

# Assimilation in Oromo Phonology

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## Abstract

This study investigates the assimilatory processes taking place in the major Oromo dialects. The area has not been thoroughly treated in some previous works. Thus, this work will throw light onto the description of the language. The study describes the assimilatory processes prevailing in the language in general and discusses some facts dialect specifically only when they are common in the dialect in question. The study is a descriptive work and attention has been given to describing surface realizations rather than theorizing the process. To conduct the study, the data were elicited from eight less educated speakers of the major dialects. The speakers were those who were not away for a long time from their home villages so that they could provide appropriate data synchronically spoken. The data have been phonemically and phonetically transcribed and descriptively analyzed.

**Key words:** assimilation, voicing, glottalization, palatalization, vowel raising

## 1 Introduction

African languages reveal robust patterns of phonology and phonetics that are much less frequent, or which barely occur, in other regions of the world. Given this linguistic richness, it is not surprising that some 30% of the world's languages are spoken in Africa, by one current estimate (Gordon 2005). **Oromo** is one of the major African languages with at least 20 million native speakers living in Ethiopia, Northern Kenya and Somalia. Oromo is one of the most widely spoken languages of Africa, after Arabic, Hausa and Swahili. Together with Amharic, it is the most important language of Ethiopia where it is used not only as a national language by the Oromo people but also as a *lingua franca* by several million speakers of other languages. It is a language of a great people with national history going back at least to the 16th century that

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played a major political and cultural role in North-East Africa and whose cultural and social organization (e.g. the famous 'Gada' system) are among the most outstanding in Africa.

Oromo has several dialects, of which the most important and the best known are the dialects of Wclegga and the Borana, the latter spoken in the South of the Oromo territory. Other dialects are e.g. Tulama, Arsi, Gujji, Raya in Ethiopia, Orma, Munyo and Waata in Kenya. The dialect differences are not big, so that inter dialect comprehensibility is not a problem. Being related e.g. to Afar-Saho and Somali Oromo belongs to the Cushitic group of languages, and with the whole Cushitic group it belongs to the Afroasiatic or Hamito- Semitic language family together with the Semitic, Berber, Egyptian and Chadic.

The Oromo<sup>1</sup> are one of the largest tribal groups in Ethiopia. Scholars such as Bender claim that “The Oromo probably comprise the largest single tribal group in Africa.” (Bender, 1976, 130). The People inhabit the large area “stretching from close to the Sudan border in the West, through Addis Ababa, and beyond Harar in the East, from Northern Kenya in the South, up and East of the Rift valley, and to Wallo in the North” (Gragg, 1982, xiii).

According to the recent population census, the language is spoken by around twenty-seven million speakers in Ethiopia (Dejene, 2010). The language belongs to the East lowland Cushitic. Different scholars held different Views on the dialectal variations of the language. Gragg (1976, 176) categorizes the language into three major dialects: “western, eastern and southern.” Bender (1976, 130), on the other hand, categorizes the language into eight major dialects: “Macha (western), Tulama (central), Wello, Rayya (both northern), Eastern, Arsi, Guji and Borena (the last three southern).”

Some scholars have tried to study assimilation in Oromo, at least in passing. Waqo (1981) describes the phonology of Macha Oromo. In this work he overviews the segmental assimilation of the dialect. This work would be a good input for the present study and also helps to indicate gaps. Benyam (1988) superficially highlights the assimilation of segments in the the Rayya dialect. Beyam’s finding shows difference with the present study because he claims that the

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<sup>1</sup> The word *Oromo* refers to both the people and the language in the study.

Rayya dialect is influenced by Semitic languages. For instance, in the Rayya dialect vowel harmony, which is the typical feature of Tigrigna (a Semitic language), occurs. But in other Oromo dialects this process is less evident. Dejene (2010) describes assimilation in Kamisee Oromo Phonology. This study does not treat the assimilatory processes such as the assimilation of velars to alveolars, the assimilation of bilabials and labiodentals to alveolars and others which have been given considerable attention in the present study. Dejene's work was dialect specific phonological description, while the present study attempts to describe assimilation in the language in General.

