THE PHONOLOGY OF AWNGI
GENERATIVE APPROACH

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THE PHONOLOGY OF AWNGI

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DECLARATION

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L I S T O F T A B L E S

KEY TO SYMBOLS USED IN THIS STUDY

c - voiceless, palato-alveolar, affricate

j - voiced, palato-alveolar, affricate

B - voiced, bilabial, fricative

ʃ - voiceless, palato-alveolar, fricative

ʒ - voiced, palato-alveolar, fricative

x̲ - voiced, velar, fricative

ñ - voiced, palatal, nasal

N - voiced, velar, nasal

V̥ - voiceless vowels

ø - syllable boundary

'CV - stressed syllable

: - length (gemination)

A B S T R A C T

The aim of this paper is to give an account to the phonology of Awngi. The attempt is to determine the number of phonemes and tonemes and their functions in the system of this language. In Chapter one, the people and their language, method and scope of the study are introduced. The consonant and vowel phonemes are described in Chapter two. Chapter three is for the discussion of the syllable pattern and structural processes in the syllable. Finally, Suprasegmentals are briefly discussed in chapter four.

1. INTRODUCTION

1.1 The Agew People and Their Languages

The researcher made no effort to look for information on the cultural and historical backgrounds of the Agew people and their languages. It is not to be less enthusiastic, but the attempt may either result in duplication or lack of credibility. All possible sources on these languages and these speech communities were exhausted by the papers prior to this paper. Thus, it is advisable, on the part of the researcher, to refer to both these materials and the summary made by Taddesse (1984).

In this paper and other materials "Agew" is a name given to a "group of cushitic languages." These languages are Awngi, Qimant, Xamtanga, and Bilin. It is assumed that there was mutual intelligibility between their speakers, that is, they were dialects of Agew. Through time and space, social and linguistic interferences in these varieties, now they have to be taken as four distinct languages. If we are expected to accept this maxim made by writers who worked on these languages and Ethiopian languages in general, it will be with reservations.

The magnitude of their differences and similarities can be estimated, if the phonology, structure of words and sentences of these languages are studied. F.R. Palmer in

his study of Bilin Phonology made no contrast between this language and any language that belongs to the proto-language, this comparison was with the two Semitic languages spoken adjacent to Bilin. Palmer claimed that Bilin is not a tone language, instead of tone he preferred prominence.

The writer of this paper giving emphasis to the subject of his paper, will be forced to say something that puzzles him. The puzzle is on the varied naming of Awngi. Some (perhaps after M.L. Bender et.al.) called this language Awngi, Southern Agew (defined as southernmost of the Agew languages) by R.Hetzron, and, Agew (Awiya) by F.R. Palmer. The name which is palced in brackets is called after Conti Rossini. Awiya is rejected by Palmer since it implies the meaning of 'son of Agew', not the language.

Habtamu, a native speaker of this language, substituted [awNi] for Awngi. The rational behind it is [awi] means Agew (the people) and [awNi] is the language. Taddesse used Awka and Awngi interchangeably. [aw-] in Awka means Agew and [-ka] is the plural marker. The researcher asked his informants how they call their language. Surprisingly, it was [awni] where [aw] means 'come', that is, those who came from other places, in short, non-native and [awñi] is the language.

These inconsistencies may be attributed to such reasons as: a) lack of standardization; b) classification took precedence over the name, and; c) sympathy and concern for

purity and zeal to maintain the 'native' name. In this paper, against the informatnts' intution, Awngi is retained instead of Awnyi [awñi] . It is to press the standardization of Awngi and also to prepare a fertile ground for its widespread usage. By and large, Awngi, Awiya, Awka, [awñi] , and Awnyi [awñi] share a common feature [aw-] , and the differences with the suffixes lie on the script and the 'scribe'.

1.2 Literature Review

To the best knowledge of this writer, thirteen works were written on the Agew people and their languages. Out of these, a book (originally a doctoral thesis), an article (published), a paper in partial fulfilment for the M.A. degree, and two papers in partial fulfilment for the B.A. degree are on Awngi. The first three papers are presented in English, whereas the last two are in Amharic. Only one paper worked out the phonology of Awngi. The other four dealt on the classifications and analyses of verbs and noun phrases. However, the first two to ten pages of these papers give a rough picture of the phonology of Awngi.

F.R. Palmer (1959b) in his article "The Verb Classes of Agau (Awiya)" attempted to give a rough picture of the phonology of Awngi, this work served as a model for those who tried to work out the phonology of Awngi a bit deeper. R.Hetzron (1959), for example, is based on this article

though there are differences in expressions and techniques in reaching that same conclusion. Palmer included labialized velars and uvulars as independent phonemes in the phonemic chart of consonants. This view which is also shared by writers after him is rejected by the present writer and see the discussion in section 2.3.

Some expressions used by Palmer (1959b: 272) in:

> q and q^w may be voiceless or partially voiced, there is, however, both a difference in type of articulation, since x and x^w are always fricative and q and q^w have little or no frication.... (Emphasis in mine.)

are unfamiliar to this writer. Since /q/ is always described as voiceless, uvular, plosive, there cannot be a possibility for this same sound to be either voiced or fricative. If these changes are so to happen, they will be an allophonic variants of this sound -/q/. Palmer (1959b: 271) stated that: "The fricatives other than X and X^w are voiceless, X and X^w are voiceless initially, but voiced in other positions." This statement precludes the missing out of the voiced fricatives -/z/ and /z̈/ both on the phonetic and phonological levels.

Palmer (1959b: 272) claimed that there are six vowel phonemes in Awngi. Though the number of vowels is the same to that of R.Hetzron's and the present writer, the latter differs in the description of the vowel / æ / . Palmer's

claim was that Awngi has a mid central vowel but not a high central vowel, but, the opposite is true. The seventh vowel which is not included in the chart is -^{y}e. Palmer (1959b: 272) described this vowel as:

> In addition to these six vowels it is necessary to recognize a long, palatalized half close front vowel, which will be symbolized y_{e}.

Perhaps the absence of this vowel from the phonemic chart of vowels, may give the impression that this vowel exists only on the phonetic level. Palmer's introduction and decription to this vowel is almost in harmony with Hetzron's seventh vowel -/ æ /.

F.R. Palmer identified four tone types-high, mid, low and falling. In his description of the tone of Awngi, Palmer (1959b: 273) started with the statement: "Awiya is a tone language in the traditional sense." The "tone" of this statement shows his aberration to this traditional sense. This is for the reason that the power of distinctiveness of the tonemes is not uttlized in all grammatical categories. That is, tonemes are contrasting one noun from another but not one verb from another, etc.

Though Robert Hetzron's (1959b) work is devoted to the verbal system of Awngi, he made an invaluable account of the phonology of Awngi. The researcher gathered interesting and useful information particularly on labialization, morphophonemes, number and type of tones.

Hetzron's work differs from this paper in the articulatory description and labelling of sounds. The present writer does not agree to the statement made by Hetzron (1969b:4) as: "voiceless plosive /q/ and its voiced counterpart /X/. The articulation of /X/ is lax plosive, but not fricative."

In this paper, /q/ is a voiceless uvvlar plosive and it functions as an independent phoneme. [X] is a voiced velar fricative and it has a voiceless counterpart [X], , both are members of a single phoneme -/X/.

Hetzron (1969:5) included the phoneme / æ / in his phonemic inventory and the justicfication is: "The open vowel / æ / is always the result of the contact of a palatal element and at a morphemic boundary." Then, Hetzron derives this vowel as follows.

* ara	'husband'	Næra	'her husband'
* qu	'wife'	Niqa	'his wife'
Ni	'his, her, its'		

The need of this derivation is triggered due to the contiguity of two vowels - [i] and [a] on the phonetic label. The system of this language disallows the presence of two vowels consecutively, too. Thus, Hetzron was brought to conclude that these vowels merge to give a different vowel -[æ] . If the derivation had not ended this way, it would have been difficult to speculate that the process of deletion

has taken place. However, in this paper [æ] is not a possible member both in the phonetic and phonemic inventories of vowels.

The above data can be revised as;

/-ara/	'husband'	ñara	'her husband'
/-qa/	'wife'	ñiqa	'his wife'
/Ni/	'his, her, its'		

The velar segment is changed into a palatal nasal before the vowel [i] . If this vowel is followed by another vowel, in this case [a] , it will be deleted. The deletion of this vowel is predictable from the presence of the nasal segment which is palatal (see 2.2.3 and 3.2.2). This phenomenon can also be compared with the deletion of the vowel [u] and its feature is carried over to the preceding consonant.

/buma/	- $b^{W}ama$	'he carried'
	$b^{W}uN$	'to carry'

R.Hetzron discussed four tones -high, mid, low, and falling. By comparing minimal pairs, he illustrated the distinctiveness of one toneme to the other. In his illustrations, one hardly gets certain contrasts-high vs. low, and low vs. falling. In most cases, these compared forms are grammatically different. In Awngi verbs are

inflected for persons, however, 1sg. and 3sg.m., and 2sg.f. and 3sg.f. share common verb forms in the past and the non-past as well. Hence Hetzron tried to relate those similar paradigms to a corresponding change in the level of tone.

Hetzron's transcriptions are not completely dependable. They are transcribed in a way to meet his analysis. This is vivid in the tone contrasts and what he called voice rule. For example:

səqe	'I am staying'
səxe	'he is staying'

Actually in both cases it is sə́xe . 'I/he am/ is staying.' Needless to say that it is advisable to read the review made by F.R. Palmer (Language 46,1, march 1970) on Hetzron's primary task - the verb system of Awngi.

The other work is on the phonology of Awngi presented by Habtamu Bekele (1975 E.C.), a paper in partial fulfilment of his B.A. degree. The medium in which he has presented it is Amharic. The researcher declines to present here differences and similarities in the phonetic and phonological inventories due to the apparent difference in the approaches employed and lack of space. Habtamu differs from Hetzron in the number of tones. Habtamu claims that the prevailing tone types are High, Mid and Low. Furthermore, where Hetzron failed to give a minimal pair in order to contrast high vs. low, Habtamu (1975: 45) provided this contrast in the

examples:

sɨ́r	'root'
sɨr	'baby'

This can be an example of the shortcomings involved in a discovery procedure.

Taddesse (1984:8-9) confessed in his paper that he made no attempt to put his fingers on the analysis of the phonology of Awngi. Rather, he accepted the analyses made by F.R. Palmer (1959b) and R.Hetzron (1969b). Since he added a phoneme in the phonemic inventory of these authors, his alignment is not complete. Taddesse (1984:9) justified the addition of this phoneme as: "My own addition is the labio-alveolar /l^{w}/ that occurs in the following example (12) il^{w}a- 'cow'." The labialization of any segment is phonetically plausible, but to take labio-alveolar as distinctive feature may embroile him with authorities on phonology. Taddesse (1984:58) rejected the presence of the phoneme /æ /, in his note: "A phoneme that I have not come across in my study of Awngi so far."

