

2.2.4.0 Some Natural Classes of Vowels

Support for our classification of vowels is rendered by their restriction, in some cases, to particular morphemes, environments or processes.

2.2.4.1 Vowel-Commencing Radicals

Only [-high] vowels, i.e. /a/, /e/ and /o/ occur as the initial vowel of such radicals, /i/ and /u/ never occur in this environment.

(14). Examples:

úk ¹ wākha	"to build"	[u[ku[[akh]a]]]
ukwénza	"to do, make"	[u[ku[[enz]a]]]
ukósa	"to roast"	[u[ku[[os]a]]]

2.2.4.2 Noun Prefixes

The high vowels of the basic noun prefixes are optionally deleted in conversational Zulu. In most descriptions of Zulu, mention is made only of the deletion of the basic noun prefix vowel of classes 1 and 3, where such deletion is obligatory. Here are examples of this obligatory deletion, which occurs when the root is disyllabic or longer:

(15). úmfána	"boy"	cf. úmufó	"stranger"
úmthwálo	"burden"	cf. úmuthí	"tree, medicine"

In both classes i.e. 1 and 3, the high vowel /u/ deletes from the basic noun prefix /mu/.

Here are examples of the optional deletion of high vowels in other noun classes:

(16). istímela	"train"	cf. isitímela
ukphéndula	"to answer"	cf. ukuphéndula
úbodda	"manhood"	cf. ubúdoda

Optional deletion of the high basic noun prefix vowel is a very late phonetic rule. This rule results in phonologically inadmissible consonant clusters such as /st/, /kph/, /bd/ etc. Such clusters do not exist in the phonological component, they exist only in the phonetic component of Zulu.

Optional deletion never occurs in basic noun prefixes incorporating [-high] vowels e.g.

(17). abélungu	"whites"	never	*áblungu
ábafána	"boys"	never	*ábfána
amáphiko	"wings"	never	*ámphiko

2.2.4.3 Loan Words

When foreign words are admitted into Zulu, they are first restructured to fit into the syllable structure of the language. Very little work has been done in the study of loan-word phonology in Zulu (for a preliminary study see Khumalo (1984)), consequently our observations in this section still require amplification by further research. However, the fitting of foreign roots into the syllable structure of Zulu entails mostly the provision of rhymes for those consonants which are perceived as onsets of incomplete syllables. The principles governing the epenthesis of such vowels have not all been determined, but two of them seem clear enough.

In a number of adoptives, the final root vowel is copied onto the majority of the "rhymeless" syllables of the root.

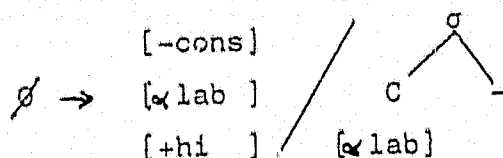
(18). Examples:

- (a) isik'olóbho < skrop (Afrikaans) "part-time job"
 (b) ibhakêde < "bucket"
 (c) isit'aládi < (Afrikaans) "street"
 (d) íbhayísikó'bno < "scope"

In examples (a), (b) and (d), the final root vowel is copied onto all the syllables that lack rhymes, but in (c), it is copied onto one syllable only (it is not clear why the final syllable takes a different vowel) and in (d) onto two only.

In cases where the root vowel is not copied, labial consonants epenthesize the labial high vowel, while non-labial consonants epenthesize the non-labial high vowel. This epenthesis rule we will term Loan Word Vowel Epenthesis:

(19). Loan Word Vowel Epenthesis



This rule will only apply if no other rule has applied.