The previous major findings, summarized above, reveal that assimilation in Oromo has been treated only superficially and has not been investigated in detail and the assimilatory processes of many dialects have not been described properly. Dejene (2010) argues that assimilation is the typical feature of the Kamisee Oromo Phonological processes which is once again a case in this study. But the previous findings did not give considerable attention to the process and they also lack descriptive adequacy. The purpose of this study is, then, to deeply investigate and describe the assimilatory processes taking place across the major dialects in Oromo.

To conduct the study, the data have been elicited from eight speakers of the major dialects. The informants were less educated and are those who have not been away for long time from their home villages so that they would give me the actual data synchronically spoken. To be sure that the data gathered from the eight informants is reliable, I sometimes asked some more other speakers of the language. Moreover, as a speaker of the language and based on my previous experience, I tried to check the appropriateness of the data gathered. In this study, I mainly used phonemic description so that one could see the underlying realizations. The Phonetic description was used only to show the surface form in the assimilation processes under question. The data have been analyzed by using descriptive method and no theoretical analysis is made, as the study is a descriptive work.

## **2 Phoneme Inventory**

### **2.1 Consonant Sounds**

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Oromo has twenty-nine consonant phonemes. Five of them /v, p, z, s', ʒ/ are loan segments and used only in loan words.

**Table 1** Oromo consonant phonemes<sup>2</sup>

		Labial	Dental	Alveolar	Palatal	Velar	Glottal
Stops	Vd	b	d		ɟʒ	g	
	Vl	p	t		tʃ	k	ʔ
	Ejc	p'	t'		tʃ'	k'	
Implosive				ɗ			
Fricatives	Vd	v		z	ʒ		
	Vl	f		s	ʃ		h
	Ejc			s'			
Nasals		m		n	ɲ		
Lateral				l			
Tap/trill				r			
Glides		w			j		

In Table 1, labial includes bilabials /p, b, m, p, p'/, labiodentals/v, f/ and the labiovelar approximant /w/, and palatal includes palatals /ɲ, j/ and postalveolars /ʒ, ʃ, ɟʒ, tʃ, tʃ'/. Nasals, laterals, taps/trills and glides in the language are all voiced, and there is no voiced-voiceless dichotomy.

## 2.2 Vowel Sounds

The language has five vowel phonemes as represented in Table 2. The vowel phonemes have short vowels and corresponding long vowels.

<sup>2</sup> Vd: voiced, Vl: voiceless, Ejc: ejectives

**Table 2** Vowel phonemes of Oromo

i	u
e	o
a	

Vowel length in Oromo is phonemic and the short and long vowels in identical environment contrast.

- (1) *lama* ‘two’                      *laama* ‘hunger’  
*hiḍi* ‘You (SG) tie.’    *hiḍii* ‘lip’

### 3 Assimilation in Oromo

In Oromo, assimilation is a popular phonological process. The process predominantly takes place contiguously and mainly at word or morpheme boundaries, hence mainly morpho-phonemic in nature. There are different types of assimilation processes such as voice assimilation, glottalization, palatalization, etc. Each of these has been discussed in the study with ample examples from the language. Though the interaction between consonants is keen, there are assimilation processes which take place due to the interaction between consonants and vowels in processes such as nasalization and vowel rising.

#### 3.1 Voicing

In Oromo the voiceless alveolar stop /t/ regressively and completely assimilates to voiced velar, alveolar and bilabial stops /b, d, g/ and becomes [d].

- (3)<sup>3</sup>    /tʃab- t- Ø- e/                      [tʃabde]  
           break- 3SF/ 2- SG- PRV                      ‘She was/ you were broken.’  
           /fid- t- an/                              [fiddan]  
           bring- 2- PL: PRV                      ‘You brought.’