The phoneme charts for consonants and vowels of different writers (Palmer, Hetzron, and Habtamu) are put in Appendix B. This may help to contrast their differences and similarities in their phonemic inventories of Awngi.

1.3 The Purpose of the Study

The phonology of Awngi has not a general description based on a generative approach. Thus, the researcher wants to deal with the subject in order to: (a) study the phonology of Awngi, and; (b) determine if Awngi is a tone language.

The researcher might contribute (or incorporate his study) to the study of other higher grammatical levels and may enable the promotion of Awngi to a literary language. Moreover, the study gives an insight to consider tonemes in the Ethiopic alphabet.

Besdies these relevances central to Awngi and its speakers, this study has relevances in the sphere of general (pure) linguistics. If all goes well, a phonological process not attested by any other language except Awngi will be a contribution to the pool of language universals. Hand-picked phonological features, word structures and sentence patterns lead to unnecessary overgeneralizations. Thus, this study has a part to play in the classification of Awngi and sister languages either under or out of the Cushitic family.

1.4 Scope of the Study

This study is an attempt to discover and establish the number and type of phonemes and tonemes in Awngi through a generative approach. This does not mean that all techniques

designed by generative phonologists are applied in this paper. This may be sought for two reasons. Firstly, though some features are cross referred from other languages, these techniques are designed after a comprhensive study of two or three languages. Secondly, it is a natural phenomenon for languages to differ both in their phonetic and phonological inventories. Thus, these techniques are either exhaustable or inexhaustable in order to enhance all phonological processes attested by all languages.

The following reasons may contribute to the incompleteness of this paper. (1) The researcher is unfamiliar with certain articulatory habits and has constraints in the differentiation of tone, nasalization, voicelessness and other characteristics of vowels. (2) The absence of certain aids which could have been of paramount importance to discriminate asymmetrical sounds has limited the method in eliciting the corpus. (3) The restriction in the employment of informants from Ankasha and Chara may influence the corupus and the analysis to a limited degree. (4) The missing out and taking of some phones and phonemes in the matrices and the underconsideration of stress and length might lead to both phonetic and phonemic generalizations which accounts for the limitation of the corpus and the researcher's phonetic interpretation.

1.5 Methods of the Study

This study was carried on using informants who reside in Dangila and speakers of Ankasha and Chara 'dialects' of Awngi. The criteria involved in order to select these informants are: fluency in Amharic, age, and, optionally label of education. These informants gave direct translations or near equivalents of words, phrases and sentences provided by the researcher. Room was left for their creativity in their language and curiosity in the study.

Elicitation of the data was started with Swadesh Word Lists with some adaptations. The adaptation was considerable on verbs, and nouns inwhich Awngi makes no distinction, one of them is cancelled out. Verbs listed by M.Swadesh are infinitives without the particle 'to'. Verbs with this form are not exhibited by Awngi and other languages of Ethiopia. They are realized with affixes, both inflectional and derivational morphemes. Thus, in this study, this problem is surmounted by taking the infinitive form of the verb. Other than Swadesh Word Lists phrases and sentences from W.Welmer List are included in the corpus.

The transcription of the data was taken in two phases. The first phase is the transcription of Chara dialect and the second phase is transcription of Ankasha dialect. The researcher has faced no major difference between these transcriptions, difference to occur otherwise is taken as

an idiosynchrony. The transcription is repeatedly done so that an error in transcription may not lead the analysis the wrong way. After the actual work had commenced, the elicitation of the corpus was futhered by giving emphasis to the required information needed with in the analysis. The transcriptions of other researchers on Awngi, after reachecking with the informatns, are supplementaries to the data. Part of the corpus elicited by the researcher and tales brought by the informants are recorded in cassettes.

The techniques of generative phonology, in respect to the discussion made in 1.4, are applied. These features and their definitions are taken from N.Chomsky and M.Halle (1968:301 - 329). Even though, the feature vocalic is included in the Appendix, the feature Syllabic is taken and used in the formulation of phonological rules. The change for this feature is discussed by Larry M.Hyman (1973: 43). Thus, in this paper, all vowels are marked as [+syll] and all consonants are marked as [-syll]. For the definitions of these features see Appendix C.

In this study a phonological rule is stated in line with the use of feature notations by Larry M.Hyman (1975:125) as cited below.

$$25.\ [+F] \longrightarrow [+H] \quad / \quad \_\_ [X]$$

Rule 25 applies not only to a segment which is [+F, +G] but also to one which is [+F, -G].

Perhaps we may formulate phonological rules such as:

a. $\begin{bmatrix} +\text{syll} \\ +\text{high} \\ -\text{nasal} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{syll} \\ +\text{high} \\ +\text{nasal} \end{bmatrix} / \_\_ \begin{bmatrix} -\text{syll} \\ +\text{cons} \\ +\text{nasal} \end{bmatrix}$

b. $\begin{bmatrix} +\text{syll} \\ -\text{high} \\ -\text{nasal} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{syll} \\ -\text{high} \\ +\text{nasal} \end{bmatrix} / \_\_ \begin{bmatrix} +\text{syll} \\ +\text{cons} \\ +\text{nasal} \end{bmatrix}$

Thus two rules are formulated in order to show that a vowel, marked either as [+high] or as [-high], is nasalized before a nasal segment. Any segment marked for the feature [+nasal] is always a consonant, thus, the features [+cons, -syll] are redundant. Hence, the above formulae can be rewritten as:

$$\begin{bmatrix} +\text{syll} \\ -\text{nasal} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{syll} \\ +\text{nasal} \end{bmatrix} / \_\_ [+\text{nasal}]$$

Since vowels are nonnasalized in this language, the feature [+syll] allows to predict the feature [-nasal]. And, what is nasalized is a vowel, the feature [+syll] to the right of the arrow is still redundant. Therefore, the nasalization process can be rewritten as:

$$[+\text{syll}] \rightarrow [+\text{nasal}] / \_\_ [+\text{nasal}]$$

2. DESCRIPTION OF THE PHONOLOGY

2.1 Consonant Sounds

Awngi has thirty one consonants on the phonetic level. This does not include the modifications (or secondary articulations) due to vulnerable changes in the anticipation of speech organs. These consonants comprise of thirteen plosives, nine fricatives, four affricates, two liquids, four nasals, and two semivowels. On the phonetic level, the only segments that are not found word-initially are - [d^z, ʙ, x, r] ; and word-finally are - [c, g^w, z, s̈, z̈, x, ɲ]; but all segments are found word-medially.

2.1.1 Stops

A sequential constraint that is shared by all stop consonants is: a stop consonant is never followed either by an affricate; a fricative, or a nasal consonant.

(1) $\#\# \_\_ \begin{bmatrix} -\text{Cont} \end{bmatrix}$ C C $\_\_ \begin{bmatrix} -\text{cont} \end{bmatrix}$ or $\begin{bmatrix} +\text{son} \\ -\text{nasal} \end{bmatrix}$

This rule states that in a consonant cluster, if the first segment is a stop consonant, the following consonant will be either a stop, a liquid, or a semivowel. This rule makes overgeneralizations, since the members of these natural classes are not all possible in sequential arrangement after stop consonants.

2.1.1.1 Voiceless Stops

There is a series of voiceless stops [p, t, k, k^w, q, ?] at labial, alveolar, velar, labio-velar uvular, and glottal points of articulation respectively. We can provide examples for each consonant with respect to the position they occupy.

Word-Initially

p	p^yip	'Corps'
t	taf	'hand'
k	kag^yi	'dry'
k^w	k^wad^yi	'skin'
q	qɨB	'bark (tree)'
?	?a:Ng^wu	'breast'

Word-Medially

p	j^{y}ip^{y}ina	'Buy'! (m)'
t	wata	'how'
k	?ɨskawi	'new'
k^{w}	?aNk^{w}a	'five'
q	tɨrqiš̈i	'freeze(n)'
?	?ɨNk^{w}a?ɨN	'to hear'

Word-Finally

p	s^{y}ep	'Fight!'
t	sɨNk^{w}ut	'good'
k	g^{w}uzɨk	'belly'
q	bɨsɨq	'rotten'

2.1.1.2 Voiced Stops

There is a series of voiced stops [b, d, g, g^{w}] at labial, alveolar, velar and labio-velar points of articulation respectively.

Word-Initially

b	bɨr^{y}i	'blood'
d	dɨk^{y}i	'bad'
g	gɨs^{y}en	'dog'
g^{w}	g^{w}uzɨk	'belly'

Word-Medially

d	?i̤nda	'here'
g	kag^{y}i	'dry'
g^{w}	di̤ng^{w}i̤l^{y}i	'big'

Word-Finally

b	samb	'leg'
d	dad	'road'
g	l^{y}eg	'fire'

2.1.2 Affricates

There are two alveolar affricates /t͡s, d^{z}/ and two palato-alveolars - /t͡c, j/. In these data, there is only one instance of /t^{s}/ to be followed by /t͡f/ or /t͡p/. Affricates are commonly followed by vowels or they occur word finally.

Word-Initially

t^{s}	t^{s}ark^{y}i	'black'
c	caxa	'bird'
j	je:r	'child'

Word-Medially

t^s	?ɨnt^{s}u	'thin'
d^z	k^{w}ud^{z}ɨN	'to wash'
c	kac i̯	'Hunt!'
j	j^{y}enj^{y}i	'horn'

Word-Finally

t^s	k^{w}uts	'wash!'
c	myenc-	'many'

2.1.3 Fricatives

Fricatives are not followed by either liquids or semivowels. The possible sequential arrangement for this natural class can be put as follows:

(2) $\#\#$ —— $\begin{bmatrix}+\text{cont}\end{bmatrix}$ C C —— $\begin{bmatrix}+\text{cons}\\-\text{syll}\end{bmatrix}$

There are four voiceless fricatives [f, s, s̈, x , x^w] at labio-dental, alveolar, palato-alveolar, velar and labio-velar points of articulation respectively.

Word-Initially

f	f^{w}uci	'white'
s	s^{y}en	'brother'
	s̪y	'clothing'
s̈	s̈^{y}ew	'heart'
x	xad^{z}i	'leaf'

Word-Medially

f	?arfa	'moon'
s	?i̪skawi	'new'
s̈	?is̈:i	'meat'

Word-Finally

f	taf	'hand'
s	s^{y}eNgaras̈os	'leftside'

There exist three voiced fricatives [z, z̈, x x^{w}] at alveolar, palato-alveolar, velar, and labiovelar points of articulation respectively.

