*UB. *muji

but

umlungu (white person) > abelungu

umSuthu (sotho) > abeSuthu

umtswana (Tswana (Tswana) > AbeTswana, etc.

Where does the /-be-/ morpheme derive?

Let us watch the following example:

Um(u)lungu → abelungu

The phonological feature is /a/ + /i/ > /e/.

Processes

*NB Abelungu < *Abalungu

(i) *Abalungu

↓

/a/ + PI i.e. Bv – Inf.

Substitute PI BY Bv – Influence

i.e. /-a-/ + Bv - Inf.

↓

Bv - Inf = * û

↓

Demorphemization

(BDP)

↓

* û

i + u

FPS (Free Phonemic Selection)

/-a-/ + <ɨ> or <u>

↓

e

↓

i.e. abalungu

→ abelungu

CHAPTER SEVEN

7.0 GENERAL CONCLUSION

7.1 FINDINGS

It has been observed and ascertained through comparative philology that there are certain phonological phenomena that are caused in some African languages by external factors which have not been determined and spelled out in specific terms. The phonetic and phonemic changes that are brought about by these phenomena seem identical with the well-known phonological phenomena whose causality can easily be explained. It becomes difficult to draw a line of demarcation between the two phenomena that seem structurally identical and yet are intrinsically unidentical.

Labialisation is caused by a back vowel /u/, /o/ and /v/ when it succeeds a consonant phoneme. Sometimes labialisation is caused by the back vocalic semi-vowel /-w-/. Linguistic forms generated at this conceptual, theoretical or imaginary level, appear similar or identical with the well-known phonological phenomena, namely; labialization, palatalisation, affricatization assimilation, vowel raising, etc. The difference with the well-known phenomena named above, is that, the linguistic phenomena that have been studied have a circumlocutionary way of occurring that follows "predictable" stages. The extent of the influence of close vowels on juxtaposed lexical components (morphs, morphemes and phonemes) has been shown in SeSotho and IsiZulu.

Many phonological phenomena occur because of incompatibility of close vowels with certain open and semi-close vowels (especially in SeSotho for the latter case) and consonantal morphemes. This incompatibility leads to another phonological phenomenon known as dissimilation. From dissimilation, miscellaneous phonological phenomena occur. The following are some morphophonological phenomena that result from incompatibility of close vowels with some "open" vowels and consonantal phonemes like alveolarisation, prepalatalisation, aspiration and others.

Since the study compares SeSotho and IsiZulu, the unit of analysis has been words or, more scientifically, morphemes. Both analytical normative approach and descriptive approach have been followed. All the phonological results of the combinations could be predicted from the input, that is, [C] + [V]:

$$b + a = ba$$

The equation [N + b = (*Nb) > mp'] implies that when the nasal [n] has been jaxtaped to [b], a phonological reaction takes place. The resultant phoneme becomes /mp'/.

The gist of the study has been on the third equation:

$$[C + V = CV] \text{ but } [C^w] \text{ or } [C]?$$

It is deviant from the other predictable equations. The input in the linguistic locus does not give rise to a predictable phonological phenomenon. That is why it is followed by a question mark.

Again, a lot has been written on morphonemics and morphophonological aspects of language. Nothing has been researched on paramorphophonological aspects of a language. This study is the first one of its kind. The concept of “para” means something occurring outside the linguistic dimension as it is known and it has been treated for the first time in this study.

Close vowels can be manipulated to show demorphemization. Great needs for the linguistics terms such as vowels replacement and vowel substitution should be revisited for correction. There is a phonological reason why the following structures are:

IsiZulu	IsiXhosa	isiSwati	SeSotho
Ubaba	utata	babe	ntate

The study reveals the occurrence of the vowels with extra or additional characteristics. These characteristics strengthen the word with more semantic value. The tonological supra-segmental quality of the word occurs when the “pressed”, “nasalised”, “whispered”, “prolonged”, “high pitched toned” vowels are articulated within the syllabic structure of a word. It is difficult to locate these vowels on the vowel chart. Therefore, it becomes difficult whether they should be classified like other vowels with diacritics added to them in order to vivify nasalisation, whispering and prolonged length.