<sup>3</sup> 2: second person

<i>/fiŋ-</i>	<i>t-</i>	<i>∅-</i>	<i>e/</i>	<i>[fiŋde]</i>
run-	3SF/ 2-	SG-	PRV	‘she/you ran.’

In this process, one may wonder whether the underlying phoneme is /t/ or the variants /b, d, g/ because when the phoneme comes after these sounds, it never occurs as /t/. But it could be readily traced from other environments. It occurs as /mt, rt, lt/ etc. with the similar grammatical function. Thus, we can conclude that /t/ is the underlying phoneme while [b, d, g] are the surface forms.

The following rule says that /t/ becomes [d] when it occurs after /g, d, b/.

		b	
/t/	[d]	d	_____
		g	

### 3.2 Consonant Devoicing

In Oromo, the voiced bilabial and velar stops /g, b/ become voiceless when they occur after the voiceless alveolar fricative /s/, as shown in (4).

(4) <sup>4</sup>	<i>/dʒig-</i>	<i>s-</i>	<i>∅-</i>	<i>e/</i>	<i>[dʒikse]</i>
	fall-	CAUS-	1SG/3SM-	PRV	‘He/I made fall.’
	<i>/gogs-</i>	<i>i</i>	<i>-t-</i>	<i>∅</i>	<i>e/</i>
	dry-	EPN-	3SF/ 2-	SG-	PRV
					‘She/you made dry.’
	<i>/tʃob-</i>	<i>s-</i>	<i>∅</i>	<i>-e/</i>	<i>[tʃopse]</i>
	pour-	CAUS-	1SG/3SM-	PRV	‘I/he poured (some liquid).’
	<i>/raab-</i>	<i>s-</i>	<i>∅-</i>	<i>an/</i>	<i>[raapsan]</i>
	distribute-	CAUS-	3-	PL: PRV	‘They distributed.’

Devoicing in some dialects, especially in Tulama around salaalee, is accompanied by metathesis. The above words will be pronounced as follows in the dialect.

<sup>4</sup> CAUS: causative, 1SG: first person singular, 3SM third person singular masculine, EPEN: epenthetic, 3: third person, PL: plural

<i>/dʒikse/</i>	<i>[dʒiske]</i> ‘He/I made fall.’
<i>/goksite/</i>	<i>[goskite]</i> ‘He/I made dry.’

The examples reveal that metathesis takes place at the end; otherwise, it would have blocked the devoicing process. The pattern could be summarized as follows:

<i>/gs/</i>	[ks]	[sk]
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The following rule illustrates that /b/ and /g/ surface as [p] and [k] respectively when they are preceded by /s/.

b	k	_____	s
g	p		

### 3.3 Vowel devoicing

Constituent final short vowels in Oromo are devoiced and become breathy in citation form. Andrzejewski (1957) and Dejene (2010) claim that the process occurs in Borena and Kamisee Oromo dialects respectively. This study also affirms that the feature occurs in the major Oromo dialects. The process has been described as follows following Andrzejewski (1957).

(5) <sup>5</sup>	<i>/dʒimma/</i>	<i>[dʒimm<sup>a</sup>]</i> ‘Jimma’ (name of a city)
	<i>/Ambo/</i>	<i>[Amb<sup>o</sup>]</i> ‘Ambo’ (name of a town)
	<i>/fardi/</i>	<i>[fard<sup>i</sup>]</i> ‘horse’ (NOM)
	<i>/gadde/</i>	<i>[gadd<sup>e</sup>]</i> ‘He mourned.’
	<i>/jaadu/</i>	<i>[jaad<sup>h</sup>]</i> ‘They think.’

The devoicing of constituent final short vowels in Oromo is not conditioned by the influence of other neighboring segments. Rather it is because of the word boundary effect<sup>6</sup>.