Word-Initially

z	z̪i̪q̪i̪N	'to drink'
z̈	z̈alad^{z}i̪N	'to vomit'

Word-Medially

z	g^{w}uz̈ik	'belly'
z̈	Naz̈i	'they'
x	caxa	'bird'
x^{w}	?aNx^{w}a	'I have eaten'

Word-Finally

x	l^{y}ix	'hundred'

2.1.4 Liquids

In this natural class there are one lateral [l] and one tap [r]; both are voiced and alveolar. The difference between the members of this class is that the former is sometimes geminated; whereas the latter lacks this phenomenon. Furhtermore; the segment [r] never occurs initially, but the lateral segment occurs in this position but not after a consonant sound.

Word-Initally

l	l^{y}eg	'fire'

Word-Medially

l	wi̇l:a	'all'
	gi̇liN	'to lie'
r	bi̇r^{y}i	'blood'
	t^{s}ark^{y}i̥	'black'

Word-Finally

l̄	?ɨl:	'eye'
r	je:r	'child'

2.1.5 Nasals

There are four voiced nasals- [m, n, n̄, N] at the labial, alveolar, palatal, and velar points of articulation respectively. These nasal segments are not followed by liquids and semivowels. Thus, the possible sequential arrangement looks as follows:

(3) ## — C [+cons, +nasal] C [+cons, -son] —

Word-Initially

m	maxʷurɨN	'to blow(air)'
n	NɨN	'to say'
n̄	n̄i	'he'
N	Narʸi	'head'

Word-Medially

m	kɨmʸi	'animal'
n	?ɨnda	'here'
n̄	gʸewɨsn̄eka	'to fight'

Word-Finally

m	g^{w}ud̪̈m	'dull'
n	?an	'I'
N	?ï̪Nï̪N	'to bite'

2.1.6 Semivowels

There exist in Awngi one voiced labial semivowel- [w] and one voiced palatal- [y] . They occur in all positions. The sequential constraint is: semivowels are never followed by liquids.

Word-Initially

w	wï̪l:a	'all'
y	y^{w}uk	'my'

Word-Medially

w	b^{y}ewa	'star'
	k^{y}ewï̪N	'to cut'
	j^{y}ewï̪N	'to buy'
y	?ayi	'who'
	?ayna	'yesterday'

Word-Finally

w	$s^{y}ew$	'heart'
y	s̈y	'clothing'

Table - 1

Phonetic Chart for Consonants

		labial	labio-dent.	alveolar	palato-alveolar	Palatal	velar	labio-velar	uvular	glottal
Stops	Vl	p		t			k	k^{w}	q	?
	Vd	b		d			g	g^{w}		
Affricates	Vl			t^{s}	c					
	Vd			d^{z}	ɟ					
Fricatives	Vl		f	s	š		x	x^{w}		(h)
	Vd			z	ž		x̲	x^{w}		
Liquids	Lat.Vd.			l						
	FlapVd.			r						
Nasals	Vd	m		n		n̄	N			
Semivowels	Vd	w				y				

2.2 Consonant Phonemes

In the above discussion (2.1), we grouped sounds according to their manner of articulation and showed their distributions in all possible positions. Since the aim of the study is to analyze their opposition power (distinctiveness) and their systematic organization in Awngi, we use distinctive features as described in SPE with complete adherence to their definitions. The number of features employed in Awngi reaches fifteen. These features are: the three major class features, eight from cavity features, two from manner of articulation features, and two from source features (see Table - 5).

2.2.1 Obstruents (Oral)

Awngi has thirteen oral obstruents and eight features (the feature [+low] is redundant) are needed to make the distinctions between these members.

Table -2

Feature matrix for obstruents

	p	b	t	d	k	k^w	g	g^w	q	?	t^s	c	j
voice	-	+	-	+	-	-	+	+	-	-	-	-	+
ante	+	+	+	+	-	-	-	-	-	-	+	+	+
cor	-	-	+	+	-	-	-	-	-	-	+	+	+
high	-	-	-	-	+	+	+	+	-	-	-	+	+
back	-	-	-	-	+	+	+	+	+	-	-	-	-
low	-	-	-	-	-	-	-	-	-	+	-	-	-
round	-	-	-	-	-	+	-	+	-	-	-	-	-
del.rel	-	-	-	-	-	-	-	-	-	-	+	+	+

Though eight features are needed to make distinctions among these phonemes, certain features may be redundant in respect to the definition of individual segments and in the formulation of rules.

The phoneme /b/ is realized as [p] , [b] , and [B] .

a.	b±t^yi	'earth'	e.	s^yeB±N	'to fight'
b.	yuBit^yi	'my earth'	f.	s^yep	'Fight!'
c.	?aB^yiB^yi	'flower'	g.	z±q±N	'to drink'
d.	b±Bra	'burn(n)'	h.	z±q:	'Drink!'

The phonological rules that convert the phoneme /b/ into [B] and [p] can be stated respectively as:

4. a. $$\begin{bmatrix} -\text{ cont} \\ +\text{ ante} \\ -\text{ cor} \\ +\text{ voice} \end{bmatrix} \rightarrow [+\text{cont}] / \quad [+\text{syll}] \ \_\_$$

(This rule states that a voiced bilabial stop becomes a fricative after a vowel.)

b. $$\begin{bmatrix} -\text{ cont} \\ +\text{ ante} \\ -\text{ cor} \\ +\text{ voice} \end{bmatrix} \rightarrow [-\text{ voice}] / \ \_\_ \ \#\ \#$$

(This rule states that a voiced bilabial stop is devoiced when it comes word finally and geminated.)

This rule (4b) needs further information, that is, the effects of suprasegmentals (see 4.1) in this change. Otherwise this rule will be in contradiction with rule 4a. In the imperative the final consonant root is geminated (lengthened). This is met in example 'h,' whereas in example 'f' there is no gemination process, rather, it is devoiced.

k^{W}adi	'skin'
kani	'wood'
?aN$\underline{x}^{W}$a	'I have eaten'
?aNk^{W}a	'five'

daNk^{W}e	'I lower the price'
daNg^{W}e	'He lowers the price'
fix^{W}e	'He breathes'

When R.Hetzron (1969:8) considered the labio-velar sounds as independent phonemes, he wrote the following:

> Voiced plosive /g/, voicless /k/, nasal /N/. These three phonemes have their labiovelar counterparts /g^{W}/, /k^{W}/ and /N^{W}/. They are distinctive from velars in word-final position, or followed by consonants, or by -a, -e, i.

The researcher differs from Hetzron in the distribution and type of labio-velar phonemes. Firstly, labio-velars are not found before consonants, and secondly, the phoneme /x^{W}/ is a member of this class, but there is no * /N^{W}/.

x^{W}uN	'to eat'
k^{W}uN	'to kill'
g^{W}urgɨm	'neck'
x^{W}or^{y}en	'sleep'

These examples show that velar and labio-velar phonemes are neutralized before vowels specified as [+back, +syll].

The obstruent which is marked by the features [+ del.re., -high] can be either a sequence of two phones /phonemes or one phone (me). This phonemenon is common in natural languages (such as German, and for further discussion and the way it is resolved see Larry Hyman (1975: 3-4). This

phoneme is considered as a single segment in Awngi for two reasons: (a) the apparent sequential consitraint, that is, a non-continuant is not followed by a continuant on the phonetic level; (b) still on the phonetic level, consonant clusters are not allowed word-initially.

$t^{s}ark^{y}i$	'black'
$?\pm nt^{s}u$	'thin'
$k^{w}ut^{s}$	'wash'
$k^{w}ud^{z}\pm N$	'to wash'
$s^{y}ed^{z}a$	'four'

From the above dara we observe that the phoneme /t^{s}/ is realized both as [t^{s}] and [d^{z}]. Thus, the phonological-rule responsible for this alternation will be:

(5) $$\begin{bmatrix} + \text{del.rel.} \\ - \text{high} \end{bmatrix} \longrightarrow [+\text{voice}] / \quad [+\text{syll}] \quad — \quad [+\text{syll}]$$

(This rule states that an alveolar affricate is voiced when it occours intervocalically.)

2.2.2 Non-Sonorant Continuants

In Awngi we get seven non-sonorant continuants. The features that bring distinctions between the members of this natural class are [voice, ante, cor, round] (for more feature specifications see Table -6). Though the data are limited, we can say that the only non-sonorant continuants which are found word-finally are those specified as [-voice, +ante] . They can be arranged using a feature matrix as

follows:

Table - 3

Feature materix for Non-Sonorant Continuants

	f	s	z	s̈	z̈	x	x^w
voice	-	-	+	-	+	+	+
ante	+	+	+	-	-	-	-
cor	-	+	+	+	+	-	-
round	-	-	-	-	-	-	+

From the above matrix, the phoneme which is marked for the features [high, back] is realized either as [x] or as [x̲] . The reason we choose /x/ to represent the two possible phonetic realizations is the predictability of the voiceless counterpart.

x^wuN	'to eat'
xar	'night'
caxa	'bird'
l^yix	'hundred'
nakaxara	'to night'
$x^wox^u\dot{+}N$	'to laugh'
x^wot^yi	'laugh(n)'

The rule that devoices /x/ can be stated as:

6. $$\begin{bmatrix} +\text{cont} \\ +\text{high} \\ +\text{back} \end{bmatrix} \longrightarrow [-\text{voice}] / \#\# \_\_$$

(A velar fricative is devoiced when it occurs initially).

2.2.3 Sonorants

The sonorous segments discovered in Awngi are seven and the possible features to define them are four.

Table - 4

Feature matrix for sonorants

	l	r	m	n	N	w	y
cor	+	+	-	+	-	-	+
high	-	-	-	-	+	+	+
back	-	-	-	-	+	+	-
lateral	+	-	-	-	-	-	-
round	-	-	-	-	-	+	-

The phoneme /l/ occurs in all positions, whereas /r/ does not occur initially; they are neutralized in this position. The phonemes /m, n, N/ are also neutralized before labials, alveolars, and velars, respectively.

ʔɨmpla	'one'
ʔɨnotz̈i	'you(pl.)'
laNg^{y}erNa	'twenty'

These and other many examples which are not listed here can show the neutralization of these nasals. The assimilation of these nasal segments to the points of articulation of the following consonants, Larry M.Hyman (1975:126) suggested the following rule.

$$[+\text{nasal}] \rightarrow [\alpha\text{place}] \,/\, \_\_ \,[\alpha\text{place}]_{C}$$

t^{s}an	'tongue'	n̈i	'he'
t^{s}ani	'talkative'	Naz̈i	'they'
laNgerNa	'twenty'	ʔɨntoz̈$_{i}$	'you(pl)'
laNg^{y}erñi	'twentieth'	ʔɨnt	'you(sg.)'
g^{y}ewɨsNɨN	'to fight'		
g^{y}ewɨsn̄eka	'fought(pl)'		
kasɨN	'to go'		
kan^{y}e	'are going'		

As can be observed from the above data, the phoneme /N/ (and perhaps /n/ as /n̰/ and /ñ/) is realized as [N] and sometimes as [n̈]. Thus, we need a rule for this alternation.