Pressed vowels can be deduced from Southern Sotho monosyllabic ideophones:

He! (of being very bitter)

He! (to be astonished)

In disyllabic ideophones:

Hebe! (of whispering)

Hiefe! (of striking with a third)

In trisyllabic ideophones:

Hlwepheke! (of snivelling)

Fa! Fa! Fa! (of drizzling (of) rain)

Nasalised vowels occur in the neighbourhood of the nasal consonants. The sign (-) above the vowel is a diacritic which is used to mark them:

He⁻ne – hehe! (of muttering cinder breath)

Ho⁻no! – ho⁻no (of speaking aside in undertones)

Whispering vowels are found in large numbers in SeSotho monosyllabic, disyllabic and polysyllabic ideophones of varying tones:

Fa! (of light drivile)

Swahla! (of rustling sound)

Fifa! (of darken)

Vowels with prolonged length occur sporadically in normal speeches. They are indicated by a colon:

ho : le

In ideophones, lengthening is extended abnormally but the final syllables are relatively short:

ho: : le for ho-o-o-le (very very far)

In most cases with disyllabic ideophones, it is the final syllable that gets prolonged:

seuu: : (of many things scattered all over the place).

In monosyllabic ideophones, vowel –a is higher than the “frontier” variety of the normal Sotho-Tswana a. That is noticed when a is followed either by i or u in the next syllable:

Tlhapi (fish)

Tau (lion)

The duration of a segment may be determined by the nature of the segment, that is, by its point and nature or manner of articulation. The term intrinsic duration may be used to refer to the duration of a segment as determined by its phonetic quality. That duration appears to be correlated with the tongue height.

Lenister, (1960: 20) explains the segmental conditioning of vowel duration thus:

The duration of a vowel depends on the extent of the movement of the speech organs required in order to come from the vowel position to the position of the following consonants. The greater the extent of the movement, the longer the vowel.

Vowels were shorter before /b/ than before /d/ and /g/, since the different articulators are involved in the sequence vowel + labial. There is no time delay in moving the articulator, that is, (the tongue) from the vowel target to the consonant target.

Again, Leniste, (1960:20) maintains that /u/ is particularly long before /d/. Before /g/, /u/ has an intermediate value because the movement involved is relatively small. However, the back of the tongue is not as mobile as the tip of the tongue. As a result, the closing process takes more time.

In this study, the short vowels are found to be largest before /t/, shorter before/k/ and shortest before /p/. For voiced plosives, the order of the duration of short vowels is $g > d > b$ (where the consonant letter means "the vowel before the consonant" and $>$ indicates "longer than" with fricates, vowel length decreased in the order:

$$t > k > p$$

It has been discovered by Maack (1953) that front vowels are longer before labials and velars than before dentals. Back vowels are longest before labials and shortest before velars. It is clear that the further the point of articulation of a sonant from that of the following consonants, the longer the sonant. It should be noted that the semantic applicability of the term sonant implies the voiced sound other than a vowel and capable of forming a syllable.

Again, Maack, (1953: 21) points out that:

.....the sonant is proportionally longer, the closer is point of articulation is to that of the preceding consonant.

Fischer-Jorgensen, (1964: 22) contends that the duration of aspiration depends on two factors, namely, the point of articulation of the consonant and the phonetic quality of the following vowel.

Meinhof, (1932:24) contends that Ur-Bantu had other vowels of the same type as ordinary *i and *u, which differs from the latter by their pronunciation. These vowels have caused a lot of changes in preceding primary consonants. Meinhof calls these vowels “close vowels”. These are î and û. These two types of vowels differ even today in their pronunciation in several languages such as in Sotho and Kikuyu whereas in most languages no distinction is made. Before û, primitive consonants are usually changed to dentilabials such as f, pf, v, bv, whereas î has produced alveolar fricatives such as s, sh, ts, z, dz, etc.

It is observed that the difference between the “open” and the “close” vowels was that, the former were articulated rather back in the mouth, while the latter were found more in front. “Open” u very often changes the preceding consonant into a velar sound:

Sotho: ‘nwana (child) < *mu- + -ana

muana

‘nwana [ŋwana]

“close” u on the other hand usually changes the preceding consonant into labials:

Venda: liwa (be paid) < lifwa < - lipu

The part of the tongue clearly was raised very much and was quite tense at this u, which explains the fact that alveolars or dentals have also resulted under its influence. Meinhof, (1932: 24) sums up thus:

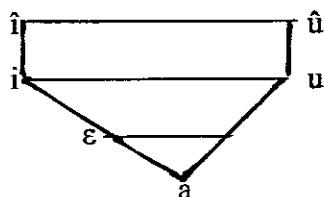
In this case alveolars and dentals, not labial sounds result from the influence of “close” u which again may explain why the labials before “close” u are as a rule not bi- labial but dentilabial.