<sup>5</sup> NOM: nominative

The following rule reads that short vowels in Oromo are devoiced when they occur constituent finally.

/cv/    [c<sup>v</sup>] #\_\_\_\_\_

### 3.4 Glottalization

In the language, the voiceless alveolar stop /t/ is glottalized when it occurs after glottal sounds /p', t', tʃ', k', d'/. The process has been illustrated in (6).

(6) <sup>7</sup> a)	<i>/rip'-</i>	<i>t-</i>	<i>∅-</i>	<i>e/</i>	<i>[rip't'e]</i>
	hide-	3SF/2-	SG-	PRV	'She/you hid.'
	<i>/lit'-</i>	<i>t-</i>	<i>∅-</i>	<i>e/</i>	<i>[litt'e]</i>
	enter-	3SF/2-	SG-	PRV	'She /you entered.'
	<i>/miitʃ'-</i>	<i>t-</i>	<i>∅-</i>	<i>e/</i>	<i>[miitʃ'e]</i>
	wash-	3SF/2-	SG-	PRV	'She /you washed.'
	<i>/milik'-</i>	<i>t-</i>	<i>u/</i>		<i>[milik't'u]</i>
	escape-	2-	PL:	IPV	'You will escape.'
b)	<i>/baat-</i>	<i>d'</i>		<i>e/</i>	<i>[baadde]</i>
	carry-	1SG-		PRV	'I carried.'
	<i>/laat-</i>	<i>d'</i>		<i>a/</i>	<i>[laadda]</i>
	give-	1SG-		IPV	'I will give ( something to somebody else.)'

In (a) the assimilation is mainly phonetically triggered because in all the given environments, except after /tʃ'/ in which /t/ completely assimilates to the sound, it assimilates to the airstream mechanism (glottalic pressure initiation) of the ejectives. The sound does not change its place of articulation and manner of articulation except after /tʃ'/. In example (b), on the other hand, the

<sup>6</sup> Word boundary effect is a process in which the word boundary or morpheme boundary itself will be a trigger, without influence of a specific segment in the environment.

<sup>7</sup> IPV: imperfective



assimilation is a total assimilation in which /t/ assimilates to the airstream mechanism and voicing of the voiced alveolar implosive /d/.

The following rules reveal that /t/ becomes [tʰ] when it occurs after /pʰ, tʰ, kʰ/; it becomes [t̥ʰ] when it occurs after /t̥ʰ/, and becomes [d] when it occurs after /d/.

a)	/t/			tʰ	pʰ	tʰ	_____
						kʰ	
b)	/t/		[t̥ʰ]	[t̥ʰ]			_____
c)	/t/		[d]	[d]			_____

### 3.5 Glottalization of Long Vowels

Long vowels are glottalized when they occur constituent finally in citation form. But they are not glottalized in genitive constructions and when they are followed by another constituent. The process has been discussed in (7).

(7) a)	/kutuu/	[kutuuʔ]	‘cutting’
	/duʎuu/	[duʎuuʔ]	‘to dye’
	/hoolaa/	[hoolaaʔ]	‘sheep’
	/kʰaldoo/	[kʰaldooʔ]	‘thin’
	/ʎadii/	[adiiʔ]	‘white’
	/reʎee/	[reʎeeʔ]	‘got’
b)	/ʎadii- fi diimaa/	[ʎadiif diimaaʔ]	
	white-CONJ- red		‘white and red’
	/famarree bareedduu/	[famarree bareedduuʔ]	
	girl beautiful		‘ a beautiful girl’
	/ hoolaa koo/	[hoolaa koo]	

sheep : SG - GEN	‘My sheep.’
<i>/nama dʒimma- a/</i>	<i>[nama Jimmaa]</i>
person Jimma- GEN	‘ a person from Jimma’
c) <i>/hoolaa gurraʈʈʃa/</i>	<i>[hoolaa gurraʈʈʃa]</i>
sheep black	‘black sheep’
<i>/ʔegee deeraa/</i>	<i>[ʔegee deeraaʔ]</i>
tail long	‘long tail’

The fact emerging from example (a) is that constituent final long vowels are glottalized while in example (b) they are not glottalized because of the genitive construction, and in example (c) the terminal long vowels in the first words are not glottalized because they are followed by other words.

