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Analysis of Tone in Oromo

By

Habte Bulti

Approved by Board of Examiners:

Advisor

Examiner

Examiner

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Signature

Declaration

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

Moges Yigezu (Ph.D)

Habte Bulti

(Advisor)

(Candidate)

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Appendix

Symbols and Abbreviations

D alveolar implosive sound

F floating tone

C consonant

V vowel

O onset

N nucleus

Co coda

σ syllable

def definiteness

fem feminine

pl plural

nom nominative case

pres present

foc focus

neg negative

sg singular

m masculine

inst instrumental case

fut future

Abstract

Tone is an important phonological phenomenon in Oromo. It distinguishes the meanings of lexical items and signals some grammatical functions. It has not been studied in detail so far. Thus, the aim of this study is to describe and analyse it. The study is organized into four chapters.

Chapter one presents a brief overview of the phonology. It also presents the review of previous studies which are relevant to the present study.

Chapter two deals with the significance of tone and its lexical and grammatical functions. It also presents toneless morphemes, floating tone and tone stability. In addition, it discusses the possible tonal patterns in the language.

Chapter three treats tonal processes such as tone assimilation, tone spreading, tone absorption and tone copying.

Chapter four presents the summary and conclusion of the study.

CHAPTER ONE

1. Introduction

1.1 The Study

This study attempts to describe and analyse tonal phenomena in Oromo.

1.1.1 Significance of the Study

So far there is limited linguistic study on Oromo language in general and its phonology in particular. More specifically, only very little attention is given to the suprasegmental aspect of the phonology, the main focus of previous works being the segmental aspect. Therefore, the present study tries to account for one of these suprasegmental phenomena, that is tone.

Tone has been identified to have been part of Oromo phonology since the early work of Andrzejewski (1960). Other succeeding native and non-native researchers have also indicated the characteristic pitch variation across syllables of words in the language, which is one prerequisite for the presence of tone in the language. But, the way tone functions in the language has not been adequately examined and explained. In addition, the previous studies exhibit some inconsistencies in describing tone in the language. For instance, for Andrzejewski (1970), Owens (1985) and Lloret (1988) tone functions as an independent phonological element in Oromo. But researchers like Wako

(1981) say that tone and stress function inseparably in the language and thus should be described in unison. Most of the previous studies mentioned the grammatical function of tone for which none of them provide adequate description. Except for Lloret (1988), which itself is not sufficient, all previous studies neglected the lexical function of tone in the language. Moreover, none has applied current phonological theories in treating tone in the language. Hence, the present study tries to deal with the gaps mentioned above.

The significance of the study lies in the fact that proper description of tone in Oromo can make the following contribution. Firstly, it will provide a further insight into the phonetics and phonology of the language. This can directly or indirectly contribute to the study of other areas such as morphology and syntax of the language since linguistic elements usually interact and shape one another. Secondly, it can help in the preparation of materials for teaching the language at various levels. Thirdly, it may contribute to the study of closely related languages.

As part of its objectives the study attempts to:

1. present a brief survey of the segmental phonology including the syllable structure
2. explain the status and functions of tone
3. describe tonal patterns, analyse and explain tonal processes in the language.

1.1.2 Scope, Methodology and Limitations of the Study

The scope of the study is geared towards analysing tonal phenomena in Oromo with brief treatments of other phonological elements. The study is based on the Macha dialect particularly spoken in Jimma, Nedjo and Ambo areas.

In conducting the study, the following methods have been used. Though I am native speaker, I have used recordings from other native speakers to increase reliability by diversifying the data and to avoid possible misjudgments arising from subjectivity. The recordings include lexical items, phrases, as well as texts of riddles, tales and some personal experiences of the informants. I have also used the Swadesh word list given in Wako (1981). The recorded materials are transcribed onto index cards and finally the data from each informant have also been cross-checked.

Mainly the methods suggested in Pike (1948) have been applied to determine the number and type of tones in the language. These include developing non-sense syllables for which arbitrary tones are assigned to distinguish among tones of varying heights; substitution frames where a given word is inserted into different phrasal contexts and its tonal perturbations are checked; other methods of testing tone such as whistling. Following this, the data have been classified according to syllable structures, tonal shapes, grammatical class, and syntactic types to perform the analysis.

The research is carried out under some limitations of time and material since the researcher is doing on other courses too. Therefore, the research is limited to its present size and content.

1.1.3 Theoretical Framework

Earlier, phonological studies involved only linear or uni-dimensional approaches. At that time phonological representation consisted of linear strings of segments with no hierarchical organization. And the hierarchical organization in linguistic works was only the one provided by syntactic phrase structures (Clements and Keyser 1983).

But, later on, the linear or uni-dimensional approach proved insufficient to account for all phonological domains. For instance, suprasegmentals such as tone could not be well represented in these earlier approaches. This called for the search of alternative ways that can better handle the matter. Goldsmith (1976) came up with the theory of autosegmental phonology which provides a better ground for doing away with the previous inadequacies.

It is an interesting realization that the formalism of generative phonology is insufficient, and that a multi-linear geometry is needed to deal with what have traditionally been called “suprasegmentals” (Goldsmith 1976:165).

By the above statement he means that phonological phenomena such as tone can be properly dealt with, only if treated by developing more dimensions than the earlier uni-linear approach. For Goldsmith,

how suprasegmentals interact with each other and with other phonological elements was not 'rigorously' addressed in previous approaches; and hence the need for devising a new one.

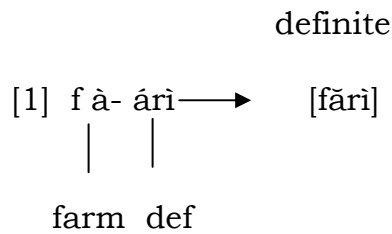
The theory is not only emphasizing more dimensions over a single one, but assumes the autonomy of suprasegmentals. Principally autosegmental theory claims that the articulatory parameters such as tone are autonomous and the articulations resulting from them are, in principle, independent. Goldsmith's choice of the term 'Autosegmental phonology' is to highlight the potential independence of the parameters to be crucial in the theory (Katamba 1989).

The theory assumes two independent entities - the segmental and the suprasegmental entities. At the same time, it opts for two separate tiers for their representations. In actual utterance these two entities happen simultaneously. And this simultaneity is shown by systematically associating the respective entity from each tier. Previous theories or systems are incapable of doing so and "The only system capable of merging into one simultaneous utterance two lexical (Phonological) entries is autosegmental phonology" (Goldsmith 1976:37).

The independence of suprasegmental elements can be demonstrated by considering the notion of 'tone stability' and the treatment of contour tones.

Tone stability refers to a condition where by a given tone remains unaffected when the unit that bears it is deleted or transposed due to

some processes in the language¹. This can be demonstrated by drawing evidence from Margi language². In this language a morpheme {-áři} with respectively high and low tone on its vowels is added to nouns to mark definiteness as in [1].



In the above process, we have two consecutive /a/'s – the /a/ of the stem with low tone and the /a/ of the suffix with high tone. The morphological process juxtaposes these two /a/'s and deletes one of them. However, none of the tones on the two vowels undergoes deletion with the vowel. Rather, they come together and form a concatenation which is realized as a rising tone on the resulting word. This shows that if tone were an integral part of the vowel that bears it, it would have disappeared when the vowel undergoes deletion. Durand (1990:244) says “... the tonal tier doesn't behave in unison with the segmental tier”.

Another basic ground of argument is drawn from the nature of contour tones especially when they appear on a single tone bearing unit such as vowel. Let's consider a single vowel /a/ that bears a falling contour tone as in [2].

[2] /â/

If we assume tone as an integral part of the vowel in the same way features like +syll, -cons, + low, - round are, we end up in complications in the attempt to co-represent the tone and the vowel. This can be demonstrated by using the standard matrix as in [2.1] to [2.4] taken from Durand (1990). For convenience I leave out the other features and show only the tone with the vowel.

$$\begin{array}{ll}
 [2.1] & \hat{a} \\
 & \left[\begin{array}{l} +H \\ -H \end{array} \right]
 \end{array}
 \qquad
 \begin{array}{ll}
 [2.2] & / \hat{a} / \\
 & \left[\begin{array}{l} +H \\ +L \end{array} \right]
 \end{array}$$

$$\begin{array}{ll}
 [2.3] & / \hat{a} / \\
 & \left[\begin{array}{l} +H \end{array} \right] \left[\begin{array}{l} +L \end{array} \right]
 \end{array}
 \qquad
 \begin{array}{ll}
 [2.4] & / \hat{a} / \\
 & \left[\begin{array}{l} +FALL \end{array} \right]
 \end{array}$$

An examination of the above representations indicates the following problems. [2.1] violates the convention of SPE which states that “with in a column of features one and only one feature is formally allowed” (Durand 1990 : 245). [2.2] shows neither a movement from +H to +L (a falling tone), nor a movement from +L to +H (a rising tone). If we proceed to [2.3], it departs from our initial assumption of a single vowel because it is a representation of two consecutive segments. Similarly representations like [2.4] will create problem in formalizing tonological rules because +FALL is composed of high (its starting point) tone and low (its ending point) tone. It is the case that most of tonological rules

Though limited, there are previous works on Oromo. These include collections of oral literature, bilingual and monolingual dictionaries, novels, translations, grammar texts as well as linguistic analysis in the areas of phonology, morphology and syntax. Among these, those which are relevant to the present study are briefly revised below.