7. $$\begin{bmatrix} +\text{ high} \\ +\text{ back} \\ +\text{ nasal} \end{bmatrix} \rightarrow [-\text{back}] \; / \; \text{---} \; + \begin{bmatrix} +\text{syll} \\ -\text{back} \\ -\text{low} \end{bmatrix}$$

(If a velar nasal sound is followed by high and mid front vowels, it will be a palatal nasal sound.)

Let we assume that the phoneme /n/ may undergo such an alteration.

8. $$\begin{bmatrix} +\text{cor} \\ -\text{high} \\ +\text{nasal} \end{bmatrix} \rightarrow \begin{bmatrix} +\text{high} \\ -\text{back} \end{bmatrix} / \; \text{---} \; + \begin{bmatrix} +\text{syll} \\ -\text{back} \\ -\text{low} \end{bmatrix}$$

(If an alveolar nasal sound is followed by high and mid front vowels, it will be a palatal nasal sound.)

Then we are expected to conflate these two rules (7&8) as a single rule. The problem is the abscence of common features that can bring /N/ and /n/ together and contrast them against /m/. The presence of the palatal nasal sound - [ñ] (which may be specified as [+high, +nasal]) on the phonetic level and the alternation which may be stated as: if a velar nasal sound is pronounced further forward to the palate, it will become a palatal nasal sound, prove that the constraint is phonological not phonetic. This phonological constraint gives the clue that Awngi does not utilize what is stated in rule -8, and hence our assumption is invalid.

The sonorant glide phoneme /w/ has a non-continuant segment [p] as its variant. This variation is grammatical, that is, the final consonant of the root of some verbs changes in the imperative. Let us consider the following data to illustrate the above statement.

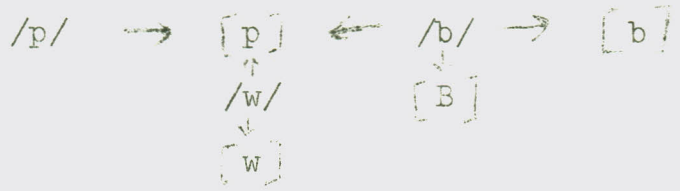
ɲ^{y}ewɨN	'to buy'
ɲ^{y}ip^{y}ina	'buy (you)(f)!'
ɲ^{y}ip^{y}ina	'buy (you)(m)!'
j^{y}ip^{y}i	'buy (neuter)!'
k^{y}ewɨN	'to cut'
k^{y}ep	'cut!'

Then, the phonological rule will be:

9. $$\begin{bmatrix} -\text{ syll} \\ -\text{ cons} \\ +\text{ back} \end{bmatrix} \longrightarrow \begin{bmatrix} +\text{ cons} \\ +\text{ ante} \\ -\text{ cor} \\ -\text{ voice} \end{bmatrix} / \text{ —— } \#\,\#$$

we can recal (rule 4b) in that a long (geminated) sound [b:] drops the feature [+ long] for which it is marked in the imperative. Therefore, long [b:] and [w:] are neutralized in this situation (or position), and the segment [p] has two origins: either [b:] or [w:] .

The phenomena can be schematized as:



The phonetic chart for consonant sounds given in Table-1 can be arranged using seven points of articulation and three manners of articulation as:

Table -5

Phoneme Matrix for Consonants

manner of Artic.	points of Artic.		lab	alv	pal	vel	labio-vel.	uvular	glott
STOPS	plo.	vl	p	t		k	k^w	q	?
		vd	b	d		g	g^w		
	Aff.	vl		t^s	c				
		vd			j				
Fricatives		vl	f	s	ʃ				
		vd		z	ʒ	x	x^w		
Resonants		vd		r					
		vd	m	n		N			
		vd	w	l	y				

Table -6

Feature Matrix for Consonants

	p	b	t	d	k	k^w	g	g^w	q	ʔ	t^s	c	j	f	s	z	š	ž	x	x^w	l	r	m	n	N	w	y
Sonorant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+
Syllabic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Consonant	+	+	+	+	+	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	-	-
Cor	-	-	+	+	-	-	-	-	-	-	+	+	+	-	+	+	+	+	-	-	+	+	-	+	-	-	+
Ante.	+	+	+	+	-	-	-	-	-	-	+	-	-	+	+	+	-	-	-	-	+	+	+	+	-	-	-
High	-	-	-	-	+	+	+	+	-	-	-	+	+	-	-	-	+	+	+	+	-	-	-	-	+	+	+
Back	-	-	-	-	+	+	+	+	+	-	-	-	-	-	-	-	-	-	+	+	-	-	-	-	+	+	-
Low	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Round	-	-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	+	-
Nasal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-
Lateral	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-
Cont	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	-	-	-	+	+
Del.rel.	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Strident	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	-	-	-	-	-	-	-
Voice	-	+	-	+	-	-	+	+	-	-	-	-	+	-	-	+	-	+	+	+	+	+	+	+	+	+	+

2.3 Vowel Sounds

Awngi has six vowels; two front unrounded vowels [i, e] ; two central unrounded vowels [ɨ, a] ; and, two back rounded vowels [u, o] . On the basis of the data at hand, two long vowels [e:, a:] are discovered. All vowels are devoiced (except [ɨ]), nasalized, and/or deleted according to the environment in which they are encountered. There is no word which begins with vowels. There exists a sequential constraint and we can state it in a form of rule.

10. # # C V C V
glottal central

(If a word begins with a glottal stop, then the following vowel will be either [ɨ] or [a] .)

2.3.1 Front vowels

The high front vowel found in the language is [i] , and, [e] is the only sound from the mid front vowel group.

dɨNg^{w}il^{y}i	'big'
t^{s}ark^{y}i	'black'
yɨnt^{y}i	'louse'
s^{y}en	'brother'
j^{y}e:r	'child'
c^{y}efɨN	'to count'

2.4.2 Central Vowels

The most frequent vowel is the high central vowel - [ɨ] . Also the low central vowel [a] occurs.

ʔɨl:	'eye'
wɨs:i	'ash'
g^{y}ewɨsNɨN	'to fight'
kɨsar	'back'
ʔa:Ng^{w}u	'breast'
c axa	'bird'
wata	'how'
ʔan	' I '

2.3.3 Back Vowels

All back vowels are rounded. The high back vowel [u] and the mid back vowel [o] are the only members that make up this class.

g^{w}uzg	'belly'
ax^{w}urɨN	'to blow (air)'
x^{w}uN	'to eat'
taf^{w}o	'his hand'
s^{w}ox^{y}eta	'eight'
d^{w}oNg^{y}et^{y}e	' I fasten'

Table -7

Phonetic chart for vowels

	Front		Central		Back	
	R	Unr.	R.	Unr.	R	Unr.
High		i		ɨ	u	
Mid		e			o	
Low				a		

2.4. Vowel Phonemes

In generative phonology, consonants and vowels are defined using the same features. Among the features, [high, low, back] can determine their distinctiveness in Awngi.

Table -8

Feature Matrix for Vowels

	i	e	a	o	u
High	+	-	-	-	+
Low	-	-	+	-	-
Back	-	-	-	+	+

All vowels, except [i], are devoiced word finally. The processes of devoicing may differ perhaps because of individual idiosyncrasy or dialectal variation. Thus, the rules that handles this phenomenon can be written as:

11. $$[+\text{syll}] \rightarrow [-\text{voice}] / \begin{bmatrix} +\text{cons} \\ -\text{voice} \end{bmatrix} - \left\{ \begin{bmatrix} -\text{cons} \\ +\text{low} \end{bmatrix} \right\} \#\#$$

(A vowel becomes voiceless between a voiceless consonant and a glottal stop, the glottal stop is an optional segment.)

The phonetic chart for vowel sounds given on Table -7 can be arranged using a phoneme matrix as:

Table -9

Phonone Matrix for Vowels

	Front	Back
High	i	u
Mid	e	o
Low		a

Table -10

Feature Matrix for Consonants and Vowels

	p	b	t	d	k	k^w	g	g^w	q	?	t^s	c	j	f	s	z	š	ž	x	x^w	l	r	m	n	N	w	y	i	e	a	o	u
Sonorant	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+	+
Syllabic	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+
Consonant	+	+	+	+	+	+	+	+	-	+		+	+	+	+	+	+	+	+	+		+	+	+	+	-	-	-	-	-	-	-	-
Cor	-	-	+	+	-	-	-	-	-	-	+	+	+	-	+	+	+	+	-	-		+	+	-	+	-	-	+	-	-	-	-	-
Ante	+	+	+	+	-	-	-	-	-	-	+	-	-	+	+	+	-	-	-	-		+	+	+	+	-	-	-	-	-	-	-	-
High	-	-	-	-	+	+	+	+	+	-	-	-	-	-	-	-	-	-	+	+		-	-	-	-	-	+	-	-	-	-	+	+
Back	-	-	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	+	-	-
Round	-	-	-	-	-	+	-	+	-	-	-	-	-	-	-	-	-	-	-	+		-	-	-	-	-	+	-	-	-	-	+	+
Nasal	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	+	+	+	-	-	-	-	-	-	-
Lateral	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		+	-	-	-	-	-	-	-	-	-	-	-
Cont.	-	-	-	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+		+	+	-	-	-	+	+	+	+	+	+	+
Del.rel.	-	-	-	-	-	-	-	-	-	-	+	+	+	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
Strident	-	-	-	-	-	-	-	-	-	-	+	+	+	+	+	+	+	+	+	+		-	-	-	-	-	-	-	-	-	-	-	-
Voice	-	+	-	+	+	+	+	+	-	-	-	-	+	-	-	+	-	+	+	+		+	+	+	+	+	+	+	+	+	+	+	+

2.5 Secondary Articulations

All consonants are either simple, or palatalized, or labialized. Thus we need two rules to handle palatalization and labialization processes in Awngi. These rules can be ordered respectively, as:

12. $\begin{bmatrix} + \text{ cons} \end{bmatrix} \rightarrow \begin{bmatrix} + \text{ high} \end{bmatrix} / \quad \_\_ \quad \begin{bmatrix} + \text{ syll} \\ - \text{ back} \\ - \text{ low} \end{bmatrix}$

(A consonant is palatalized when it occurs either before a high or a mid front vowel.)

13. $\begin{bmatrix} + \text{ cons} \end{bmatrix} \rightarrow \begin{bmatrix} + \text{ round} \end{bmatrix} / \quad \_\_ \quad \begin{bmatrix} + \text{ syll} \\ + \text{ round} \end{bmatrix}$

(A consonant is labialized when it occurs either before a high or a mid back vowel.)