### 3.6 Deglottalization

In Oromo, as shown in (8), the voiceless velar and bilabial ejective stops /kʰ, pʰ/ are deglottalized when they occur after the voiceless alveolar fricative /s/.

(8) <i>/ʈʰopʰ- s- Ø- e/</i>	<i>[ʈʰopse]</i>
pour- CAUS- 1SG/3SM- PRV	‘He poured.’
<i>/milikʰ-s- Ø- e/</i>	<i>[milikse]</i>
escape- CAUS- 1SG/3SM - PRV	‘He hid (something).’
<i>/dammakʰ- s- i- n- e/</i>	<i>[dammaksine]</i>
scar- CAUS- EPN- 1PL- PRV	‘He scared (somebody).’
<i>/lipʰ- s- Ø- e/</i>	<i>[lipʰse]</i>
blink- CAUS- 1SG/3SM- PRV	‘He/I blinked.’

The following rule illustrates that /kʰ/ and /pʰ/ become deglottalized to [k] and [p] when they are followed by /s/.

kʰ	k	_____	[ s]
pʰ	p		

Deglottalization in Oromo also can be conditioned by the word or morpheme boundary effect. It is evident in the following personal names illustrated in (9). The names have been formed from different words, but synchronically used as a single compound word. The first element in the compounds is underlyingly *Wak'a* ‘God’. In relaxed speech the glottal sound becomes deglottalized and the terminal vowel is clipped in the word formation process. The /k'/ of the word *Wak'a* ‘God’ is always a glottal sound in a citation form.

The other remarkable feature in the process is the complete progressive voicing assimilation of the voiceless velar stop /k/ to voiced velar stop /g/, as shown in the first two examples. Based on the pattern in this process, deglottalization of /k'/ into [k] first takes place, and /k/ finally undergoes voicing due to the influence of /g/.

<b>Underlying form</b>	<b>Surface form</b>
(9) / <i>waak' gaarii</i> /	[ <i>waggaarii</i> ]
/ <i>waak' gaɟɟaa</i> /	[ <i>waaggaɟɟaa</i> ]
/ <i>waak' tolaa</i> /	[ <i>waaktola/waattola</i> <sup>8</sup> ]
/ <i>waak' fuuma</i> /	[ <i>waakfuumaa</i> ]
/ <i>waak' dʒiraa</i> /	[ <i>waakdʒiraa</i> ]
/ <i>waak' kennee</i> /	[ <i>Waakkennee</i> ]

### 3.7 Nasal Assimilation

The voiced alveolar nasal /n/ assimilates to many obstruents and sonorants in the language.

#### 3.7.1 Assimilation of /n/ to Fricatives

In the Tulama dialect, especially in Salale area, the sound undergoes complete progressive place and manner assimilation with voiceless labiodental and palatoalveolar fricatives /f, ʃ/ and manner assimilation with the voiceless alveolar fricative /s/.

(10)<sup>9</sup> /*danf- Ø- e*/                      [*daffe*]

<sup>8</sup> Because velars assimilate to alveolars, /kt/ surfaces as /tt/ in Macha Oromo.

<sup>9</sup> Hin...u is a discontinuous negative morpheme in Oromo

boil-	3SM- PRV			‘It become boiled.’
/hin-	fakk-	Ø-	u/	[hiʃfakku]
NEG-	hesitate-	1SG/3SM-	NEG:IPV	‘He /I will not hesitate.’
/hin-	saam-	Ø-	u/	[hissaamu]
NEG-	rob-	1SG/3SM-	NEG: IPV	‘He/I will not rob.’