The segmental phonology of Oromo including syllable structure and morphophonemics have been described by Gragg (1976), Wako (1981), Owens (1985), Mohammed (1983) and Benyam (1988). In these and other studies phonological processes and phonological elements such as the number and type of consonants and vowels have been described consistently. However, the syllable structure has been inconsistently described. For instance, for researchers like Wako (1981) onset is an obligatory constituent of syllables in Oromo. But Benyam (1988) indicates that onset is an optional constituent.

Such inconsistency arises from the argument for whether some syllables should be represented as ?V(c) (e.g. the initial syllable of ?il.ma 'son' (Wako 1981:38) or as V(c) (e.g. the initial syllable of a.faan 'mouth' (Benyam 1988:24). In other words, the former argues for the presence of an initial /?/ and the latter argues for vocalic initials in such syllables. In the present study, the former position is advocated by providing justifications in the relevant section below.

Abera (1988) and Lloret (1988) have dealt with the phenomenon of segment lengthening in Oromo. The former provides a systematic account of long vowels and the latter discusses the role of gemination and vowel length in the morphophonology of the language. Kebede (1994) presents the process of palatalization in the phonology of Oromo.

Kebede and Unseth (n.d.) discuss “Bird Talk” i.e. ways of disguising speech (word game) in Oromo. The relevance of such a work to the present study is that the type of disguising speech that involves syllable transposition is used to explain core syllable structures and tone stability in Oromo.

Most of previous studies have touched upon the phenomenon of tone in Oromo. The grammatical function of tone has been discussed by Andrzejewski (1960, 1970), Owens (1985), Gragg (1976), Wako (1981), etc. Some of these works exhibit, however, some inadequacies. For instance, Gragg (1976) proposes that high tone⁴ is limited to only one syllable in a word. But this proposition is counterargued in the present study which identifies several words with more than one high tones on their different syllables. Again Wako (1981) mentions that high tone is limited to syllables with primary stress. This claim is not maintained in the present study for some reasons. For example, in words like ʔamma ‘now’ the primary stress falls on the penultimate syllable (Abera 1988:32) while both of its syllables carry high tone. This is one of several cases that can be used to show the independent existence of

tone and stress in the language (refer also section 1.2.3). Lloret (1988) identifies both lexical and grammatical tone. Even though it is the first to identify lexical tone, this work is also inadequate in treating tone in Oromo because only few examples have been indicated out of ample of lexical minimal pairs (cf. Appendix).

Andrzejewski (1960), Baye (1988) and Taha (1990) should be mentioned regarding the function of hin in Oromo. All agree that this element has dual function in the language, one as a negative marker and the other as a focus marker. They pointed out that this element takes different pitches in performing these functions. None of them, however, indicated that the process involves tonal alternation and this is to be treated in detail in the present study.

1.2.2 The Segmental Phonology

Most of the works on the phonology area so far have dealt mainly with the segmental aspect of it. Though the area still demands rigorous treatment, some aspects of it seem to be invariably described by different researchers. For instance, the number and type of consonants and vowels in the language have been consistently indicated by the researchers. The same is maintained in this research since no findings that motivate any modification have been found.

1.2.2.1 Consonants

Oromo has 24 native consonant phonemes. Phonemes such as /p/, /z/ and /v/ are shown to have appeared in the language with loan words. But I prefer to consider such cases with some reservations based on two reasons. First, these phonemes are much less frequently observed in the language. Second, there is a high tendency of replacing them with a closely related phoneme of the native phonemic inventory⁵ when mostly unschooled native speakers use them. In addition, some researchers indicated that the voiceless velar stop /k/ which is the only prevalent phoneme among most of the dialects alternates with the voiceless velar fricative /x/ in a free variation based on the data from Harar and Borana areas⁶. Most of the consonants have allophonic variations (Wako 1981) that result from phonological processes. No syllabic consonants are identified neither in the previous nor the present analyses. The consonants are shown in [3] below.

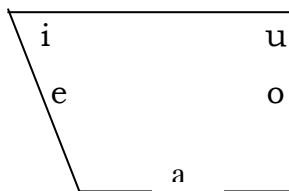
[3] Consonants in Oromo

	labials	alveolars	Palatals	Velars	glottals
Plosives	b	t , d	č , j	k , g	ʔ
Nasals	m	n	ɲ		
Ejectives	p'	t'	č'	k'	
Implosive		D			
Fricatives	f	s	š		h
Trill		r			
Lateral		l			
Glides	w		y		

1.2.2.2 Vowels

The language has five basic vowels, two front, two back and one central which have all longer counterparts. The vowels are shown in [4].

[4] Vowels in Oromo



1.2.2.3 Morphophonological Processes

a. Assimilation

Both progressive as in [6] and regressive as in [5] and [7] type of consonant assimilation involving many of the consonants takes place in the language. This can be partial assimilation in voicing [5] or manner [6], or it can be total assimilation as in [7]

[5] / gub- t - e / → [gubde] /t/ → [d] / b -
|
burn -3fem- past 'she burnt'

[6] / gub-n-e / → [gumne] /b/ → [m] /-n
|
burn-2pl-past 'we burnt'

[7] / gal- n- e- / → [galle] /n/ → [l] / l -
|
enter-2pl- past 'we entered'

b. Deletion

Segment deletion, especially for vowels, takes place at morpheme boundary when two non-identical vowels come together as in [8] and [9]. As indicated in Gragg (1976) and Lloret (1988), such deletion processes

sometimes take place as a mechanism of conforming to the phonotactic or syllable structure constraints of the language.

[8] / nama-ičča / → [namičča] /a/ → ø/ — i
 |
 man-def ‘the man’

[9] / harree - oota / → [harroota] /ee/ → ø/ — oo
 |
 donkey-pl ‘donkeys’

c. Reduplication

Reduplication is another important process in the language. For adjectives, the initial syllables reduplicate to mark plural. Similarly verbs reduplicate their first syllables to indicate frequentative action as demonstrated in [10] and [11] respectively below.

[10] / ?adii / → / ?a?adii / ‘white’

[11] / du?uu / → / dudu?uu / ‘to die’

d. Compensatory lengthening

Based on the examples identified, it seems that the realization of compensatory lengthening is attributed to phonotactic constraints. The segments / D / and / ? / can't be clustered as first members with other

segments in the language. By the same token, the vowels preceding these segments are lengthened in compensation as in the following data.

[12]	/ feD - ta /	→	[feeta]	‘you (sg) wish’
	/ feD- na /	→	[feena]	‘we wish’
	/ du?- ta /	→	[duuta]	‘you (sg) die’
	/ du?- na /	→	[duuna]	‘we die’

e. Epenthesis

Epenthesis is also another process that operates in the language (Wako 1981). In [13] below the vowel / i / is epenthetically inserted between / g / of the stem and /n/ of the suffix to prevent clustering of three consonants that is phonotactically impossible in the language.

[13]	/ ?arg- n - e /	→	[?argine]
	see-2pl-past		‘we saw’

Furthermore, other processes such as vowel softening and vowel raising operate in the language (Owens 1985). The ones demonstrated above are selected based on their relevance to the present research. That is, the case where by the syllable structure is modified or additional

vowels appear is useful in explaining the tonal process that happens as a result.

1.2.3 Suprasegmentals

Both consonant gemination and vowel length are important phonological phenomena in Oromo. Both have phonemic status, i.e, the substitution of a non-long or non-geminated segment by a long or geminated counterpart brings about meaning change. All consonants of the language have geminate counterparts except / h / and / ? /. Gemination of consonants is inherent as exhibited by non-derived lexical items on the one hand and is a result of morphophonemic processes on the other. The same property holds for vowel length (Wako 1981, Abera 1988, Lloret 1988).

In addition, the utilization of distinctive pitches across syllables of words in Oromo makes tone an important phonological phenomenon. This, being the main focus of this research, will be dealt with in detail later on.

Again, some of the previous works revised above raise the issue of stress in analysing the phonology of Oromo. None has, however, come up with adequate and reasonable analysis. In addition, each has variously described stress assignment in the language. For some researchers like Lloret (1988), Primary stress falls on the penultimate syllable of nouns in the base form. And others mention that stress assignment is

contextually motivated and its assignment has no influence over and joint function with tone.

1.2.4 Phonotactics and Syllable Structure

1.2.4.1 Phonotactics and Distribution of Phonemes

Concerning the distribution of phonemes the language exhibits the following properties. All vowels of the language and their longer counterparts occur in word medial and final positions. A tally of the present data indicates a varying frequency of occurrence for vowels with /a/ ranking the first. The consonants all distribute in word initial and medial positions with / p' / and / č / hardly fitting to this generalization for initial positions. With respect to word final distribution, however, we observe a different situation. Unless we consider the root morphemes which are of course linguistically important but meaningless to the common speaker, majority of the consonants don't occur word finally. From more than 300 words and phrases considered only 25 words have been found to be ending in consonants. Out of this, 16 end in /n/ and the rest portion is shared among /m,f,s,r,l/.