(20). Examples:

- (a) inabúkeni < "napkin"
 (b) úsit'áfunesi < "staff-nurse" "a nursing sister"
 (c) ísidómu < dom (Afrikaans) "a stupid person"
 (d) isit'aládi < straat (Afrikaans) "street"
 (e) ísit'áshi < "starch"
 (f) ínkotiláki < "contract"

Examples (a), (b) and (c) illustrate the epenthesis of the labial high vowel in a syllable containing a labial onset, i.e. /bu/, /fu/, /mu/, while the [-labial] consonants epenthesize the [-labial] high vowel. (The epenthesis of the /i/ vowel to

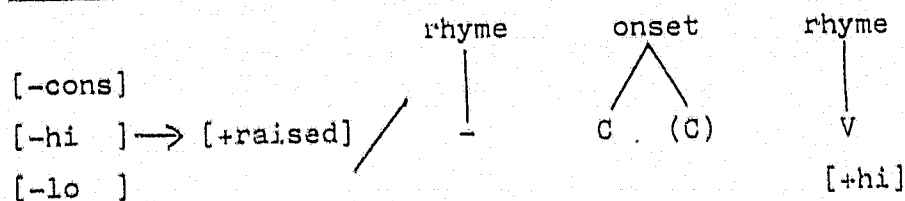
the initial consonant /s/ in examples (b), (d) and (e) is, however, governed by what Rubach (1984) terms folk etymology i.e. when "Native speakers try to 'discover' their own morphological structure in borrowed words" (p.53). In the case of these examples, the initial syllable, i.e. /s/ of the foreign root is perceived as the consonant of the basic noun prefix of class 7. The /i/ is, therefore, epenthesized because that morpheme in Zulu is /si/).

Our claim in this section is that when vowel epenthesis is phonologically conditioned in loan words, then it is the class of high vowels that is involved in the epenthesis.

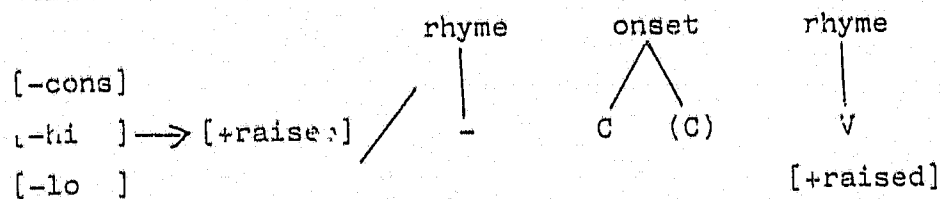
2.3 Phonetic Vowels

There are seven phonetic vowels in Zulu. The vowels /e/ and /o/ are realized phonetically either as [+raised] or as [-raised]. The phonetic rule that raises the vowel height of these vowels applies optionally. Let us call this rule Vowel Raising. A [-hi][-lo] vowel is optionally raised if it occurs in a syllable immediately preceding a syllable incorporating either a [+hi] vowel or another [+raised] vowel. This means that we need two rules to account for vowel raising:

(20) Vowel Raising¹



(21) Vowel Raising²



In the phonetic script, the usual orthographic letters viz. "e" and "o" represent the raised allophones i.e. [e], [o]; while the unraised allophones are represented by [ɛ] and [ɔ] respectively. Consider the following forms:

(22).

- | | | |
|----|--------------|---------------------------|
| a. | uyásɛbɛnza | "He works, he is working" |
| b. | akasebénzi | "He doesn't work etc." |
| c. | isísebénzi | "worker" |
| d. | akáthekelézi | "He doesn't tie up ..." |

In example (a), the vowels in syllable 2 and 3 are unraised because there is no environment for Vowel Raising. Example (b) has two common pronunciations:

(23).

- i. [akasɛbénzi]
- ii. [akasebénzi]

In (i), only Vowel Raising¹ has applied, while in (ii) both Vowel Raising¹ and Vowel Raising² have applied. While the pronunciation [akasɛbénzi] (i.e. where no Vowel Raising applies) is possible, it would sound weird. The common pronunciation, of course, is that of (ii).

Like 22(b), (c) would have two pronunciations, but the preference for (ii) is greater here where [-hi][-lo] vowels are flanked by [+hi] vowels:

(24).

- i. [isísebénzi]
- ii. [isísebénzi]

Example (d) also has two common pronunciations:

(25).

- i. [akáthɛkɛlézi]
- ii. [akathekelezi]

These examples suggest that the preference is for both Vowel Raising¹ and Vowel Raising² to apply.

Immediately preceding depressors tend to block Vowel Raising.