The following rule reads that /n/ becomes [f, s, ʃ] when it occurs before this sounds.

	f	f
/n/	s _____	s
	ʃ	ʃ

### 3.7.2 Assimilation of /n/ to Places of Articulation of Obstruents

Under this process, the sound progressively assimilates to the places of articulation of the obstruents. As given in (11), the assimilation in this process is partial and the products are nasal sounds throughout.

(11)	/hin-	beek-	Ø-	u/	[himbeeku]	
	NEG-	know-	1PL/3SF-	NEG: IPV	‘I do not/he does not know.’	
	/tʃuunfaa/			[tʃuunʃaa]	‘juice’	
	/sangaal/			[sangaal]	‘ox’	
	/saank’aa/			[saanʃk’aa]	‘timber’	
	/hin-	kenn-	Ø-	u/	[hiŋkennu]	
	NEG-	give-	1SG/3SM-	NEG: IPV	‘He/I will not give.’	
	/leentʃa/			leeŋʃa	‘lion’	
	/hin-	ʃaakal-	t-	Ø-	u/	[hiŋʃaakaltu]
	NEG-	practice-	3SF/2-	SG-	NEG: IPV	‘You (SG)/She will not practice.’
	/hin-	dʒaam-	t-	Ø-	a/	[hiŋdʒaamta]
	FOC-	blind-	2-	SG-	IPV	‘You will be blind.’
	/hin-	tʃaappaa-	esss-	Ø-	u/	[naŋtʃaappessu]
	FOC-	seal-	CAUS-	3SM/1SG -	IPV	‘He will not stamp it.’

The following rule illustrates that /n/ surfaces as [m] when it occurs before /b/, [ɱ] when it comes before /f/, [ɲ] when it occurs before postalveolars /ʃ, ʒ, ʧ, ʧʰ/ and [ŋ] when it is followed by velars /k, kʰ, g/.

- |    |     |     |       |                   |
|----|-----|-----|-------|-------------------|
| a) | /n/ | [m] | _____ | b                 |
| b) | /n/ | [ɱ] | _____ | [f]               |
| c) | /n/ | [ɲ] | _____ | ʃ<br>ʒ<br>ʧ<br>ʧʰ |
| d) | /n/ | [ŋ] | _____ | g<br>k<br>kʰ      |

### 3.7.3 Assimilation of /n/ to Sonorants

As (12) reveals, the voiced alveolar nasal sound /n/ regressively and progressively and totally assimilates to /l/ and /r/, and progressively and totally assimilates to /j, w, m, ɲ/.

- (12)<sup>10</sup> /hin- raf- Ø - u/ [hirrafu]  
 NEG- sleep- 1SG/3SM- NEG:IPV ‘He/I will not sleep.’
- /waan jabbuu/ [waajjabbuu]  
 thing thick ‘thick thing’
- /kan Lataa/ [kallataa]

<sup>10</sup> GEN: genitive, DEM: demonstrative

GEN	Lata		‘Lata’s’
	/gal-	n- e/	[galle]
enter-	1PL-	PRV	‘We entered.’
	/ʔdʒaar-	n- a/	[ʔdʒaarra]
build-	1PL-	IPV	‘We will build.’
	/kan	Waak’aa/	[kawwaak’aa]
GEN	God		‘God’s’
	/kan	Murteessaa/	[kammurteessaa]
GEN	Murtessa		‘Murtessa’s’
	/sun	paata/	[suppaata]
DEM	food		‘That is food.’

The following two rules show that /n/ becomes [l] and [r] when it precedes and follows them, whereas it becomes [j, w, m, ɲ] when it is preceded by these sounds.

a)	/n/	l	_____	l
		r		r
		j		j
		w		w
		m		m
		ɲ		ɲ
b)	/n/	l	_____	l
		r		r

### 3.8 Assimilation of Velars to Alveolars

In this process, velars /k, k', g/ sounds totally and progressively assimilate to alveolar sounds. This process is common in the Macha variety of Oromo. The process has been discussed in (13).