Vowels of Awngi, like other language but differently are nasalized. This rule can be formulated as follows:

14. $\begin{bmatrix} + \text{ syll} \end{bmatrix} \rightarrow \begin{bmatrix} + \text{ nasal} \end{bmatrix} / \quad \_\_ \quad \begin{bmatrix} + \text{ cons} \\ + \text{ nasal} \end{bmatrix}$

(A vowel is nasalized when it occurs before a nasal consonant.)

2.6 Morphophonemics

In Awngi nouns are marked for gender. That is, a noun inflected with [-i] is [+male], and a noun inflected with [-a] is [-male] . Sometimes nouns which are [+ male] may not be marked overtly (the vowel may be deleted), whereas the feminine marker is never deleted. These gender markers change the quality of the vowels of some nouns. Then we have to account these changes in our phonological analysis.

	Male	Female	Gloss
a.	mulukisi	mulkisa	'monk/nun'
b.	ligisimi	legesema	'tall'
c.	sarki tay	sarka taya	'black sheep'
d.	jipina	jipinja	'buy'

These data reveal that when the noun is (un) marked for the male gender the vowels of that noun remain unchanged. And, when the noun is marked for female gender the vowels height of that noun change to the next immediate vowel height. Thus, we can formulate an optional phonological rule as:

15* $$\begin{bmatrix} +\text{ syll} \\ +\text{ high} \end{bmatrix} \quad [-\text{ syll}]\ \# \rightarrow [-\text{ high}] \,/\, \_\_ \begin{bmatrix} -\text{ high} \\ +\text{ low} \end{bmatrix}$$

* This rule (15) and other succecive rules in 2.6 are all optional; they are utilized only with few nouns. In other words, these rules can not be applied to all nouns.

(A high vowel changes (it may be fllowed either by a consonant or consonant clusters) to a mid vowel when it is followed by a low vowel. This change in vowel height applies to all vowels found in the stem.)

In other case, the change of vowel quality also provides certain grammatical information such as:

a. duNgiN ' to fasten'

b. duNgiti 3per, sg., f., and 2per. sg.

c. doNgete '2per., sg., and 3per, sg., m.

We can also account for this phenomenon in line with the privious rule as:

16. $\begin{bmatrix} + \text{ syll} \\ + \text{ high} \end{bmatrix} \quad [- \text{ syll}] \; \# \rightarrow [- \text{ high}] / \; \text{——} + [-\text{high}]$

(A high vowel change to a mid vowel when it is followed by a mid vowel. This change applies to all vowels found in the stem.)

This two rules can be merged together to give the following optional rule.

17. $\begin{bmatrix} + \text{ syll} \\ + \text{ high} \end{bmatrix} \quad [- \text{ syll}] \; \# \rightarrow [- \text{ high}] / \; \text{——} + \begin{bmatrix} - \text{ high} \\ (+ \text{ low}) \end{bmatrix}$

(This rule conflates rules 15 and 16. That is a high vowel changes to a nonhigh vowel when it is followed either by a mid vowel or a low vowel.)

These changes in vowel height, so far discussed, are due to phonological factors. In the derivation of rule-15 nouns marked for female gender are low in their vowel heights as compared to the vowels of the nouns marked for male gender. However, the vowels of the verb form in example 'b' are high as compared to the vowels of the verb form in example 'c'. If the grammatical information takes precedence over the phonological rules, the analyses will be contradictory. Thus, the latter is responsible for these vowel height changes and enables us to formulate rule -17.

Nevertheless, the phonological rule -17 is weak to handle all changes in vowel height. We can have a look at the following data.

a.	1.	mulukisi	'monk'
	2.	mulukisa	'nun'
	3.	molekesa	'monks/nuns'
b.	1.	dikitima	'How are you(sg.)?'
	2.	deketkama	'How are you(pl.)?'

In these data, a-2 violates what is stated in rule-15 and that is why it is said to be an optional (or lexical) rule. The vowel height change in a-3 is in pattern with those nouns governed by rule-15. Their difference is that the former expresses the change in number and the latter gender. And, their similarity is both utilize the same change in vowel height and pattern. Since this does not hold for the change in a-2, the need to revise rule -15 cannot arise. Hence, our task is to formulate a morphophonemic rule rather than a phonological rule.

/mulukis/	——	mulukis	/ in the singular
	——	molekes	/ in the plural
/dikiti/	——	dikiti	/ in the sing
	——	deket-	/ in the plural

This can be written in a rule form like:

18. $\begin{bmatrix} +\text{ syll} \\ \alpha\text{ high} \end{bmatrix} \quad [-\text{ syll}] \quad \# \rightarrow [-\alpha\text{high}] \; / \; \_\_ \; \alpha\text{plural}$

(When the alpha is assigned to a plus sign; the vowels of the stem are mid vowels in the plural. And when the alpha is assigned to a minus sign: the vowels of the stem are high vowels in the singular.)

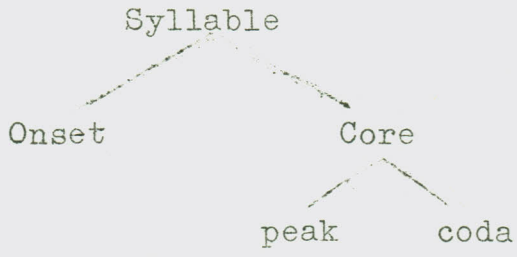
Finally we can make a summary from the above discussions: the phoneme /i/ is realized as [i] and sometimes as [e] . Likewise, the phoneme /u/ is realized as [u] and sometimes as [o] . Perhaps the converse of these may be feasible. That is, the phoneme /e/ is realized as [e] and sometimes as [i] and the phoneme /o/ is realized as [o] and [u] . By implication and language universals, the latter is prior to the former. There are languages with vowels marked for the feature [+ high] , but there is no language with vowels unmarked for the feature [+ high] . In other words, the presence of the vowels [e] and [o] predicts the presence of [i] and [u] , repectively, but not vice-versa.

3. THE SYLLABLE

3.1 The Syllable

The definition of the syllable is a problem by itself. The problem is to assert whether the syllable isaphonetic or a phonological unit. Kenstowicz and Kisseberth (1982: 256) define it as: "At this point the only thing that can be said with any confidence is that the syllable is an abstract programming unit in terms of which speech is articulated." And, Clarence Sloat, et.al (1978: 65) remark : "we have considered the structure and function of a very basic unit of sound - the syllable. Evidence from a number of sources strongly suggests that the syllable is a psychologically real unit of language." (I underlined the two phrases for the sake of emphasis and also to reveal the inherent contradiction between them.)

The analysis of the syllable of a given language, in this case- Awngi, is determined by the internal word structure of the language under study. However; the structure of the syllable is universal and divided into three parts: (1) the onset, (2) the peak or nucleus and, (3)the coda. This is schematized in Larry M.Hyman (1975: 188) as:



Hence: in the word /taf/ 'hand', /t/ is the onset, /a/ is the peak, and /f/ is the coda. In Awngi, the peak (or nucleus) is always a vowel (or any segment marked by the feature [+syllabic]. This can be compared to the English word syllabicated as [pr - eid].

The commonest type of syllable patterns in Awngi are CV, CVC, and CVCC.

CV	/ki/	'grass'
CVC	/taf/	'hand'
CVCC	/guzg/	'belly'

3.2 Syllable Structure Processes

3.2.1 Epenthesis

How are we going to syllabify the word ?ɨndarmy ? If we are to syllabify it as$?ɨn $ da$rmay$, the problem will be with the last syllable- CCVC. This syllable pattern automatically violets the word structure of Awngi. Therefore; CCVC cannot be a possible syllable pattern is Awngi. The other possibility $?ɨn$dar$may, but from our phonological analyses the vowel of the first syllable is an epenthetic vowel and the underlying representation of this word is / ?ndarmay/. This word can be syllabicated as$?n$darmay, still this syllabication leads to the violation of the structure of the syllable as observable from the first syllable. there are other words which need similar solutions

gudɨm	'dull'
'mɨwk	'feather'
'samb	'leg'
'tɨrqɨsi	'freeze(n)
'gurgɨm	'neck'

Then we have to set rules that can handle these phenomena as:

19. a'. $\emptyset \rightarrow [\text{ɨ}]$ / ##$ C — C(C)
b'. $\emptyset \rightarrow [\text{ɨ}]$ / —$ C: — C $ —
c'. $\emptyset \rightarrow [\text{ɨ}]$ / —$CC —C$ —

These three rules can be conflated as:

20. $\emptyset \rightarrow [\text{ɨ}]$ / { ##$C — C(c) ; —$C: — C$— ; —$CC — C$ — }

(This rule states that a syllable with consonant clusters either in word-initial position, the onset consonant is long, or the addition of a third consonant, [ɨ] is inserted.)

After these rules are applied the syllabication of these words will be;

a". / ?ndarmay/ — $?ɨn$darmay
b". / gudm / — $g^{W}u$'d:ɨm$
c". / gurgm / — $'g^{W}ur$gɨm$

a.	fuca	'white (nom,sg.f)'
b.	fucawa	'white (acc.sg.f)'
c.	fucka	'white (nom,ple.)'
d.	fuckawa	'white (acc.pl.)'

These data can be syllabicated as (a) CVCV$, (b) s/ C V $ C V $ C V $, (c) $ C V C C $ C V $, and

(d) ⋕ C V C ⋕ / C V ⋕ C V ⋕ ; respectively. The last syllables, namely; ca, wa, and ka are apparently syllabicated as -CV. But the mistake committed is that the underlying representations of 'b' and 'd' are / fucaa/ and / fuckaa/ respectively, and we know that the accusative marker is /-a/. If we are to resyllabicate these words the pictures will be either as ⋕ C V ⋕ C V V ⋕ and ⋕ C V C ⋕ C V V ⋕ or as ⋕ C V ⋕ C V ⋕ V ⋕ and ⋕ C V C ⋕ C V ⋕ V ⋕ . The syllable patterns C V V and V will be in contraditction with the word structure of Awngi, where a word cannot have two vowels consecutively. Thus, we set a rule as follows:

21. Ø → [w] / ⋕ca - a(c)

or

C V V → C V C V / ⋕ C V ⋕ - V(C)

C a a → C a w a / ⋕ C a ⋕ - a(c)

ʔɨnoŋi	'we'	ʔɨnoŋisu	'our'
ʔɨntonŋi	'you(pl.)'	ʔɨntonŋisu	'your(pl.)'
Naŋi	'they'	Naŋisu	'their'

If we say that the possessive marker is /-u/ (and with an allomorph of /-w/, /-su/ cannot be a possible allomorph of the morpheme possessive, and, hence, we can formulate an epenthetic rule as:

22. $\emptyset \longrightarrow [s] \quad / \quad C_i \text{ —— } u$

ʔɨNk^{w}axɨN	' to hear'
ʔɨNk^{w}ax^{y}iʔ	' ear'
ʔɨntožig^{y}išt^{w}unaʔ	'you (pl.) dig.'
Naž^{y}ig^{y}iš^{w}unaʔ	' they dig.'
g^{y}išɨN	'to dig'

23. $$\emptyset \longrightarrow \begin{bmatrix} -\text{syll} \\ -\text{cons} \\ +\text{low} \end{bmatrix} / \quad [+\text{ syll}] \text{ —— } \#\,\#$$

(A glottal stop is inserted after a vowel and before pause.)