Clustering and gemination of consonants is possible only word medially. Neither is possible at initial and final positions. The number of consonant clusters is limited to two (Wako 1981, Gragg 1976). The present analysis indicates that /t,d,č,j,ʔ,ʈ,D,h,š,w,y/ don't constitute

first member in clustering and that /ñ,h,š,w,y/ don't make the second member. The present data and Wako (1981) show that /n,r,l/ are the most prevalent as first members in clusters.

1.2.4.2 Syllable Structure

Here an attempt is made to fill some gaps and provide further elaboration on the points inadequately explained in the previous attempts to describe syllable in Oromo.

a. Core Syllables

Majority of words in Oromo are disyllabic with considerable number of trisyllabic ones. Monosyllabic and quadrisyllabic words are rare. Of course this description is concerning monomorphemic words and morphological processes can produce a different result.

The core syllable types in Oromo are CV, CVV, CVC, and CVVC. All of these can be found at word initial, medial and final positions. The coda of the final syllables of words that end in closed syllables are one of the segments /n,l,r,m,s,f/ . In other environments. (i.e, word initial and medial), the coda of the closed syllables can be any consonantal

phoneme except /h/ and /ʔ/. The onsets of syllables in any position can be any of the consonants.

The language modifies to this core syllable inventory if any disconformity happens with loan words. Cases like [16] help to explain this property.

[16]	English	Oromo
	/ sport /	/ ʔis.poor.tii /

This monosyllabic English word is modified into trisyllabic structure in Oromo due to reasons. As indicated above word initial and final clustering is not possible in the language; and in connection to this no core syllable with CC onsets or CC codas are possible. As a result, the /s/ of sp cluster is splitted and goes to the preceding epenthetically formed nucleus and the /p/ goes to the following nucleus. In the same manner, /r/ splits up from rt cluster and goes to the preceding nucleus; and /t/ goes to the final vowel.

Some previous works mention that only nucleus is obligatory in the language. This may result from the way they treated words such as in [17]. These words were considered to be vowel initial in the previous analysis. The present study, however, contends that both the onset and the nucleus are obligatory based on the evidences in [17] and [18].

[17]	orthographic	previous	present
------	---------------------	-----------------	----------------

representation		analysis	analysis
ifa	‘light’	/ i.fa /	/ʔi.fa /
ona	‘deserted’	/o.na /	/ʔo.na /
eegee	‘tail’	/ ee.gee /	/ʔee.gee /

One evidence is drawn from words that contain /ʔ / as a second member of their medial clusters or any word containing this segment in non-cluster situations as follows.

[18]	/ moʔoo /	‘hip’
	/ balʔaa /	‘wide’
	/ harʔa /	‘today’
	/ reʔee /	‘goat’

The onset of the last syllables of the words in [18] is /ʔ/. This status of /ʔ/ to constitute syllable onset strengthens the assumption that it can also constitute the onset of word initial syllables as in [17]. More importantly, one can identify the presence of /ʔ / at initial position when such words are uttered in the same way it is identified at the medials of the words in [18].

The second evidence comes from “Bird talk” in Oromo⁸, which is a method of disguising speech (sometimes called word game) To illustrate

the argument, I employ here the type that involves syllable transposition and to which I am familiar as in [19].

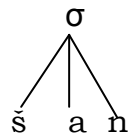
[19]	normal form	disguised form
	/muka/ 'tree'	/ kamu /
	/siree/ 'bed'	/ reesi /
	/Dugaa/ 'true'	/ gaaDu /
	/ʔifa/ 'light'	/ faʔi /
	/ʔona/ 'deserted'	/ naʔo /
	/ʔeegee/ 'tail'	/ geeʔee /

In [19] the process moves initial syllables to final positions and vice versa. A striking case here is the clear identification of /ʔ/ when it moves from initial to medial position in the last three words keeping its onset status. This shows that /ʔ/ can function as a word initial segment in the same way /m/, /s/, or /D/ functions. Based on the above two evidences, the previous assumption of vowel initial syllables is disregarded in this research.

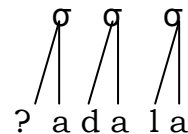
b. Syllabification and Syllable Template

In order to syllabify words in Oromo, I have adopted some notions proposed previously in order to adequately explain syllables in languages. One of such notions is the one syllable-one nucleus assumption (Kahn 1976). This and other related explanations involve the following procedures. Principally nucleic elements are prelinked to the syllable. Following this, the C-elements to the left are linked to the syllable until the maximum onset condition of the language is met. And finally, the C-elements to the right are linked in conformity to the coda conditions of the language (Clements and Keyser 1983, Katamba 1989, Durand 1990). Accordingly, I illustrative samples for syllabification in Oromo are given in [20].

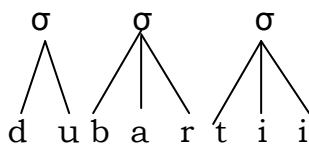
[20] (a) /šan/ ‘five’



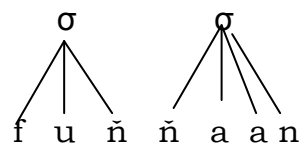
(b) /ʔadala/ ‘cat’



(c) /dubartii/ ‘woman’



(d) /fuññaan/ ‘nose’

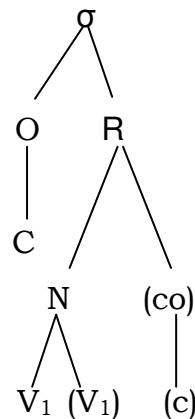


As can be seen in [20] word medial geminates and clusters split up in syllabification. The first member goes to the preceding nucleus and

the second member goes to the following nucleus to meet the syllable structure condition of the language (refer also Wako 1981).

Based on the above facts, the syllable template for Oromo can be as shown in [21].

[21]



1.3 What is tone?

A simple classification dichotomizes the phonology of a language into segmentals and suprasegmentals. The former refers to either vowels or consonants; and the latter refers to phonemes which are neither vowels nor consonants⁹. Side by side with the segmentals, the suprasegmentals play a vital role in shaping the characteristics of a language. Tone is one of these suprasegmentals.

The way pitch functions in a language is the basis for identifying tone. Tone is simply a contrastive use of pitch in a language. In fact, the words of all languages must be pronounced on some pitch to be spoken at all. This applies whether the language is tonal or not. Otherwise languages may be monotonous. What makes difference between tonal

and non-tonal languages is the way pitch is utilized (Katamba 1989, Roca 1994, Pike 1948). In further elaboration of pitch-tone relation Gandour says the following:

It is generally assumed that the principal phonetic features of tone are found in the domain of pitch. The term “tone” (linguistic) refers to a particular way in which pitch is utilized in language; the term “pitch” (non-linguistic, perceptual), on the other hand, refers to how a hearer places a sound on a scale going from low to high without considering the physical properties of the sound (1978:41).

This text explains that pitch refers to how high or low a sound is uttered based on perceptual detection. On the other hand, tone is a technical representation of linguistic phenomena arising from characteristic utilization of pitch. Roca and Johnson (1999:40) also show tone-pitch relation in a similar way by stating that “ “Tone” is the phonological correlate of vocal pitch”.

The condition whereby pitch is “lexically significant”, contrastive, but relatively used on each syllable of words in a language indicates tonal phenomena. And a language with such property is identified as tonal language (Pike 1948). The term “contrastive” shows that the pitch on a syllable of a word is relatively lower or higher than the pitch(es) on other syllable(s) in the immediate context. “Lexically significant” implies

that the contrastive pitch identifies between or among lexical elements in the language concerned. Thus, pitch utilization as applies to tone is important for two reasons in a language; that is, when it identifies among lexical items and when it is realized contrastively on syllables of words.

It is widely held that a language is described as tonal when it has many words differing only by their tonal shapes, i.e. when we find many lexical minimal pairs, triplets and so on. Nevertheless, it is a mistake to ignore the role played by tone in a language though minimal pairs, triplets, etc are hardly found.

In addition, tone languages may not be identical in the way they use tone. For instance, the toneme we identify as high in one language may be identified as high or low or mid in another. Furthermore, since tone is a relative phenomenon, its identification as high or low is determined by the specific context under consideration (Pike 1948, Cruttenden 1986, Katamba 1989).

The relative nature of tone is probably the factor that makes the study of tone difficult.

Based on how they allow tonal realization, tone languages are divided into two. These are contour tone and register tone languages. The former are characterized by fluctuating tones especially on a single tone bearing unit. In the latter case, pitches don't usually fluctuate. The two are, however, not mutually exclusive. That is, one language that is

identified as contour can contain a few cases of level tones and vice versa.

Another important characteristics of tone language is that, “Many languages have tones are which are underlyingly unlinked to any tone bearing element. Such tones referred to as floating tones” (Katamba 1989:199). These floating tones are important for their grammatical functions in languages.