“close” i gives rise to palatal sounds because the tongue comes into contact with the palate for the greater part of its length.

The following examples demonstrate that the vowels *î and * û are functionally different from i and u:

Ur-Bantu	IsiZulu	Southern Sotho
-kulu (big)	-khulu (big)	-holo (big)
-kûlû (tortoise)	ufudu (tortoise)	kgudu (tortoise)
-lima (plough)	-lima (plough)	-lema (plough)
-lîka (go deep)	-zika (go deep)	-tiba (go deep)

Even the diagrammatic vowel chart gives a clear distinction between î, û and i and u:



Meinhof, (1932: 50) maintains:

They might have originated through a contraction of vowels, close û through the influence of the vowel *î and close *i in the manner through the influence of *û.

It has been observed in Siha that if the first syllable of the item contains an u or close o, the vowel of the following syllable becomes u:

B* -vulî > buru (goat)

-konî > sonu (shame)

If the first syllable has an a or close e, an u in a succeeding syllable becomes i:

B* lefû > kileri, (ehini)

Valû > ovari (rib)

Many examples that have been taken from Kuanyama contain a vowel corresponding to the original *î where other languages show original *û. The fact that close û was influenced by an *i which dominates Kuanyama morphological and phonological pattern proves beyond reasonable doubt that changes taking place in that linguistic scenario is not accidental:

Ur-Bantu	Kuanyama	Sotho
-kûa (die)	-fia	-shwa
-pokû (blind)	-pofi	-fofi

In Mbundu, the above process has gone an extra mile in the sense that the close vowel *û frequently appears as e.

It appears that the older forms of these words must have had i instead of e. That means that i lost its close articulation. At the same time, the original consonant which preceded *û has been retained, with the exception of *p which has become f:

Ur-Bantu	Mbundu	Sotho
-Xûru (hippo)	o-ngeve	Kubu
-kûma (be removed)	kemana	tuma

There is a great difference between î and û as found in SeSotho and i and u found in Nguni and SeSotho. In SeSotho language, *î and *û represent the close vowels that one and eight representively. These vowels are identical with cardinal vowels numbers one and eight, identical with Ur-Bantu *î and û. Close i gives rise to palatal sounds because the

tongue comes into contact with the palate for the greater part of its length. Close vowels are fortes and the open ones do not have the tenseness of the organs.

î and û are functionally different from i and u:

Ur-Bantu	IsiZulu	SeSotho
-lûmela	-vumela (allow)	-dumela
-luma	-luma (bite)	-lona
-pîka	-fika (arrive)	-fihla
-pîka	-phîka (contradict)	-pheha

SeSotho has close vowels as phonemic in its array or vowel distribution. In some African languages, these vowels have been lowered to be identical with the semi-close ones. In Nguni languages, especially in isiZulu there is no difference between [i] and * î of Ur-Bantu because of no-difference existing between semi-close and close vowels in isiZulu vowels, the close vowels ceased to exist in isiZulu.

The phenomenon that exists when one compares the close vowels in SeSotho with these of IsiZulu, the IsiZulu [u] and [i] phonemes represent the SeSotho [v] and [u] and also [i] and [I] respectively.

It is observed that in every î there is an u and in every û there is an i. When i is broken down into its constituents, **i and u** are produced. When û is broken down, **u and i** are produced as by products:

$$i + u > \hat{i} \text{ or } \hat{u}$$

When either î or û are demorphemised or broken down into their constituents, each will produce **i and u** as semi-close front and back vowels.

Bourquin, (1955: 60) summarises the above thus:

Forms corresponding to the original monosyllabic B. stem with a close vowel (either *î or *û) are found in some languages with u and in others with i. In others again, both these vowels appear together, in which case u often occurs as a semi-vowel w. these seem to be the more original forms. In some languages, these two vowels (either: i or u), as, for instance, B. *-vûi, *-vû, *-v î (grey hair).