3.2.2 Deletion, Coalescence and Major class feature change

When the possessive marker -[u] is preceded by a vowel with the same quality i.e, [u], one of the vowels is deleted.

alemu	'Alemu's'
alemu	'Alemu'
u + u u	

ʔan(i)	'I'	yɨwi	'my'
ʔɨnti	'you'	k^{w}u	'your(sg)
ñi	'he, she, it'	ñɨwi	'his, her, its'

These surface realizations of the possessive pronouns can be derived as follows:

yu + u+i	yw+i	y±wi	
ku + u	ku	$k^{w}u$	
Ni + u + i	$\bar{n}$w+i	$\bar{n}$±wi	
?iskawiw	'new's(m)'	?±skawaw	'new's(f.)

When the possessive marker is preceded either by /⌐i_7 or /⌐ a _7, it becomes a labialized glide - /⌐w_7.

24. $\begin{bmatrix} +\text{ syll} \\ +\text{ high} \\ +\text{ back} \end{bmatrix} \rightarrow$ /⌐- syll_7/ $\begin{bmatrix} +\text{ syll} \\ -\text{ back} \end{bmatrix}$ —

4. SUPRASEGMENTALS

4.1 Stress and Length

Suprasegments (or prosody) may be equated as prominence. In Lary M.Hyman (1975: 203) it reads as: The word prominence is used as a cover term to include stress (intensity), tone (pitch), and duration (length). This is simply because vowel harmony and nasalization are categorized under suprasegmentals. The reason to avoid the title "prominence" in this paper is, because the latter features of supprasegments are not included in this paper.

Stress and length are discussed together and tone will be discussed below as a unit. Naturally, prominence is relative and psychological. However, in a given word we can place or assign stress and length to a unit (or syllable). This unit is more or less different or similar to the adjacent unit in stress and /or length.

Stress can be fixed or free in a language. Neverthelss, on the phonetic level one cannot group all languages into one of these categories. The realization of stress either as fixed or free is possible on a detailed study of that language. Leaving this natural phenonenon intact, we procede to the aim of the paper; How is stress placed and utilized in Awngi?

To begin with, let's have a look at the following data, which are picked from the corpus with deliberation to meet the analysis attempted.

'kaɕ̈iN	' to hunt'
ka'ɕ̈:i	'hunt!'
bu'z:i	'fat'
yïzuk't:i	'heavy'
mikinya't:i	'because'
wa't:a	'how'
'tas:	'hit!'
?ïtiN	'to fall'
?ï'ti	'fall'
'gurgim	'neck'
'ɟe:r	'child'

We can observe that stress is placed either on the first syllable or on the final syllable. To start with, we can state a rule that handles the placement of stress on the first syllable as:

25. $\emptyset \longrightarrow [+\text{stress}] / \#\# \_\_$

Once we said that suprasegments are relative, a monosyllabic word, regardless of its grammatical category, can be either stressed or unstressed. The grammatical catagories- adjective, and imperative, incorrporated with the number of syllables in that word, determine the placement of stress. Thus, if

the word is polysyllabic and together with the grammatical category it belongs, its final syllable will be stressed. The rule which handles this phenomenon will be:

26. $\emptyset \longrightarrow [+\text{stress}] / \_\_\_\_ \#\#$

Condition: The grammatical category of the lexeme is either adjective, adverb, or **impertative.**

Thus, if stress is predicatable, we can conclude it is nonphonemic (or fixed) in Awngi.

Robert Hetzron asserted that length is not commonly found in Awngi. It is found here and there with its rarities. Length in this language has no lexical function, to the contrary, its occurrence can be attributed to a phonetic reason. This reason can be explained using the words of Larry M.Hyman (1975: 207) as:

> Since both stress and high tone correlate with prominent pitch, it must be concluded that the segmental effects of stress are due entirely to its culminative function. Both vowel lengthening and consonant fortition signal the prominence of a syllable which has culminative stress.

This phenomenon can be easily observed from the following data.

'zɨq:	'drink'
'ɲe:r	'child'
bu'z:i	'fat'
'lɨk:	'correct'
fu'ɕ:i	'white'

In all cases, where the second rule for stress applies, stress is accompanined by the concomitant lengthening (fortition) of the onset consonant. But, in the monosyllables, where this rule is met, the lengthening takes place on the coda consonant and no lengthening with a zero coda.

4.2 Tone

Awngi is asserted to be a tone language. Indeed it is tonal, and a detailed study may reveal its likeness and difference to other tone languages. In this paper a fair attempt will be made to discuss types of tones and the functions of tonemes in the system of this language.

By definition Awngi is a rigister tone language. That is, it has two level tones - High [´] and low [`], and two gliding tones - raising [ˇ] and falling [^] tone.

kɨ́sár	'back'
múrí	'village'
ʔɨ́nój í	'we'
gùrgɨ́m	'neck'
qàp	'bark(tree)'
ʔán	'I'
dàmìnǐ	'cloud'

The following paris reveal tone contrasts in the language.

1.	ʔàn	'that'
	ʔán	'I'
2.	mùrǐ	'village'
	múrî	'snake'
3.	ʔàwà	'whom'
	ʔáwá	'sun'

4.	kùr	'hill'
	kúr	'saddle'
	kûr	'sterile(m)'
5.	wéymí	'price'
	wèymì	' a kind of grass'

These pairs reveal how these tones contrast with each other, and, next we see how tone functions in this language.

a.	kûr	'sterile(m)'
b.	kùrâ	'sterile(f)'

The difference between these words is gender and 'b' is marked for female gender and 'a' is unmarked, the word unmarked for gender (male) is different in the level of tone from 'b'. If we are going to write the above data in a form of rewrite rule, it will look like;

a". / kùr / ⟶ [kûr]

b". / kùrá / ⟶ [kùrâ]

Thus, the stem bears the same degree of tone level and prevents us from adding another lexeme in the lexicon of the language.

a. / kùr / → [kùr] 'hill'

b. / kúr / → [kúr] 'saddle'

c. / kùr / → [kùr-] / [kúr] 'sterile'

These show that in Awngi High or Low do not contrast against rising (and perhaps, falling). We have to enter these lexemes (hill and sterile) in the lexicon as two different words but as "homonyms." Since this paper adheres to the binary operation of featurers, we adopt this operation also for tonemes. The tone which glides from low to High and which is phonetically Rising is marked for the feature [+ High] and Falling will be [+ Low].

The following context-free rules can be stated to handle these phenomena respectively.

27. LH (Rising) → [+ High]

28. HL (Falling) → [+ Low]

There are two restrictions on the occurences of tone (mes). They are both phonological and grammatical. The phonological restriction is that if the last syllable carries a Falling tone, the tone of the preceding syllable will not be Low. In other words, gliding takes place from High to Low and from Low to High and in which the latter is Rising. In the case of grammatical restictions, adjectives do not end with a Falling tone.

In Awngi tone has a relevance in contrasting grammatical relations like the following.

a. [kanɨ́s] 'Go'

b. [kànɨ̀s] 'Let us go.'

That is, imperative and permission are different in the tone of their first (penult) syllables, where the former is with High tone and the latter is with Low tone.

5. SUMMARY

This study claims that Awngi has thirty four phones (twenty eight consonants and six vowels) and five suprasegments (a stress and four tone levels). Using the techniques of generative phonology, it has reached the conclusion that thirty two phonemes and two tonemes are utilized in the system of the language. The basic syllable patterns in Awngi are - CV, CVC(C), and after the application of the appropriate phonological rules - ## C+C(C), C:±C, CC±C, C±se, and C_aw_a are members of the pattern.

Though we concluded and put the number of phonemes and tonemes, there are problems which are left unsolved. The problem is with the status of the velar nasal segment. An internal corupus evidence shows that the velar nasal segment has a different characteristic not shared by other segments. The syllable pattern of Awngi permits the occurrences of consonants consecutively both word-medially and word-finally. The velar nasal, however, cannot be a possible member of these consonants in all sequences ($-C_1\ C_2 - 1 \neq$ N ; or, if 1 = [N], then 2 = [K] or [g]).

Let us assume that the velar nasal in its underlying structure is not actually a single consonant. That is, it has come from a bilabial or an alveolar nasal followed by

a velar stop and the latter is deleted after the velarization of the preceding nasal segment. The question to be followed is: which velar stop is deleted? Can "voice assimmilation" rule be a possible answer and say that the deleted stop is [g] ? If we look back to our data, other nasal segments are followed by voiceless stops and voice assimilation proves nothing. This is the problem which is left hanging.

The following is not as such a problem "evaded" in the analysis but it is a concept which needs a treatement in the framework of the theory of phonology. This concept shares a characteristic from the concept of morphophonemes. Morphophonemes are the different realizations of a morpheme in different phonemic shapes. These different phonemic shapes are not determined phonetically, rather, grammatical factors are responsible for these alternations. In this paper it is discussed that the variations in the level of tone are sometimes associated with a grammatical factor. By the same token, this phenomenon can be termed as MORPHOTONEME. The definition alloted to a morphophoneme can be adjoined to this concept with no attempted change. Their implicit difference-segment vs- suprasegment is intact.