Regarding their functions tones are categorized into lexical and grammatical tones. Lexical tones are those which cause a difference in meaning of lexical elements. Grammatical tones are those which indicate grammatical features such as person, number, tense, aspect, definiteness and possession.¹⁰

1.4 Classification Based on Pitch Utilization

Just because pitch variation is identified in a language, it is difficult to determine what type of language it is. This is because pitch variation operates in three types of languages; i.e, tonal, intonational and pitch-accent languages. This classification has been opposed by linguists (Alemayehu 1987). “Most linguists, however, have differentiated tone from intonation,...” (Fromkin 1978:2). But, according to Alemayehu, the difference between tone and pitch accent languages is not as clear as that between tone and intonational languages. Gandour

(1978) and Alemayehu (1987) state that the classification is not a type of an air-tight compartment.

Despite the opposition, however, these classifications seem to be accepted by many linguists based on the following definitions.

1.4.1 Tonal Languages

A language is identified as tonal when pitch variation brings about meaning distinction at word level. According to Hyman (1975) as quoted in Alemayehu (1987), a tone language is one which involves a paradigmatic function of pitch; that is, if the pitch functions to cause a difference in lexical meaning. Gandour (1978) and Anderson (1978) also advocate this definition of tonal language. Pike (1948:47) adds that in tonal language,

... the pitch phenomena are not conditioned or caused by any other phonetic or grammatical item, and the pitches in the large majority of words or phrases are persistently different from each other, rather than freely interchangeable under all circumstances...

Tone languages can have equally prominent syllables for a single word. That means more than one (adjacent) syllables with the same pitch height can be identified in such languages.

1.4.2 Intonational Languages

If pitch is used to signal semantic and/or syntactic distinctions at phrase or sentence level, the language involving such property is intonational language. In this case pitch variation operates at larger syntactic levels (i.e beyond word level) unlike in the above case. In addition, there will be only one prominent syllable per word in intonational language (Anderson 1978, Gandour 1978, Alemayehu 1987).

1.4.3 Pitch-accent Languages

Pitch-accent languages are those in which there is one pitch change per word. They have a single syllable that is associated with a particular pitch (can be low though it is usually high). Unlike tonal languages, they can't have equally prominent adjacent syllables; and unlike intonational languages, their prominent syllables are determined idiosyncratically for a word rather than at larger phrasal levels (McCawley 1978, Alemayehu 1987).

In spite of such argument to justify the classification, tone and intonation interact in languages. Due to the influence of intonation, the pitch level of a whole utterance may be raised or lowered in tone languages. That means, it is not a single word as separated from the whole utterance that is affected by intonation. Intonational variation is very limited in languages where pitch patterns are primarily produced by

lexical tones. In addition, “the intonation superimposed doesn’t destroy the system of contrastive lexical pitches” (Pike 1948:18).

CHAPTER TWO

2. Tone in Oromo

As indicated above there is characteristic pitch variation across syllables of words in Oromo. And the discussions made hitherto suggest that though not a sufficient condition per se, the presence of pitch variation is a necessary condition in order for a language to be a candidate for tonal analysis. That means, the conditions mentioned in subsection 1.4.1. above should be met for tonal definition. A number of cases discussed below show that Oromo more or less fits to the conditions mentioned in that section. Therefore, tonal analysis becomes important in the language.

2.1 Significance of tone in Oromo

To start with the preliminary condition, words in the language exhibit pitch variations on their syllables. Pike (1948) proposes that the best way to indicate this condition is to use single words with pitch contrasts within themselves (i.e. with their syllables assigned different

itches). The same is applied in [22] to illustrate the case in Oromo. The pitches of each syllable are shown by the symbols ' and ` over their vowels which represent high and low pitches respectively. These contrastive assignments of pitches to syllables are henceforth described as tones in the study.

[22] tonal variation in words

- (a) / já?à / 'six'*
- (b) / wèennii / 'colobus monkey'*
- (c) / déemàa / 'you (pl) go!'*
- (d) / ?èkèráa / 'the spirit of the dead'*
- (e) / bàlbála / 'door'*
- (f) / ?èessúmà / 'wherever'*
- (g) / wàràabéssá / 'hyena'*

The data is designed in such a manner that it illustrates how tone varies across the possible syllable structures of words in this language apart from the monosyllabic ones¹¹. These are representative samples. As can be seen, some words as in (a) and (c) start with high tone and end with low tone. Others like (b) start with low and end in high. (d) and (e) represent words that start with low-low and end with high, and that start with low and end with high-high tones respectively. In (f), the first syllable has low tone, the middle syllable has high tone, and the last

syllable ends again in low tone. The last (g) is a representative of quadrisyllabic words with low-low initial and high-high final syllables. These tonal structures are as assigned to words in isolation.

The occurrence of similar pitch levels on adjacent syllables is another evidence that makes tonal analysis significant in this language. In the pitch-based classification of languages discussed above, it is only the languages identified as tonal, that have this property. On the other hand, for the other two cases only one syllable can be identified with a particular pitch assignment. In Oromo various words with adjacent syllables of low-low patterns as in (d) and (g) as well as high-high patterns as in (e) and (g) of [22] above can be found. In addition, there are disyllabic and trisyllabic words that have all their syllables assigned high tones as in [23] below.

[23] /lágá/ 'river'
/č'ábbii/ 'snow'
/?ámártii/ 'ring'

In addition, the significance of tone in the language can be justified by its phonemic status. That means, there are words of identical segmental shapes differing only in their tonal shapes in the language. The lexical minimal pairs in [24] and minimal triplets in [25] are used to illustrate this condition. Based on the idea that "Disyllabic words are

preferable for study because helpful contrasts can be found easily...”

(Pike 1948:55), I selected the following representative samples.

[24] *tonal minimal pairs*

(a) / Dúfá / ‘arrival’ vs / Dúfà / ‘I / he come(s)’

(b) / kálée / ‘kidney’ vs / kâlée / ‘goat’

(c) / Dúgáa / ‘drunkard’ vs / Dùgáa / ‘truth’

(d) / gógáa / ‘dry’ vs / gògáa / ‘skin’

[25] *tonal minimal triplets*

(a) / bitáa/ vs / bitáa / vs / bitàa /

‘buyer, ruler’ ‘left’ ‘you (pl) buy!’

(b) / déemáa/ vs / dèemáa / vs / déemàa /

‘walker’ ‘while going’ ‘you (pl) go!’

One must be careful before deciding pitch variation simply as tonal. Some conditions that can challenge such decisions have to be considered. Pike (1948) remarks that the researcher in the area should watch for cases if pitch contrasts or tonal assignments are influenced by other linguistic elements such as stress, long segments, etc. Such cases may distort the tonal definition. Nevertheless, Ownes (1985) indicates that tone

in native Oromo words are not the functions of these factors. In addition, data [22], [23], [24], [25] in collaboration with the elaborations given under sub-section 1.2.3 on stress in the language prove that tonal assignments in Oromo are not conditioned by such factors.

Furthermore, some crucial properties make tone indispensable in the language. For instance, the same string of phonemes can convey different meanings based on the accompanying tonal shapes in uttering it. This is shown in the following two cases:

[26] (a) / máná hárrée bín-n-è / ‘we bought a donkey’ s house’
 | | |
 house donkey buy-1pl past

(b) / máná hàrrée bín-n-è / ‘We cleaned a house and bought it’
 |
 we cleaned

[27] (a) / tóláa-n k’òosáa jìbb-à / ‘Tola hates joke’
 | | |
 Tola-nom joke hate-pres.

(b) / tóláa-n k’ópsáa jìbb-à / ‘Tola hates a joker’
 | | |
 Tola-nom joker hate-pres

In the above two cases, both (a)’s and (b)’s are identical concerning their segmental makeups. But they differ concerning their tonal patterns.

The meaning variation between (a)'s and (b)'s is attributed to their respective tonal structures. Therefore, we can say that tonal analysis helps in disambiguating such structures for which it may be difficult to give semantic accounts otherwise¹².

In short, the above characteristics make tone an important prosody in the language.

Having said so much on its significance, I move onto the issues of determining the number and type of tone in the language. As for the type, tone in Oromo fits to the definition of register tone system mentioned above. Pike (1948:59) states that, "In general, a pure register system is one in which one-mora tonemes are level; a pure contour system contains one-mora gliding tonemes". Using this suggestion as a testing device, a look at the property of tone in the language indicates that except for some modifications in compounds and phrasal contexts, gliding or contour tonemes are hardly found. This holds true for monomoraic as well as bimoraic syllables¹³. This condition confirms the assumption that tone in Oromo is of a register type.

Concerning the number, Andrzejewski (1970), Owens (1985) and Lloret (1988) report that there are two (i.e. high and low) tonemes in the language. The present study also adheres to such propositions by testing the data according to literatures on the field of tone. Pike (1948:59) wrote that, "The smallest pitch units which prove to be in unconditioned contrast

constitute the tonemes”. Besides, Anderson (1978) states that the number of contrastive tone levels a language contains is determined based on the minimal pairs it displays. In accordance to these conditions, the tonemes prevalent in the language are identified as high and low. Except for toneless elements (refer section 2.3.1 for details), all the words should be identified for these two tonemes patterned in different ways.