Some of the stems show evidence of an initial i which might have penetrated into the stem, thereby contributing to the formation of a close vowels. Disyllabic stems with close vowels in the first syllable, may have i and u alternating in different languages. Some forms may have vowels in them:

- B. *- ûili (hair)
 *-kûiti (witch)
 *-vwima (hunt)

Acoustically the isiZulu [i] is identical with SeSotho [I] as shown in:

SeSotho	IsiZulu
lema = [IIma]	lima = [lima]

Characteristically, the SeSotho [I] and isiZulu [i] look as:

SeSotho	IsiZulu
[I]	[i]
<+ F>	<+ F>
<+Sm.C>	<+C/Sm.C>
<-O>	<-O>
<-B>	<-B>

There is only one [a] in isiZulu which is between (cardinal vowels, nos. 4 and 5, somewhat nearer to no. 5. [a] in isiZulu is described as open or low semi-back vowel. In Southern SeSotho [a] is an open middle open vowel which lies between cardinal vowel nos. 4 and 5 somewhat more forward towards no.4. Therefore it is a semi-front vowel.

Characteristically, the SeSotho [a] and isiZulu [a] look as:

SeSotho	IsiZulu
[a]	[a]
<+ open>	<- open>
<+ semi-front>	<- front>
<-semi-back>	<+ semi-back>

The above descriptions of the /a/ phonemes of isiZulu and Southern Sotho, show clearly that they are unlikely to behave the same in all their functional slots. Their positional qualities effect the nature or equality of new phonemes as illustrated in the deverbatives:

SeSotho	IsiZulu
-bona > pina	-cula > iculo
>mmino	>umculo
>sebini	>umculi

It is true that linguists like Doke and Cole were only concern with what happens on the surface when dealing with deverbative nouns. However, it has become clear that the formation of deverbative nouns is not a simple process of addition and substitution through suffixation of -o and/or -i but rather a process is determined by paramorphophonological phenomena in conjunction with generative rules of the language in question. Yes, the formation of personal nouns is a phenomenon that occurs in both SeSotho and isiZulu by substituting the final vowel -a by -i with the prefixation of a suitable noun class prefix:

SeSotho

-alosa > moalosi

IsiZulu

-alusa > umalusi

Again, the formation of impersonal nouns is a phenomenon that occurs in both SeSotho and isiZulu by substituting the final vowel -a by -o with the prefixation of a suitable noun class prefix:

SeSotho

-rata > rato

IsiZulu

-thanda > intando

Besides the principles in question, there are verbs that do not change their terminative vowels. Some of those deverbatives are from the passiveness:

SeSotho

-disa > modisa

-rongwa > morongwa

IsiZulu:

-landa > ilanda

-thunywa > isithunywa, umthunywa

It is clear that there are many processes that are operative in the deep structure (Ds) in the formation of a new lexical item in SeSotho and isiZulu. Such processes determine the terminative vowel to be suffixed to the verb stem which can be -i, -o or -a.

What occurs first in the formation of deverbative nouns is the breaking down process (BDP) of the terminative vowel of the verbal stem. If the verbal stem ends in /-a/ its basic components or "semantic elements" or features which is termed demorphemization. In the

case of a morpheme consisting of one phoneme which “u a word in itself” the term dephonemization is applicable.

The SeSotho /a/ phoneme is an open semi-front vowel. It is always under the influence of the highest front vowel (HFV) in SeSotho, that is [i] which is identical with cardinal vowel no.1. That vowel is also identical with Ur-Bantu [i]. The isiZulu /a/ phoneme is an open mid-back vowel and it is always under the influence of the highest back vowel (HBV) before it comes into contact with another phoneme. The HBV in IsiZulu is [u] which is acoustically not similar to SeSotho [u]. The difference being that the SeSotho [u] is identical with cardinal vowel no.8 and Ur-Bantu *u. The isiZulu [u] is not identical with Ur-Bantu *u and cardinal vowel no. 8. It is similar with SeSotho [v] which is a semi-close back vowel. Functionally, the isiZulu /u/ phoneme serves the need of SeSotho [v] and [u] phonemes.