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APPENDIX - A

M.Swadesh and W.Welmer's Word Lists

Phonemic transcription	Phonetic transcription	Gloss
/wlá/	'wɨ́l:lá	'all'
/kmí/	'kɨ̀mí	'anmal'
/wsí/	'wɨ̀s:í̥	'ash'
/kaár/	kɨ́sár	'back'
/dkí/	'dɨ̀'k:í	'bad'
/qb/	qɨ̀B	'bark(tree)'
/mknyàtì/	mɨ̀kɨ̀nyà'tʸî̥	'because'
/gùzk/	gù'z:ɨ̀k	'belly'
/dngùlì/	dɨ̀Ngʷù'l:î	'big'
/càxà/	càxà	'bird'
/?NN/	?ɨ̀Nɨ̀N	'bite(to)'
/tˢárkí/	tˢár'k:í̥	'black'
/brì/	bɨ̀rʸî	'blood'
/màxùrN/	màxùrɨ̀N	'blow(to)'
/Nàtˢ/	Nàtˢ	'bone'
/?àngù/	?àNgʷù	'breast'
/tènèfèsN/	tʸènʸèfʸèsɨ̀N	'breathe(to)'
/sén/	sʸěn	'brother'
/bbrtˢN/	bɨ̀Brɨ̀dᶻɨ̀N	'burn(to)'
/jèr/	jê:r	'closhing'
/sy/	sɨ̀y	'closhing'

/dàmínì/	'dàmín^{y}î	'cloud'
/táft^{s}pá/	'táf±t^{s}pǎ	'claw'
/xmí/	?ì±xm^{y}:í	'cold'
/?ántìN/	'?ántîN	'cole(to)'
/cèfN/	'cèf±N	'count(to)'
/kèwN/	'k^{y}èw±N	'cut(to)'
/gèrkì/	'g^{y}èrk^{y}ì	'day'
/krN/	'k±r±N	'die(to)'
/gʉN/	'g±ʉ±N	'dig(to)'
/t^{s}àmì/	t^{s}à'm:î	'dirty'
/gsèN/	'g±s^{y}èN	'dog'
/ɑqN/	'z±q±N	'drink(to)'
/kàgî/	kà'g:î	'dry'
/gùdm/	gù'd:m	'dull'
/ ttrí/	't±tr^{y}í	'dust'
/?nk^{w}àxí/	'?±Nk^{w}àx^{y}í	'ear'
/btí/	'b±t^{y}í	'earth'
/xùN/	'x^{w}ûN	'eat(to)'
/?nk^{w}làl /	'?±Nk^{w}±la/	'egg'
/sòxètá/	's^{w}òx^{y}èta	'eight'
/?l/	'?±l:	'eye'
/?tìN/	'?±t^{y}îN	'fall(to)'
/?cí/	?±'c:í	'far'
/bùzí/	bù'z:í	'fat'
/mwk/	'm±wk	'feather'
/t^{s}lá/	t^{s}±'l:á	'few'

/sèbN/	'sʸèBɨ́N	'fight(to)'
/lèg/	'lʸèg	'fire'
/ʔàsì/	'ʔàsʸî̯	'fish'
/ʔànkʷá/	'ʔàNkʷá̯	'five'
/gèmN/	'gʸèmɨ́N	'flow(to)'
/ʔábíbí/	'ʔáBʸíBʸí	'flower'
/cgàgí/	cɨ̀'gàgʸǐ̯	'fog'
/l kú/	'lɨ̀kʷú̯	'foot'
/sètˢá/	'sʸèdᶻá	'four'
/trqší/	'tɨ̀rqɨ̀šɨ̯̌	'freeze(n)'
/wáx/	'wáx	'full'
/ʔyN/	'ʔɨ̀yɨ́N	'give(to)'
/snkút/	sɨ̀N'kʷút	'good'
/kí/	'kʸǐ̯	'grass'
/ʔàrngʷàdì/	ʔàrɨ̀Ngʷà'd:î̯	'green'
/tˢìtˢfì/	'tˢìtˢfʸí̯	'hair'
/táf/	'táf	'hand'
/Ní/	n̄í	'he'
/ʔnkʷàxN/	'ʔɨ̀Nkʷàxɨ̀N	'hear(to)'
/šèw/	'šèw	'heart'
/yzùktí/	yɨ́zʷùk't:ǐ̯	'heavy'
/ʔndá/	ʔɨ̀n'd:á	'here'
/ʔmíN/	'ʔɨ̀mʸǐ̯N	'hold(to)'
/Nárì/	'Nárʸì̯	'head'
/tàsN/	'tàsɨ́N	'hit(to)'
/jénjì/	'jénjî̯	'horn'

/wàtá/	wà't:á	'how'
/kàcí/	'kàcí	'hunt'
/lix/	'l^{y}ix	'hundred'
/?àn/	'?àn	'I'
/?àrà/	'?àrà	'husband'
//xàxé/	'?ɨxàx^{y}é	'ice(snow)'
/kúN/	'k^{w}uN	'kill(to)'
/grb/	'gɨrɨB	'knee
/yàkN/	'yàkɨN	'know(to)'
/hàykí/	'hàyk^{y}í	'lake'
/?wàxíN/	'?ɨwáx^{y}ɨN	'laugh(to)'
/xátsí/	'xád^{z}í	'leaf'
/sèngàràšòs/	's^{y}èNgàràšós	'leftside'
/rár/	'?ɨrár	'leg(front)'
/sàmb/	'sàmb	'leg(back)'
/glíN/	'gɨl^{y}íN	'lie(to)'
/zk^{w}N/	'zɨk^{w}ɨN	'live(to)'
/dòlèt/	'dòl^{y}ét	'liver'
/lìgìsìmí/	l^{y}ìg^{y}ìs^{y}ì'm:í	'long'
/yntí/	'yɨnt^{y}í	'louse'
/?àki/	'?àk^{y}í	'man'
/ménc/	'm^{y}énc	'many'
/?ší/	'?ɨš:í	'meat(flesh)'
/?àrfá/	'?àrfá	'moon'
/cwá/	'cɨwá	'mother'

/kán/	'kán	'mountain'
/xnbì/	'xɨ̀mb^{y}ì	'mouth'
/sm/	'sɨ́m	'name'
/t^{s}bàb/	t^{s}ɨ̀'BáB	'narrow'
/dìg/	d^{y}ì'g:ǐ	'near'
/gúrgm/	'g^{w}úrgɨ̂m	'neck'
/?skáwí/	'?ɨ̀skáwǐ	'new'
/xàr/	'xàr	'night'
/sán/	'sán	'nose'
/gàtîw/	gà't^{y}îw	'not'
/wìlìʓì/	'wìlìʓî	'old'
/?mplà/	?ɨ̀mpɨ̀là	'one(indefinite)'
/làxú/	'làx^{w}ú	'one(numeral)'
/?nkrí/	'?ɨ̀Nkɨ̀r^{y}í	'play'
/gùsN/	'g^{w}ùsɨ̀N	'pull(to)'
/ʃìnkíN/	'ʃìNkíN	'push(to)'
/?rí/	'?ɨ̀r^{y}ǐ	'rain'
/dmì/	'dɨ̀'m:ì	'red'
/lkí/	lɨ̀'k:í	'right(correct)'
/léwàʃòs/	l^{y}éwà'ʃ:òs	'rightside'
/bn/	'bɨ́n	'river'
/dád/	'dád	'road'
/sr/	'sɨ́r	'root'
/gèmèd/	'g^{y}èm^{y}éd	'rope'
/bsq/	bɨ̀'s:ɨ́q	'rotten'

/fétègN/	'f^{y}ét^{y}ègɨN	'rub(to)'
/cwí/	'cɨwǐ	'salt'
/ʔáʂàwí/	'ʔáʂàwí	'sand'
/nN/	'nɨN	'say(to)'
/cárìN/	'cár^{y}íN	'scratch(to)'
/bàr/	'bàr	'sea'
/zèr/	'z^{y}èr	'seed'
/láNètá/	'láNètá	'seven'
/sàxN/	'sàxɨ́N	'sew(to)'
/kàntiN/	'kàntɨ́N	'see(to)'
/ʔnjùkN/	'ʔɨnj^{w}ùkɨ́N	'sit(to)'
/ʔàngàrì/	ʔàNgàr^{y}ì	'skin'
/ɑɑn/	'dɨBàn	'sky'
/sìlèt/	s^{y}ì'l:ét	'sharp'
/tòkèsN/	't^{w}òk^{y}èsɨ́N	'shoot(to)'
/dèdéN/	d^{y}èd':ěN	'short'
/jímì/	'jɨm^{y}ǐ	'sing'
/sènà/	's^{y}ènâ	'sister'
/xóréN/	'x^{w}ór^{y}éN	'sleep'
/slá/	sɨ́'l:ǎ	'small(f)'
/xrí/	'xɨr^{y}í	'smell'
/tìʂí/	't^{y}ìʂǐ	'smoke'
/l slàsí/	lɨslà's:ǐ	'smoosh'
/múrí/	'm^{w}úr^{y}ǐ	'snake'
/wèrém/	'wèr^{y}ěm	'spear'

/ʔntfnN/	'ʔɨ̀ nt̀ɨfǹɨN	'spit(to)'
/ʔàgùl̀èlN/	'ʔàg^{w}ùl^{y}èl̀ɨN	'split(to)'
/sèmèkN/	's^{y}èm^{y}èkɨ̂N	'squeeze(to)'
/tíríN/	't^{y}ír^{y}íN	'stand(to)'
/bèwá/	'b^{y}èwǎ	'star'
/mtNsN/	'mɨt̀Ns̀ɨN(?)	'stick(to)'
/kárN/	'kárɨ̂N	'stone'
/ktìtì/	kɨt^{y}ì'tː̀	'straight'
/sáwN/	'sáwɨ̌N	'suck(to)'
/ʔàwá/	'ʔàwǎ	'sun'
/ʔnkàʁ̌í/	'ʔɨ̀Nkàʁ^{y}ì	'swelling'
/bánbiN/	'bámbiN	'swim(to)'
/crí/	'cɨr^{y}ì	'tail'
/tská/	t^{s}ɨ'kǎ	'ten'
/ʔán/	'ʔán	'that'
/ʔàndá/	ʔàn'dː á	'there'
/Nàʑí/	'Nàʑí	'they'
/bùzí/	b^{w}ù'zː í	'thick'
/ʔnt^{s}v/	ʔɨ̌n't^{s}ː ǔ	'thin'
/ʔàsèbN/	'ʔàs^{y}èBɨ̌N	'think(to)'
/ʔàní/	ʔà'nː í	'this'
/ʂùχá/	'ʂ^{w}uχá	'three'
/zg^{w}íN/	'zɨg^{w}íN	'throw(to)'
/ʔnsèwN/	'ʔɨns^{y}èwɨ́N	'tie(to)'
/t^{s}áN/	't^{s}áN	'tongue'

/zúrt^{s}N/	'z^{w}úrt^{s}±N	'turn(to)'
/làngàrNá/	'làNgàrNá	'twenty'
/làNá/	'làNá	'two'
/ƶálàt^{s}N/	'ƶálàd^{z}±N	'vomit(to)'
/kùngìN/	'k^{w}ùNgîN	'walk(to)'
/?nkìnì/	'?±Nk^{w}ìn^{y}ì	'warm'
/kút^{s}N /	'k^{w}úd^{z}±N	'wash(to)'
/?áx̲ù/	'?áx̲^{w}û	'water'
/?nóƶí/	'?±nóƶ±í	'we'
/sòx̲èn/	s^{w}ò'x̲:ên	'wet'
/?ndàrmá/	?±ndàrm:á	'what'
/wàní/	wà'n:í	'when'
/wàdá/	wà'd:á	'when'
/fùcì/	fù'c:î	'white'
/?àyì/	?à'y:î	'who'
/?sán/	?±'s:àn	'wide'
/qá/	'qá	'wife'
/nfás/	'n±fás	'wind'
/mwk/	'm±wk	'wing'
/t^{s}érègN /	't^{s}ér^{y}ègìN	'wipe'
/x̲ùná/	'x̲^{w}ùná	'woman'
/kàní/	kàn^{y}í	'wood'
/?nsrí/	'?±nsìr^{y}ì	'work'
/?t^{s}í/	'?±d^{z}í	'worm'