In phonological analyses, tones are represented by putting a particular tone symbol over tone bearing units. These tone bearing units (henceforth, TBU) are usually vowels and sometimes segments like liquids and nasals (Durand 1990). In Oromo the task of tone bearing is restricted to vowels. In this language there is no evidence where a single vowel as well as double vowel bears more than one toneme based on the present analysis and as reported by Andrzejewski (1970) and Owens (1985).

So, a single high or low tone spreads over the entire vowel unit in the case of double vowels. This single tone is indicated by placing the corresponding symbol over the first vowel. [28] (a) and (b) respectively show tonal representations in cases of short and long vowels.

[28] (a)	/ lágá /	‘river’
	/ tókkò /	‘one’
(b)	/ láagáa /	‘throat’
	/ màagáa /	‘ascaris’

Representing tone over the first vowel in double vowel contexts is true for other languages too (refer Leben (1978) for Mende and Hausa, Schuh (1978) for Ngizim). The absence of contour tones implies a one-to-one correspondence between syllables and TBU's in the concerned language.

2.2 Functions of Tone

The two functions of tone, lexical and grammatical functions, in Oromo are discussed below.

2.2.1 Lexical Functions

With respect to the definition of lexical function given above (section 1.3), a number of word pairs can be identified. Usually, the lexical function of tone is shown by minimal pairs that are identical in all respects but different in their meanings and tonal shapes. For this function refer [24]and[25] above and appendix below.

2.2.2 Grammatical Functions

Schuh (1978) mentions that the number of tonal distinctions increases when morphemes are put into larger contexts. Such increase in tonal distinction has sometimes to do with the grammatical functions of tone. He also mentions two ways in which grammatical functions of tone

According to Eshetu (1981), the verb-to-be in Oromo is marked by the morpheme which realizes as {-Da} after long vowels, as {-i} after consonants and as {ø} after short vowel final words. Let's examine the case as follows.

- [30] (a) / kún náǵà / 'this is man'
 | |
 this man is
- (b) / kún gògáa-Dà/ 'this is skin'
 | |
 this skin-is
- (c) / kún foonì/ 'this is meat'
 | |
 this meat is

The word nama in [30] (a) has high tones on both of its syllables when in isolation. But here its second syllable has acquired low tone. But the problem is how to explain where this low tone come from. We have to assume that at the end of copular structures in the language, there exists a floating low tone which is inherently attached to no TBU to mark verb-to-be. But it needs a mechanism to realize itself. Words of short final vowels as in [30] (a) above provide no extra TBU where the low tone can be accommodated. Thus, the tone is dumped on the last vowel of such words through tonal processes. The original high tone of the word should leave the place for the newly dumped low tone, otherwise we are going to have

contour tone which is not allowed in the language. This can be simply illustrated as follows.

[30] (d) / ná má ˘ / $\xrightarrow{\text{dumping}}$ / ná m̃ / $\xrightarrow{\text{high tone deletion}}$ [námà]

Cases such as [30] (b) and (c) do not cause change in the original (basic) tone pattern of the words involved in the process. In such cases the language provides either the clitic Da or the epenthetic i which are inherently toneless. Thus, the low tone readily docks on these elements. These explanations indicate that the verb-to-be is marked by low tone which grammatically functions in the language.

2.2.2.3 Aspect marking

A completed action and an incomplete action can be signaled by tone as in [31]

[31] (a) / tóláa-n sàngáa bí-t-è / 'Tola bought ox'
 | | |
 Tola-nom ox buy-3sg.m

(b) / tóláa-n sàngáa bí-t-é / 'Tola has bought/is about to buy ox'
 | | |
 Tola-nom ox buy-3sg.m

that “The instrumental and dative case markers, when suffixed to nouns have a basic low tone” to strengthen the above explanations regarding (b). Such instances can be helpful in distinguishing between the functions of {-n} as nominative and instrumental case marker.

2.3 Toneless morphemes, floating tones and tone stability

2.3.1. Toneless morphemes

Some morphemes don't bear any tone in a language. They are neutral to any toneme identified in the language. Such morphemes are referred to as toneless. Most of the time, monosyllabic clitics tend to be toneless when they are in isolation. Such inherently toneless morphemes inherit tone from the surrounding syllables when they occur with other morphemes in phrases. This is done through some tonological processes. (Pike 1948, Leben 1978).

In Oromo the words shown in [33] are identified to be neutral to the two tonemes in the language; i.e they are toneless in isolation. As usual, they get tones in phrasal contexts by certain tonal rules.

[33] (a) **object form pronouns**

/ na / ‘me’

/ si / ‘you (sg)’

/ nu / ‘us’

(b) **reflexive**

/ ?of / ‘self’

(c) **reciprocal**

/ wal / ‘each other’

(d) / **hin**/ - a particle used to mark focus or negation

(e) / **-Da**/ - a clitic used with long final vowel words to
construct copular structure

2.3.2 Floating tone

According to Goldsmith (1976:45),

A floating tone is, in essence, a segment specified only for tone which, at some point during derivation, merges with some vowel, thus passing on its tonal specifications to that vowel.

In Oromo, copular constructions provide one context for the realization of floating tone. More specifically, the floating tone becomes conspicuous when short final vowel words constitute the last part in the construction. Here a floating low tone realizes itself by replacing the original tone of the word involved (see sub-section 2.2.2.2 for more explanation).

2.3.3 Tone stability

In section 1.3 above, segment deletion is used to explain tone stability. It is also the case that when syllables or TBU's are transposed tone remains stable, keeping its original pattern (Durand 1990). Generally tones undergo some form of processes such as absorption, etc when their bearers disappear; i.e. they don't disappear with segmental processes. This case is shown in most of the data in section 3.2 below. It is also possible to explain tone stability in Oromo in another respect. This takes us back to the issue of language disguising (word game) method discussed earlier. Consider [34] below.

[34]	normal form	disguised form	
	/ jáʔà /	/ ʔájà /	'six'
	/ gògáa/	/ gàagó /	'skin'

The above process causes transposition of syllables. But the tonal patterns remain unchanged and associate to the new syllables. This is an example of tone stability in Oromo.

2.4 Tonal patterns

Tonal patterns are language specific properties. The sequences of tones permitted to co-occur are determined by the properties of the

concerned language (Pike 1948). As stated above there is one-to-one correspondence between syllables and tones in Oromo. The patterns shown below are as exhibited by words in isolation with respect to the possible number of syllables.

2.4.1 Nouns

Nouns have the following patterns

[35]

	pattern	example	gloss
<i>monosyllabic</i>	<i>H</i>	<i>/fóon/</i>	<i>‘meat’</i>
<i>disyllabic</i>	<i>LH</i>	<i>/k’òráan/</i>	<i>‘fire wood’</i>
	<i>HH</i>	<i>/kálée/</i>	<i>‘kidney’</i>
<i>trisyllabic</i>	<i>HHH</i>	<i>/k’ámáadi/</i>	<i>‘wheat’</i>

	<i>LHH</i>	<i>/bàlbála/</i>	'door'
<i>quadrisyllabic</i>	<i>LLHH</i>	<i>/wàràabéssá/</i>	'hyena'

The above patterns are the only possible patterns for nouns. In other words, other patterns have not been identified when the words are in isolation.

2.4.2 Adjectives

[36]

	pattern	example	gloss
<i>disyllabic</i>	<i>LH</i>	<i>/gùutíu/</i>	'full'
	<i>HH</i>	<i>/fágóo/</i>	'far'
<i>trisyllabic</i>	<i>LHH</i>	<i>/dílállá/</i>	'cold'

The adjectives of the language which are treated in the present analysis exhibit one of the above patterns in their isolation forms.

2.4.3 Numerals

[37]

	pattern	example	gloss
<i>monosyllabic</i>	<i>H</i>	<i>/šán/</i>	'five'
<i>disyllabic</i>	<i>LH</i>	<i>/sàgál/</i>	'nine'
	<i>HH</i>	<i>/kúmá/</i>	'thousand'
	<i>HL</i>	<i>/tókkò/</i>	'one'
<i>trisyllabic</i>	<i>LHH</i>	<i>/kitílá/</i>	'million'

2.4.4 Others

[38]

	pattern	example	gloss
<i>monosyllabic</i>	<i>L</i>	<i>/bòr/</i>	'tomorrow'
	<i>L</i>	<i>/ʔàs/</i>	'here'
	<i>H</i>	<i>/máal/</i>	'what'
<i>disyllabic</i>	<i>LH</i>	<i>/gìddúu/</i>	'between'
	<i>HH</i>	<i>/jálá/</i>	'under'
	<i>HL</i>	<i>/kánà/</i>	'this'

<i>trisyllabic</i>	<i>LHL</i>	<i>/ʔèessúmà/</i>	<i>‘wherever’</i>
--------------------	------------	-------------------	-------------------

Most of the words of the language are disyllabic; and trisyllabic words are the next in frequency. Monosyllabic and quadrisyllabic words are very rare. The possible tonal patterns for each syllable group are indicated above. The present analysis shows that majority of nouns and adjectives have the HH patterns, the rest being LH. Again majority of trisyllabic nouns have LHH patterns followed by LLH. The rare quadrisyllabic nouns all have LLHH. Each possible combination of patterns is available for different words as shown. All the patterns shown above are for forms in isolation. The present analysis shows that patterns such as LL are missing in isolation forms.