- (13)<sup>11</sup> /gog- s- Ø- e/ [gosse]  
 dry- CAUS- 1SG/3SM- PRV ‘He/I made dry.’  
 /milik’- s- Ø- e/ [milisse]  
 escape-CAUS- 1SG/3SM- PRV ‘He /I let escape.’  
 /doks- i- t- Ø- e/ [dössite]  
 hide- EPN- 3SF/ 2- SG- PRV ‘You (SG)/She hid.’  
 /dugda/ [dudda] ‘back’  
 /gog- t- e/ [godde]  
 dry- DIM- PRV ‘It became dry.’  
 /dug- n- e/ [dünne]  
 drink- 1PL- PRV ‘We drank.’  
 /sik’- t- Ø- e/ [sitt’e]  
 move- 3SF/ 2- SG- PRV ‘She/you moved.’  
 /dak’na/ [danna] ‘body’  
 /mak- t- Ø- e/ [matte]  
 mix- 3SF /2- SG- PRV ‘You (SG)/She mixed.’

As the assimilatory process in (13) reveals, the combination of /gt/ does not surface as [tt]. This is because the process has been blocked by the voicing assimilation which takes place before the assimilation of velars to alveolars. Then, the order will be /gt/ [gd] [dd].

The following rule reveals that velars become alveolars when they are followed by the alveolar sounds.

g	t	t
k	s	s
k’	d _____	d

<sup>11</sup> DIM: diminutive, SG: singular

n	n
d	d

### 3.9 Assimilation of the Alveolar Stops /d, t/ to /n/

In many dialects of Oromo, the voiced and voiceless alveolar stops /d, t/ regressively and completely assimilate to the manner of articulation of the voiced alveolar nasal /n/ as shown in (14).

- |      |                        |                    |  |
|------|------------------------|--------------------|--|
| (14) | <i>/fid-</i> n - e/    | <i>[finne]</i>     |  |
|      | bring- 1PL- PRV        |                    | ‘we brought.’                              |
|      | <i>/bad-</i> n- a/     | <i>[banna]</i>     |  |
|      | disappear- 1PL- IPV    |                    | ‘We will disappear.’                       |
|      | <i>/hat-</i> n- a/     | <i>[hanna]</i>     |  |
|      | steal- 1PL- IPV        |                    | ‘We will still.’                           |
|      | <i>/hirmaat-</i> n- e/ | <i>[hirmaanne]</i> |  |
|      | share- 1PL- PRV        |                    | ‘We shared (something among/between us .)’ |

The following rule says that /t/ and /d/ become [n] when they are followed by /n/.

t			
d	[n]	_____	[n]

### 3.10 Assimilation of Labials and Labiodentals to Alveolars

In this process, bilabials /b, m/ and the voiceless labiodental fricative /f/ progressively assimilate to alveolars. This feature is highly prevalent in the Guji dialect. As illustrated in (15), the voiced bilabial nasal /m/ partially undergoes place assimilation with alveolars and surfaces as [n]. But the voiced bilabial stop /b/ and the voiceless labiodental fricative /f/ undergo complete progressive assimilation with alveolars.