ʔaNkʷà k ét èmkă	'five towns'
ʔɨ̀mpɨ̀lcálí	'one basket'
láNàcàlkă	'two baskets'
ʔáNkàcàlkă	'five baskets
láNà fíyàlkă	'two goats'
wɨ́là kétèmkă	'all towns'
yù fiyàlkă	'all my goats'
méncɨ́kàq	' a lot of people'
méncɨ̀kà fíyàlkă	' a lot of goats'
ménc àxò	' a lot of water'
lɨ̀ká ʕ	'some people'
lɨ́ká ʕkàntɨNà yìntékă	'some people came to see you'
ʔɨ̀lɨ̀ws dàds síriNɨ̀s kàlímă	'Is there any other way to do it.
ñéwă lɨ̀kà ʕkàntùnă	'a few people saw him'
ʔɨ̀Ngrâ zùmí	'say it again'
ñíNgrâ ɨ́nsaxstɨ́xà	'he did it again'
ʔàn ɨ̀nsàstɨ̀Nɨ̀s kálàlă	'I cannot do it'
ʔàn ñéwă kàntayă	'I haven't seen him'
ñì náká yɨ̀ntĕ	'He is coming today'
NàɄí áynà yíntùnă	'They came yesterday'
NàɄí cá yíntànă	'They are coming tomorrow'
cázùr tàtăw	'come back tomorrow'
lɨ̀qá àxú NɨɄìxátăw	'Bring some water right now'
ñì ándà láNà gérkàjí	'He stayed there for two days'
ʔándà ɨ̀ndárki mɨ̀gɨ́Blă	'There was no food there.'

?ɨ́nóži cá andá kàné	'We are going here tomorrow.'
?ɨ́n sɨ́Nkɨ́tkàrǐ	'This is a fine knife.'
?ɨ́n ɨ́ndármǎy	'What is this?'
?ɨ́n ɨ̀ši yɨ̀séni	'This meat is tough'
?án sɨ̀Nkɨ̀t karî	'That is a fine knife'
?án yɨ́wí káryàx̱	'That is my knife'
?án ɨ̀ndármǎy	'What is that?'
?án Nɨn wèdél	'That house is big.'
?áy nɨ̀x̱wiy	'Who said that?'
n̄i ténéfèsemǎ	'Is he breathing?'
?ɨ́n kàni sóx̱eni bɨ́Bràlàki	'This wood is wet. It won't burn'
lègí yɨ̀wsà àx̱yé wɨ̀láwá bɨBrɨt^s ɨwǎ	'The fire barned up all my thing.'
?ɨ́n Nɨ́n dɨ̀Ngɨ̀lí	'This house is big.'
?áy ɨ́ntɨ́x̱ǔ	'Who is coming?'
ɨ̀siNó jèmèrtɨx̱ǎ	'She began to cry.'
n̄i mínco gìzó ɨ̀stìx̱ǎ	'She cried for a long time'
yɨ̀tàlǎ kɨ̀rǎ	'my father is dead.'
n̄iɨNkàNà kɨ̀rǎ	'He died last year'
zàgri bitida ɨtɨ̀wx̱ǎ	'The monkey tell to the ground.'
?àx̱ àx̱àdà ɨ̀tɨ̀wàx̱ǎ	'It fell in the water.'
n̄í ɨ̀tàmà tạfò dùntɨwx̱à	'He fell and broke his arm.'
jìfìstè kìnǎ	'Don't be afraid. (M)'
jìfìstè kìnjǎ	'Don't be afraid. (f)'

nījìfístàsèxa	'He was afraid.'
yɨtsésta ñigewɨsñeka	'He and my brother tought.'
bèrèra làkí	'I can't fly.'
ní ɨwàxèxa	'He laughed.'
ñígìlèmâ xùráxá	'He lay down.'
ñí fɨna ɨšèxùda kètemda zɨkàxà	'He lived in the same town.'
Nɨškèlà ñi zùk èmà	'Is he still living?'
Nàží xáro wáxo žɨmúná	'They sang all night.'
ñí ɨnjùká sexa	'He sat down.'
ñi šuxà gèrkàs xùràxa	'He slept for three days.'
ñí àlikìs dɨwɨxa	'He spoke to the chief.'
ñí kayàmà zɨmwɨxa	'He spoke loudly.'
ñí bìtìdà ɨntɨfnɨxá	'He spat on the ground'
ñí tèrèxa	'He stood up.
ñí ɨnzèNɨNɨda kámà tèrèxa	'He stopped while walking.'

APPENDIX B

Phonemic Inventories of Awngi Made by F.R. Palmer. R.Hetzron and Habtamu Bekele.

F.R. Palmer (1959: 271)

Consonants

	Plosive	Fricative	Affricate	Nasal	Semivowel	Lateral	Trill
Bilabial	p,b			m	w		
Labiodental		f					
Dental	t,d			n			
Alveolar		s	t^s, d^z			l	r
Palatal		š	c, j		y		
Velar	k,g	x		N			
Labiovelar	k^w,g^w	x^w		N^w			
Uvular	q						
Labiouvolar	q^w						

Vowels

	front	Central	Back
Close	i		u
Mid	e	ə	o
Open		a	

R.Hetzron (1969: 7-12)

Consonants

Labials	/b/	[B]	[b]	Velars	/k/
	/p/				/g/
	/m/				/N/
	/f/				/g^w/
Dentals	/d/				/k^w/
	/s/				/N^w/
	/z/			Uvolars	/q/
	/c/				/x̲/
	/d^z/				/q^w/
	/l/				/$x̲^w$/
	/r/				
Palatals	/ʃ/			Semivowel	/w/
	/ʒ/				/y/
	/ǰ/				

Voiceless Affricate /c/

Vowels

i ə u

e o

æ

a

Habtamu Bekele (1975 E.C.)

Consonants (p - 20)

		የከንፈር	የከንፈርና	የጥርስ	የድድ	የላንቃ	የትናጋ	የአንጥል
አግድ	ነ	በ			ደ		ገ ⓖ	ቀ ⓚ
	ኢ	ፐ			ተ		ከ ⓗ	
ሹልከሱክ	ነ				ዘ	ዠ		
	ኢ			ፈ	ሰ	ሸ		
ፍትግ	ነ					ጀ		
	ኢ				ቲ	ቸ		
የሰረን		መ			ነ	ኘ	ኝ	
ጉናዊ					ለ			
ላሽ					ረ			
ከፊልተነባቢያ		ወ				የ		

Vowels (p - 35)

	የፊት	የመሃል	የኋላ
ከፍተኛ	ኢ	እ	ኡ
መካከለኛ	ኤ		አ
ዝቅተኛ		ኣ	

APPENDIX C

(N.Chomsky and M.Halle's (1968: 301-329) Definitionns of Features)

Major Class features

Sonorant - Nonsonorant (Obstruent)

Sonorants are sounds produced with a vocal tract cavity configuration in which spontaneous voicing is possible; obstruents are produced with a cavity configuration that makes spontaneous voicing impossible.

Vocalic - Non-Vocalic

Vocalic sounds are produced with an oral cavity in which the most radical constriction does not exceed that found in the high vowels i and u and with vocal cords that are positioned so as to allow spontaneous voicing; in producing nonvocalic sounds one or both of these conditions are not satisfied.

Consonantal - Nonconsonantal

Consonantal sounds are produced with a radical obstruction in the midsagital region of the vocal tract; nonconsonantal sounds are produced without such an obstruction.

Cavity features

Coronal - Noncoronal

Coronal sounds are produced with the blade of the tongue raised from its neutral position; noncoronal sounds are produced with the blade of the tongue in the neutral position.

Anterior - Nonanterior

Anterior sounds are produced with an obstruction that is located in front of the palatoalveolar region of the mouth; nonanterior sounds are produced without such an obstruction. The palato - alveolar region is that the ordinary English š is produced.

Features Relating to the body of the Tongue

High - Nonhigh

High sounds are produced by raising the body of the tongue above the level that it occupies in the neutral position; nonhigh sounds are produced without such a raising of the tongue body.

Low - Nonlow

Low sounds are produced by lowering the body of the tongue. Below the level that it occupies in the neatural position; nonlow sounds are produced without such a lowering of the body of the tongue.

Back - Nonback

Back sounds are produced by retracting the body of the tongue from the neutral position; nonback sounds are produced without such a retraction from the neutral position.

Rounded - Nonrounded

Round sounds are produced with a narrowing of the lip orfice, nonrounded sounds are produced without such a narrowing.

Secondary Apertures

Nasal - Nonnasal

Nasal sounds are produced with a lowered velum which allows the air to escape through the nose; nonnasal sounds are produced with a raised velum so that the air from the lungs can escape only through the mouth.

Lateral - Nonlateral

This feature is restricted to coronal consonantal sounds. Lateral sounds are produced by lowering the mid section of the tongue at both sides or at only one side, thereby allowing the air to flow out of the mouth in the vicinity of the molar teeth; in nonlateral sounds no such side passage is open.

Manner of articulation features

Continuant - Noncontinuant (Stop)

In the production of continuant sounds, the primary construction in the vowel tract is not narrowed to the point where the air flow past the constriction is blocked; in stops the air flow through the mouth is effectively blocked.

Release Features: Instantaneous Release - Delayed Release.

These features affect only sounds produced with closure in the vocal tract. There are basically two ways in which a closure in the vocal tract may be released, either instantaneously as in the plosives or with a delay as in the affricates. During the delayed release, tucbulence is generated in the vocal tract so that the elase phase of affricates is accousically quite similar to the congnate fricative. The instantaneous release is normally accompanied by much less or no turbulence.

Source Features

Voiced Nonvoiced (Voiceless)

In order for the vocal cords to vibrate, it is necessary that air flow through them. If the air flow is of sufficient magnitude, voicing will set in, provided only that the vocal cords not be held as widely apart as they are in breathing or in whispering.

Strident - Nonstrident

Strident sounds are marked acoustically by greater noisiness that their nonstrident counterparts. (When the air stream passes over a surface, a certain amount of turbulence will be generated depending upon the nature of the surface, the rate of flow, and the angle of incidence. A rougher surface, a faster rate of flow, and an angle of incidence closer to ninety degrees will all contribute to greater stricency.) Stridency is a feature restricted to obstruent continuants and affricates. Plosives and sonorants are nonstrident.

D E C L A R A T I O N

I, the undersigned, declare that this thesis is my work and that all sources of material used for this thesis have been duly acknowledged.

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