In addition, it is important to identify the basic tone pattern in a language since tonal processes are explained based on perturbations from the pattern which is basic. Usually the pattern that is predictable and that allows convenience of description is selected as basic. The forms in phrasal contexts are preferable than the forms in isolation to determine the basic tonal pattern (Pike 1948).

According to Owens (1985), the basic tone pattern in Oromo is that which a nominal has as object of an imperative verb. This holds true for all the word classes described in section 2.4 above according to the findings of the present analysis. Fortunately, the patterns in isolation

forms coincide with the patterns in the context mentioned here. That means, the tone patterns of words in isolation can be considered as basic in the language. Thus, tonal alternation in this language is described as deviation (or perturbation) from this basic pattern.

However, the above idea doesn't hold true as far as verbs are concerned. Owens (1985) and Lloret (1988) report that verbs in Oromo are characterized by highly flexible tonal patterns depending on the context, related meaning and a corresponding suffix. According to Goldsmith (1976), the basic tone pattern for verbs can be identified by arbitrarily selecting one of the tense's tonal pattern as the underlying one. This is done by logically considering the position that each verb has its tone marked on it in the lexicon. In Oromo, the relatively predictable pattern is identified at an affirmative phrase final when the verb is used to denote a completed action in a fixed past time.

This context is chosen at least for three reasons. Firstly, it is difficult to derive the pattern by tonological rules. Secondly, the other patterns can readily be derived from it. Thirdly, it exhibits less modifications of segmental constituents than in other tense forms. Consider [39] below.

[39] (a) / tóláa-n kàléssá búná bít-è /
 | | | |
 Tola-nom yesterday coffee buy-3sg. past

'Tola bought coffee yesterday'

(b) /tóláa–n búná bít–é/

‘Tola has bought/ is about to buy coffee’

Analysis of similar cases indicate that the pattern for bite in (b) can be easily derived from the pattern in (a) above by tonal rules, whereas the reverse is difficult. So, patterns as in (a) can be considered basic for verbs in Oromo.

CHAPTER THREE

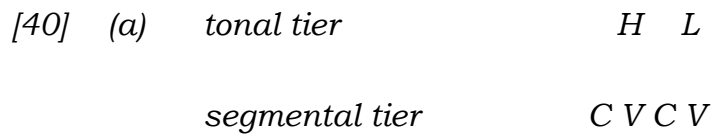
3. The Autosegmental Representation and Analysis of Tonal Processes

In the preceding chapters, tones have been described in the traditional way of using diacritics over the corresponding TBU’s. In this chapter, that is abandoned and the autosegmental approach is taken on.

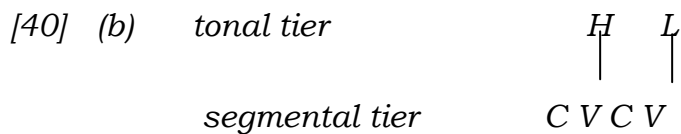
3.1. The Autosegmental Representation

This sub-section presents the autosegmental representation of tonal patterns or melodies of words. It is noteworthy that this section is not a mere repetition of what has been discussed so far. Rather, it is where a new approach is applied to re-analyse what has been described in the traditional approach in the preceding sections.

Earlier in this work, the need for separate tiers for tones and segments has been indicated. The mere picture of the notion gives us structures like [40] (a) considering a hypothetical disyllabic word with high and low tones on its syllables.



But, Leben (1978:178) argues that [40] (a) is not a sufficient representation in attaining the goals of the multidimensional approach because “the tones simply form a pattern that is a property of the word as a whole” i.e, it simply displays sequences of tones and sequences of TBU’s with no interaction. But, it is necessary to specify the segments or syllables with which each tone is coarticulated. That is done by linking the corresponding elements from each tier through association lines as in [40] (b). For Leben (1978) [40] (a) is an input and (b) is an output in this approach.



The above representation doesn’t imply the pairing of tones and TBU’s underlyingly, but is used to show their simultaneous occurrence during articulation (Durand 1990). The association is done conforming to certain principles of association or well-formedness condition (WFC)

(Goldsmith 1976, Leben 1978, Katamba 1989). What these principles or WFC dictate is stated as in [41] below.

[41] WFC or principles of association

- (1) Associate tones and TBU's in one-to-one, left to right fashion (i.e mapping)
- (2) Link to the final vowel any tone that is left free after applying (1) (i.e dumping)
- (3) Link to the final tone any vowel that is left free after applying (1) (i.e spreading)
- (4) Association lines are never allowed to cross.

Katamba (1989:205) adds that “the association of free (unassociated) segments takes precedence over that of already linked (associated) segments” in case further treatments are demanded by the concerned structure.

Thus, in conformity to the above principles samples of the autosegmental representation of tonal patterns of words in Oromo are presented below. (The gloss for each word is given in 2.4 above).

[42] monosyllabic words

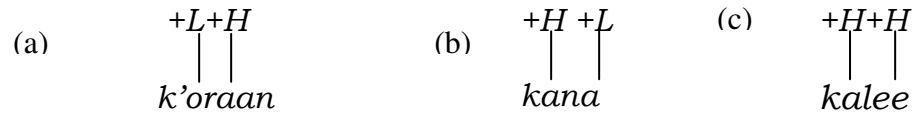
(a)

+ L
|
bor

(b)

+ H
|
šan

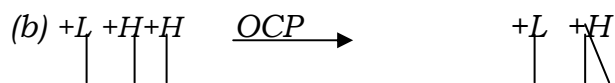
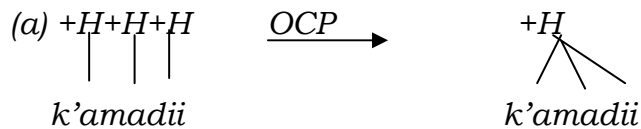
[43] disyllabic words



In structures containing identical contiguous tones as in [43] (c), a universal principle known as obligatory contour principle (OCP) operates to merge the identical tones into one. According to OCP, there is no distinction between HH and H at suprasegmental level. Thus, here and below contiguous high or low tones on consecutive syllables are shown accordingly and we have [43] (d) instead of (c).

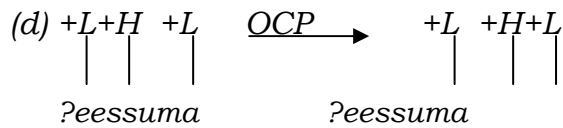
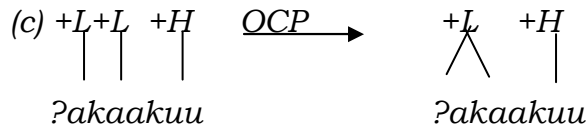


[44] trisyllabic words

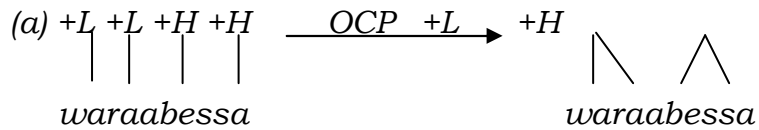


balbala

balbala



[45] quadrisyllabic words



3.2. Tonal processes

What are referred to as tonal processes arise from the alternations of tones due to the influence of neighbouring tones or other linguistic processes in a language. That means, tone(s) may be replaced by other tone(s) in a given domain. This is quite usual in languages and “Just as the *f* of wife changes to *v* in wives, however, some of the tonemes may be replaced by others in the grammar of tone language” (Pike 1948:5).

Pike (1948) defines that the alternation is a mechanical perturbation of some tones caused by their interactions with other tones on adjacent morphemes. These changes in tone are mechanical and don't usually cause change in meanings of the words involved. Leben (1978) also adds that modification of the inherent tones may arise from derivational morphology or phrasal collocations.

Tonal processes happen in the same way as segmental processes do. According to Leben (1978:178), "... rules referring to tone would be of a type similar to other rules of segmental phonology". Schuh (1978) adds that the formalization of tone rules is similar with that of segmental phonology.