Whenever an /a/ phoneme is used in isiZulu word, it is under the influence of [u] vowel since it is a back vowel:

A deverbative noun from **-thunga** > **umthungo** or **umthungi**

- (i) -thunga + (Back vowel –influence)
 -thung(a + Back vowel – influence)

BV – influence = *u

↓

Break down process (Demorphemization)

↓

*(u+i) theory of origin of close vowels

↓

free phonemic selection (FPS)

<u> or [i]

-thung(a + u)

↓

/o/

nominal class prefixation : **umthungo** or **isithungo**

(ii) -thunga > umthungi

-thunga + positional Influence (HBV – influence)

substitute PI by HBV – inf

-thunga + HBV

→ -thunga + *u

↓

BDP (Demorphemization)

↓

*u → u + i

↓

FPS (Free Phonemic Selection)

<i> + <u>

↓

-thung(a + i)

↓

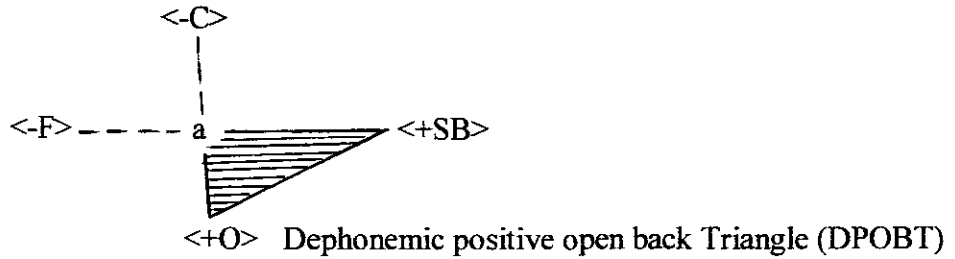
nominal class prefixation : *umthung(a)i

↓

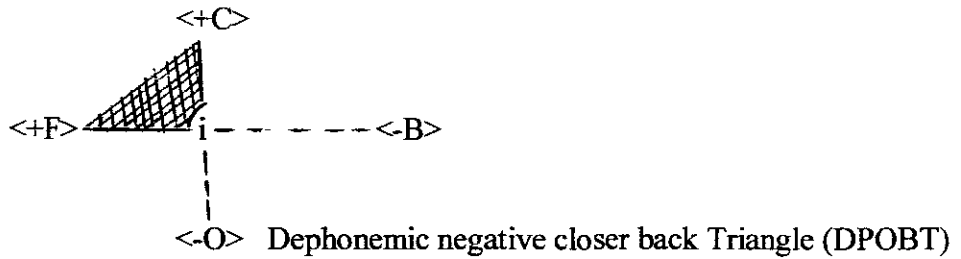
Phonemic Rejection (PR)

The rejection or dropping of /a/ phoneme above may be due to the dephonemic triangle that /i/ forms opposite the one of /a/ phoneme. One phoneme has to be picked up and other phoneme has to be rejected:

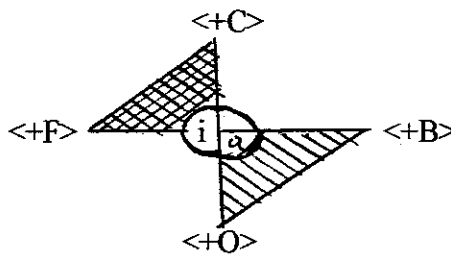
(a) Dephonemization of /a/ phoneme:



(b) Dephonemization of /i/ phoneme:



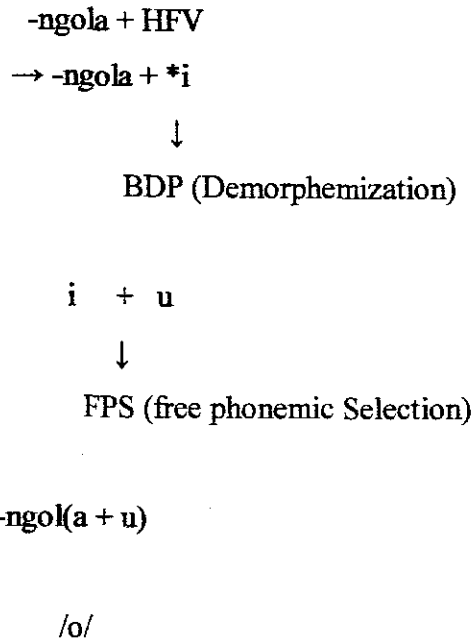
(c) Superimposition of /a/ and /i/ dephonemetic triangle:



From the above structure where the powers of the triangles Fci and a BO balance, the option rests on the generative rules of the language to pick up on one phoneme. In this case /i/ has been picked up. From ***umthungi**, the /a/ phoneme is deleted because it is unacceptable in this structure and a personal noun **umthungi** comes into being.