(26). Examples:

[ŋgokûdlá]	"by eating"	NOT [*ŋgokûdlá]
[ŋgelíkabaní]	"whose is it?"	NOT [*ŋgelíkabaní]

In both examples above, Vowel Raising does not apply.

Long vowels are optionally raised.

(27). Examples:

ôbaní	or ô:baní	"who (plural)"
ê:lámi	or ê:lámi	"mine"

Finally the first position demonstrative for classes 4/9, viz. /lɛ/ and the third position demonstrative for class 16, viz. /lɛ/ employ these two vowel allophones distinctively. We know of no other instance of the distinctive use of these allophones. (The underlining "=" represents [+stress]²)

2.2.5 Conclusion

So far we have been discussing the supralaryngeal features of vowels and glides. As we indicated in Chapter 2, all sonorants are not specified for laryngeal features. A very late phonetic rule which we referred to earlier, redundantly specifies all sonorants [+voiced].

(28). Sonorant Voicing

[+son] → [+vd]

We will defer the discussion of certain [+dep] vowels and glides to the section dealing with depressors.

3. Nasals

There are three phonological nasals viz. the bilabial /m/, the alveolar /n/ and the palatal /ɲ/. In zulu orthography, the palatal nasal is represented by the digraph /ny/, and we will use this representation in most instances.

Phonetic nasals, on the other hand, are five in number with the addition of a labiodental nasal [ɱ] and a velar nasal [ŋ] to the alveolar [n], bilabial [m] and palatal [ɲ]. The first two nasals viz. [ɱ] and [ŋ] occur only in prenasalized consonants, consequently their classification as allophones has some justification. This we will discuss presently. Let us first consider the distinctive features for nasals:

(29).

	m	n	ny
nasal	+	+	+
anterior	+	+	-
coronal	-	+	+
labial	+	-	-

The feature [+nasal] distinguishes nasals from all other segments in the language, while the features [anterior] and [coronal] distinguish the three phonological nasals. Here are three roots incorporating each of the nasals above:

(30).

imalí	[ima:li]	"money"
ín'yōka	[ɪnɔ:ka]	"snake"
inalá	[ina:la]	"plentiful harvest"

The phonetic nasals are illustrated in the following nouns:

(31).

ín'gáne	[ɪŋgane]	"child, baby"
ín'kōsi	[ɪŋk'osi]	"chief, king"
imfene	[ɪmɸf'ene]	"baboon"
imvú	[ɪmɸvu]	"sheep (sing.)"

(35).

i:phálishi < "porridge"
 isikolóbho < skrop (Afrikaans) "part-time job"
 isítaládi < straat(Afrikaans) "street"

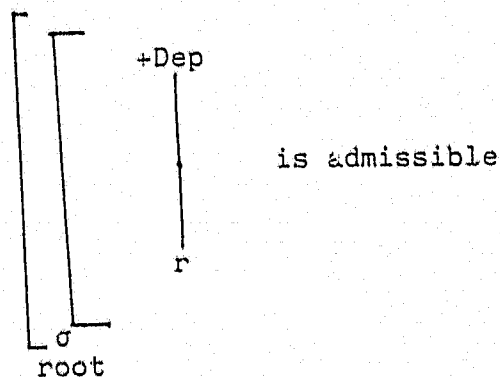
Now, however, the Zulus have incorporated the trill /r/ into their phonemic system. Still, it presents a problem of analysis since the Zulus have not managed to give it one phonemic classification. In some environments /r/ is perceived almost as a voiced fricative while in others it functions as a liquid. It is in root-initial position where /r/ functions as a voiced fricative: it is extra low-toned and it functions as a regular depressor. Some resonants in specified morphemes behave like depressors as we shall see later, but /r/ differs from them in that it is specified [+dep] in a regular environment in all affected morphemes. In terms of the principle of consonant harmony described in the previous chapter, we will classify /r/ in root-initial position as an opaque segment, underlyingly associated to the laryngeal node dominating a [+dep] feature:

(36).

Feature Tier

Laryngeal Tier

Segmental Tier



Here are some examples of /r/ in this environment:

(37).

irayísi < "rice"
 í:rǒkwe < rok (Afrikaans) - "a dress"
 í:rǒbhothi < robot - "traffic-light"