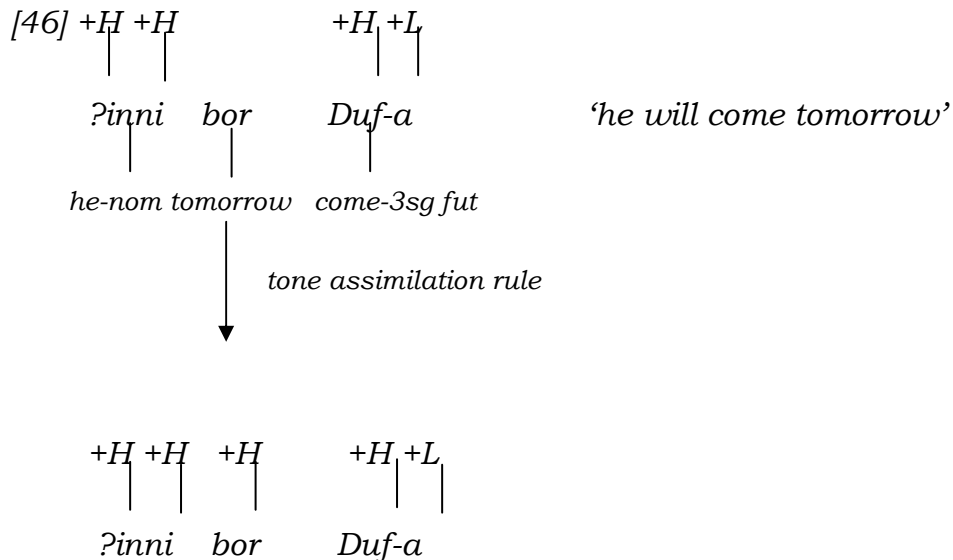
The autonomy of tone has been indicated above. In connection to this, it is the case that tonal processes operate independently of the segmental processes. For instance, a rule deleting a segment does not destroy tones and tonal processes are indifferent to segmental changes. Therefore, in dealing with tonal processes, segmental information may not be relevant (Leben 1978, Schuh 1978).

Some tonal processes in Oromo are discussed below within the light of the above discussions.

3.2.1 Tone Assimilation

In assimilation some tones become more like or identical to their neighbouring tones. It is a bi-directional process i.e, a following tone may be assimilated to its predecessor or a preceding tone may be assimilated to its successor. In this respect it differs from a similar process called spreading which always operates from left to right. In addition, assimilation involves change in feature whereby for instance an originally low tone with [+L] feature becomes [-L] in assimilating to non-low tone; where as spreading doesn't cause such feature change. Furthermore, tones participating in assimilation remain in their original segmental domain (Schuh 1978).

One case of tone assimilation in Oromo can be indicated by [46] below.

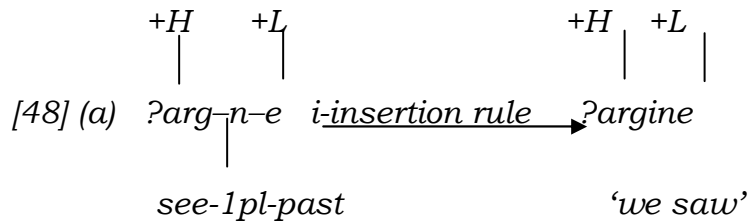


As indicated previously, the word bor has low tone in isolation. In the above context however, it is assigned a high tone due to the influence of the surrounding high tones. The rule can be formalized as in [47].

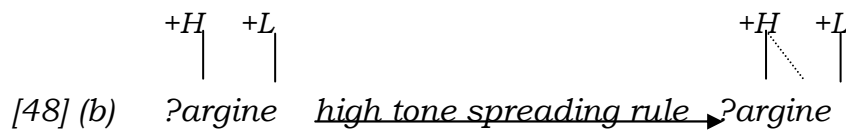
[47] /+L/ → [+H] / [+H] ~~—[+H]~~

3.2.2 Tone Spreading

Schuh (1978) mentions that in tonal processes such as spreading, absorption, and copying, one syllable takes tone from an adjacent syllable or loses to it. Tone spreading differs from tone copying in that the former is phonologically motivated and the latter is motivated by grammatical morpheme. Tone spreading also differs from tone absorption. Because tone spreading involves the extension of a single tone beyond its original domain and as a result two similar tones are perceived. On the contrary, in tone absorption one tone is swallowed up by an adjacent tone and in this case a single tone rather than two is perceived. In addition, unlike absorption which operates bi-directionally, spreading operates only from left to right. Consider [48] below

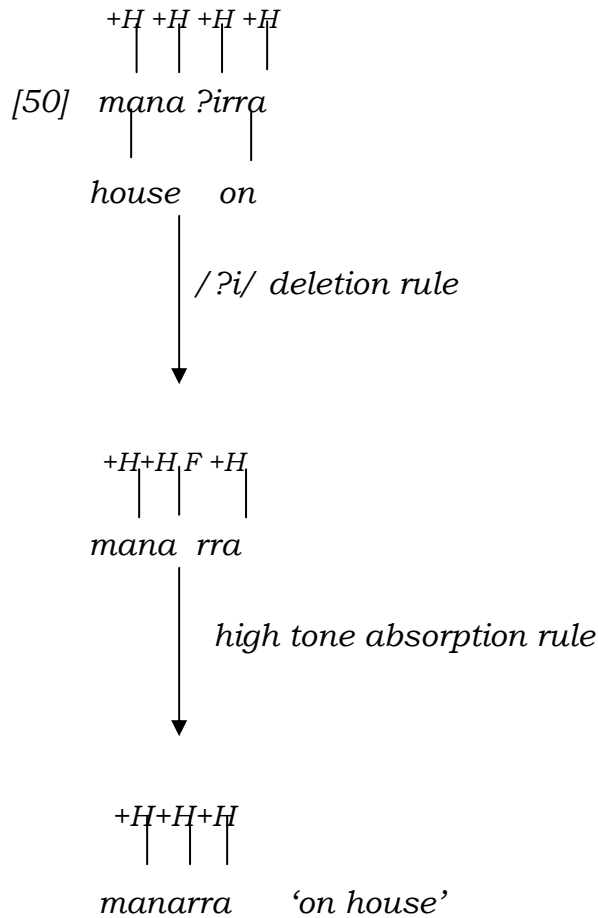


Like other monosyllabic verb roots in the language, the verb in [48] (a) is expected to have high tone on the root vowel and low tone on the suffix vowel in the simple fixed time past to denote a completed action (cf. 2.2.2.3 above). But a different thing happened here. The root contains two consonant clusters and when the 1st person plural marker {-n-} is suffixed, a cluster of three consonants results. But the language doesn't allow a cluster of three consonants. Hence, the phonological rule inserts /i/ in between the root and the suffix. This rule derives a TBU (i.e. /i/) without tone. Then, this inherently toneless TBU is assigned high tone which spreads from the preceding syllable to it as shown in [48] (b).



3.2.3 Tone Absorption

As stated above, tone absorption brings about the absorption of one tone by another tone. How it differs from other tonal processes is also mentioned in the immediately preceding sections. [49] and [50] below show tone absorption.



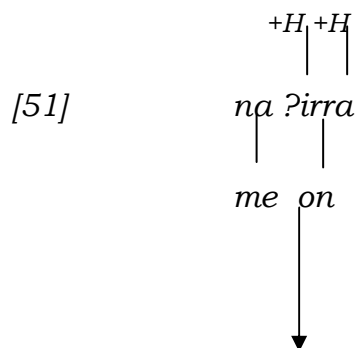
In the above process /?i/ is first deleted leaving its high tone free. Then, this free tone (F) is absorbed into the preceding high tone. As the tone following this free tone is also identical to it, a question may be raised opting for right ward absorption. This is not possible. Because in such processes, according to Leben (1978) and Tyhurst (1985), the free

tone is obliged to link to the segment or TBU that motivates the deletion. In our case here the deletion of /ʔi/ is motivated by the preceding /a/; and therefore, the tone goes leftwards to join /a/ and lastly, the indicated pattern in derived.

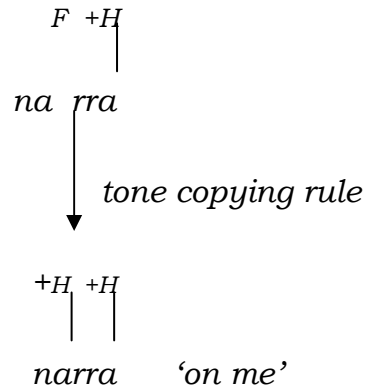
3.2.4 Tone Copying

Tone copying is the process that supplies tone to a toneless syllable. In words of Schuh (1978:234), “In this process, a syllable (usually a grammatical morpheme) which bears no tone of its own takes it from a preceding or following syllable”. He means that some conditions need to be fulfilled for the operation of tone copying. The syllable should be originally toneless; and the situation should be grammatically conditioned. Tone copying is bi-directional in its operation. Such properties distinguish tone copying from other tonal processes.

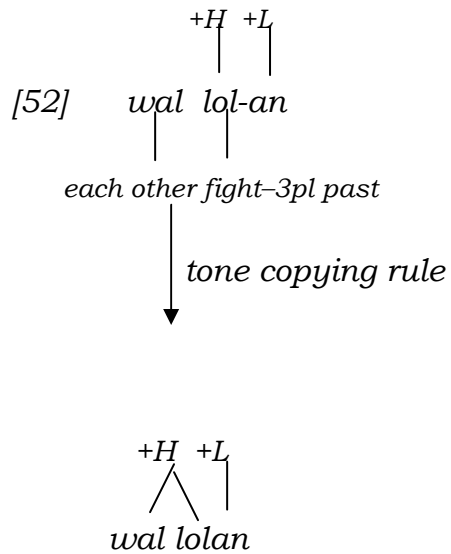
Previously, it is mentioned that forms such as na and wal are toneless in isolation. They get tone through tone copying as in [51] and [52] below. It is important to consider both since [51] involves syllable deletion and [52] does not.