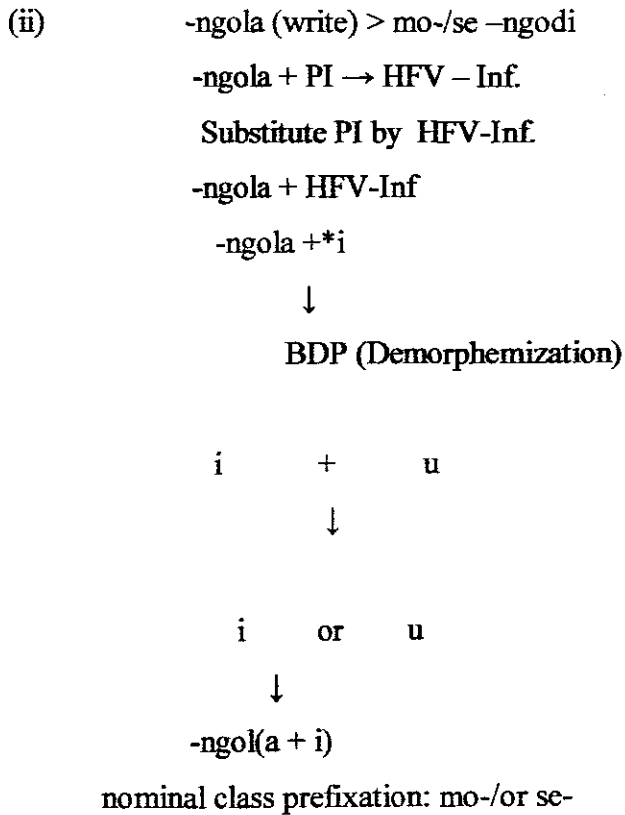
In SeSotho, the same process (phenomenon) is followed:

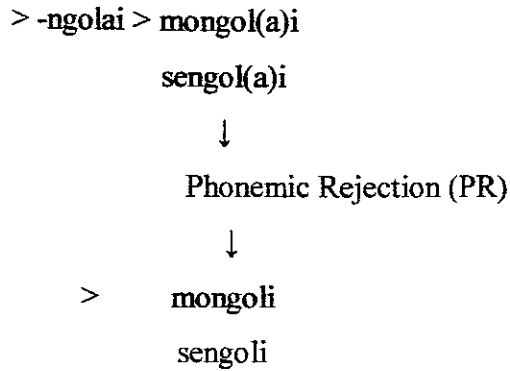
- (i) -ngola (write) > mongolo
- ngola + Positional Influence → (HFV)
- substitute PI by HFV – influence



nominal class prefixation : *mongolo

The above results to a deverbative impersonal noun, **mongolo**.





At the end of the process /i/ is picked up and the deverbative personal noun results. In SeSotho, the phoneme, /-l- + /i/ changes to /-d- + /i/ = /-di-/:

mongoli → mongodi
 sengoli → sengodi

7.2 RECOMMENDATION

From the whole analysis, it is evident that little has been covered in the field of linguistics. Most linguists are still depending on the findings of the previous linguists like Doke, Cole, Ziervogel, Meinhof and others. The new findings through this research work call for more focus to the field of linguistics.

Young researchers should be encouraged to register their research at postgraduate levels in the field of linguistics to balance up the situation. More funds and scholarships should be made available especially for the young researchers to register their research projects.

Students from secondary level should be made aware of the importance of a critical eye towards their languages not to wait for other people to alert them about the changes that are occurring in their languages. The national move on languages will assist in the language awareness campaign. However, a thorny issue is that of leaving the rights of choosing a language(s) for the schools in the hands of parents. Parents should be encouraged to choose their indigenous languages in schools to allow their children to

develop sound interest in their indigenous languages. Eventually, that will gain the interests of students at an early stage to love and to be specialists in their languages.

It is again recommended that the academics, teachers and the Department of Education and Culture in the Province has voiced out their concern pertaining to the matter:

KwaZulu-Natal academics and teachers have urged the provincial department of education to set aside funds to train teachers to teach isiZulu as a second language at schools in an attempt to make indigenous languages more attractive to other races.

About 90% of the KwaZulu-Natal population speaks isiZulu, and the department of education, through its provincial language committee, has called on all schools in the province to encourage pupils to study the language at matric level.

.....the provincial department of education was working closely with the national department to facilitate the development of previously marginalised languages.
(Mercury, February 27, 2002: 4).

The above statement is encouraging and it should be commended. The majority of the people will hope to see this being practically implemented not just lip service or policy statements that remain on paper.

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