/ʔi/ deletion rule



The above process involves the deletion of the first syllable (i.e. ʔi) of the second word, which leaves the corresponding tone free. Then, the free tone (F) is copied onto the toneless syllable na as indicated.

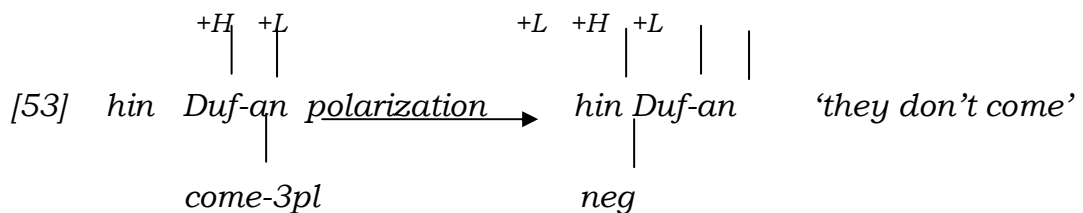


In the above process, the high tone of the following syllable is copied onto the toneless wa. It doesn't involve segment deletion unlike the preceding case in [51].

3.2.5. Dissimilation and Polarization

In effect, dissimilation and polarization are similar tonal processes. That means, both bring about opposite tones on two (usually contiguous) syllables. They have, however, some differences. Dissimilation operates where both of the syllables involved in the process have underlying tones, while polarization operates where one of the syllables is toneless and gets tone through the process. Thus, it is possible to derive a rule like, / α H/ [- α H]/ $_\alpha$ H] for the former case, which is not possible in the latter case. In addition both apply in a morphologically conditioned situation rather than in a situation motivated by phonological rule (Schuh 1978).

In section 2.2.2.1, two functions of tone with respect to the form hin have been indicated. Here the second function is used to indicate tonal polarization as in [53].



[53] Indicate a process of polarization since an originally toneless hin has gained a tone that is opposite to the tone of the next syllable. As far as the present analysis is concerned, I identified no case of tone dissimilation. Thus, I leave it open for further analysis.

Chapter Four

4. Summary and Conclusion

To summarize, this paper has discussed the phenomenon of tone in Oromo in the preceding sections. The significance of tone in the language has been indicated by considering cases from different angles. Besides, the lexical and grammatical importance of tone have been shown. A brief overview of toneless morphemes, floating tone, and tone stability has also been presented. The paper has also described tonal patterns and has presented the analysis of tonal processes within the approach of autosegmental phonology.

In general, the study indicates that except for some toneless morphemes, words in the language are identified for certain tonal patterns. Toneless morphemes acquire tone through tonal processes. Besides, it shows that tone has both lexical and grammatical importance in the language. Certain strings of phoneme convey different meanings based on their tonal patterns. Some tonal patterns such as LL,LLL, are missing as far as words in isolation forms are concerned.

The tonal melodies do not fluctuate over a single tone bearing unit. In other words, the language is characterized by a register type of tone.

Notes

- 1 Tone stability is discussed in detail in Goldsmith (1976), Katamba (1989), Durand (1990)
- 2 for details on Margi Language refer Katamba (1989)
- 3 Evidences other than tone stability and contour tone to explain the independence of tone from segments are indicated in Leben (1978), Durand (1990).
- 4 Gragg (1976) uses the term Primary accent that refers to what is identified as high tone in the present research.
- 5 Phonemes /z/, /p/ and /v/ are usually replaced by /s/, /f/ and /b/ respectively

6 Owens (1985:25) in an end note number 5 indicates that /k/ and /x/ are possible free variants in the Borana dialect and that no words with /x/ are found.

7 Stressed syllables tend to have higher pitch, longer duration, and are some what louder than non-stressed syllables (Katamba (1989).

8 The term “Bird Talk” is adapted from Kebede and Unseth (see references)

9 for details refer Goldsmith (1976)

10 The explanations of grammatical and lexical tones indicated in the paragraph are paraphrased from Lehiste (1970) as quoted in Alemayehu (1987) and Katamba (1989).

11 Monosyllabic words in Oromo are uttered on a single tone (high or low) and tonal variation can not be explained in this case

12 If tonal patterns are ignored in such cases, the words may be wrongly understood as polysemous or homonyms.

13 The term mora refers to a condition where a syllable divides into its smaller constituents (McCawley 1978).

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Appendix

List of Lexical Items distinguished by tone

/ bára /	‘time, era’	/ Dáabá /	‘organization’
/ bára /	‘I/he learn(s)’	/ Dáabà /	‘I/he plant(s)’
/ bááč’óo/	‘boastful (3P1)’	/ Dáamsá /	‘message’
/ bàáč’óo /	‘humour,joke’	/ Dáamsà /	‘I/he extinguish (es) fire’
/ béekáa /	‘wise’	/ Díígá /	‘blood’
/ bèekáa /	‘while knowing’	/ Díígà /	‘I/he/it bleed(s)’
/ béekàa /	‘you (P1) be aware!’	/ Díítóo /	‘swelling (on body)’
/ bitáa /	‘buyer,ruler’	/ Diítóo /	‘kicking’
/ bitáa /	‘left’	/ Dúfá /	‘arrival’
/ bitàa /	‘you (P1) buy!’	/ Dúfà /	‘I/he/itcome(s)’
/ č’ábá /	‘break (n)’	/ Dùgáa /	‘truth’
/ č’ábà /	‘I/he/it/ break(s)’	/ Dúgáa /	‘drunkard’
/ dáabá /	‘injustice’	/ Dúgàa /	‘you (p1) drink!’
/ dáabà /	‘I/he/it detour(s)’	/ féDá /	‘wish’
/ dáakúu /	‘to grind’	/ féDà /	‘I/he wish(es)’
/ dàakúu /	‘floor’	/ féetù /	‘you(p1) wish’
/ dáráa /	‘clotheless’	/ fèetú /	‘perhaps’
/ dàaráa /	‘ash’	/ gáláa /	‘alien’
/díígúu/	‘to dismantle’	/ gáláa /	‘provisions’
/ òigúu /	‘discordance’	/ gánná /	‘rainy season’
/ dú?á /	‘death’	/ gánnà /	‘we throw away’
/ dú?à /	‘I/he/it die(s)’	/ gátúu /	‘to throw away’
/ Dábá /	‘lack’	/ gátúu /	‘abandoned, ignored’

/ Dábà / 'I/he/it loose(s)'

/ gógáa /	‘dry’	/ kórà /	‘assembly, gathering’
/ gògáa /	‘skin’	/ kórà /	‘I/he/it climb(s)’
/ góráa /	‘berry’	/ kálée /	‘Kidney’
/ gòráa /	‘changing direction’	/ kálée /	‘goat’
/ góraa /	‘you (P1) change direction’	/ kénnaa /	‘gift, present’
/ gúbá /	‘heat’	/ kénnaa /	‘while giving’
/ gúbà /	‘I/he burn(s)’	/ kénnaa /	‘you(p1) give!’
/ gúutúu /	‘to fill’	/ lábúu /	‘to roam’
/ gùutúu /	‘full’	/ làbúu /	‘upper course of river’
/ hák’á /	‘justice’	/ lóláa /	‘fighter’
/ hák’à /	‘I/he clean(s) (dirt off sth.)’	/ lòláa /	‘flood’
/ hárrée /	‘donkey’	/ lálàa /	‘you(p1)fight!’
/ hàrrée /	‘we cleaned’	/ máláa /	‘cunning, trickster’
/ háadúu /	‘to shave’	/ màláa /	‘pus’
/ hàadúu /	‘knife, shaver’	/ mák’áa /	‘siner (eg.by mistreating others)’
/ hírée /	‘fate’	/ màk’áa /	‘noun, name’

/ hìréé /	‘I/he divided’	/ mórmì /	‘you(sg) don’t agree!, object!’
/ hórà /	‘salty soil’	/ mórmí /	‘neck (nom.)’
/ hórà /	‘I/he/it reproduce(s), breeds’	/ mó?óo /	‘winners(3p1)’
/ jájúú /	‘to admire’	/ mò?óo /	‘hip’
/ jàjúú /	‘admiration’	/ ñáatá /	‘food’
/ jírúú /	‘presence’	/ ñáatà /	/he/it east’
/ jìrúú /	‘job,task’		
/ k’ábée /	‘decorated utensil made of gourd’	/ ?áfáan /	‘material to sleep on (nom.)’
/ k’àbée /	‘I/he/it held, touched’	/ ?àfáan /	‘mouth’
/ ráatúú /	‘unsteady, not firm’	/ ?áadáa /	‘one who groans’
/ ràatúú /	‘crazy, foolish’	/ ?àadáa /	‘culture’
/ sádíí /	‘proper name’	/ ?ífá /	‘light’
/ sàdíí /	‘three’	/ ? ífà /	‘it gives light’