(15)	<i>/k'ab-</i>	<i>n-</i>	<i>a/</i>		<i>[k'anna]</i>
	have-	1PL-	IPV		‘We do have.’
	<i>/tʃim-</i>	<i>t-</i>	<i>∅-</i>	<i>e/</i>	<i>[tʃinte]</i>
	strong-	3SF/2-	SG-	PRV	‘She/you (SG) became strong.’
	<i>/haam-</i>	<i>n-</i>	<i>e/</i>		<i>[haanne]</i>
	mow-	1PL-	PRV		‘We mowed.’
	<i>/lik'ims-</i>	<i>∅-</i>	<i>e/</i>		<i>[lik'inse]</i>
	swallow-	1SG/3SM-	PRV		‘He/I swallowed.’
	<i>/tʃab-</i>	<i>s-</i>	<i>∅-</i>	<i>e/</i>	<i>[tʃasse]</i>
	break-	CAUS-	3SM/1SG-	PRV	‘He/I broke.’
	<i>/gub-</i>	<i>t-</i>	<i>i/</i>		<i>[guddi]</i>
	burn-	3SF-	IPV		‘She will burn.’
	<i>/dɪf-</i>	<i>t-</i>	<i>∅-</i>	<i>e/</i>	<i>[dɪtte]</i>
	come-	3SF/2-	SG-	PRV	‘She/you (SG) came.’
	<i>/raf-</i>	<i>n-</i>	<i>e/</i>		<i>[ranne]</i>
	sleep-	1PL-	PRV		‘We slept.’
	<i>/haf-</i>	<i>t-</i>	<i>∅-</i>	<i>e/</i>	<i>[hatte]</i>
	remain-	3SF/2-	SG-	PRV	‘She/you (SG) remained.’
	<i>/kaas-</i>	<i>t-</i>	<i>∅-</i>	<i>e/</i>	<i>[kaatte]</i>
	wake up-	3SF/2-	SG-	PRV	‘She/you (SG) made wake up (somebody).’

In the above process, one may expect that /bt/ would surface as /tt/. But before the assimilation of bilabial to alveolar takes place, the voicing assimilation, i. e., /bt/ [bd], takes place and such a sequence of voiced stops further undergoes a place assimilation and surfaces as [dd].

Another interesting feature in the above process is the dissimilation of the sequence of /st/ into [ft], which gives input for assimilation as in the word *kaaste* ‘she made wake up (somebody else)’. In this case two phonological processes, dissimilation and assimilation, take place consecutively. The underlying form /kaaste/ undergoes dissimilation and surfaces as [kaafte]. The sequence of segments /ft/ will be further subject to assimilation and surfaces as [tt]. Thus, the order is illustrated as /st/ [ft] [tt].

The following rule says /m/ becomes [n], and /b/ and /f/ become alveolarized<sup>12</sup> after alveolars.

b	s	s
m	n	n _____
f	t	t
	d	d

### 3.11 Reciprocal Assimilation or Coalescence

(16) Shows that when /n/ is preceded by /dʒ/ and /j/ the combinations results in the voiced palatal nasal /ɲ/.

(16)	/kabaɖʒ- n- e/	[kabaɲɲe]
	respect- 1PL- PRV	‘We respected.’
	/faɖʒaɖʒ- n- e/	[faɖʒaɲɲe]
	dizzy- 1PL- PRV	‘We became dizzy.’
	/gaj- n- e/	[geɲɲe]
	arrive- 1PL- PRV	‘We have arrived.’
	/booj- n- e/	[boojɲe]
	weep- 1PL- PRV	‘We wept.’

The following rule reads that the combinations of /ɖʒn/ and /jn/ surface as [ɲ].

/ɖʒ+n/	
/j+n/	[ɲ]

In the above assimilatory process, the other interesting feature is *compensatory lengthening*. In Oromo if the stem final segment is one of /j, w, d, h, ʔ/, the terminal consonants are deleted and the root vowels undergo lengthening when an affix which begins in a consonant sound is attached to the stem (Dejene, 2010). In above examples, one may argue that there is no deletion

<sup>12</sup> This terminology is not popular in linguistics, but I used it from the analogy of palatalization, velarization, etc. because this process is common in Oromo.

because the consonants involve in assimilation. But I argue that there is deletion plus compensatory lengthening but the trace is still there in coalescence. For instance *baj-t-e* ‘she went out’ would surface as *baate* ‘she went out.’ While in the word *gaj-t-e* ‘she arrived’ the surface form will be *geesse* ‘she arrived’. In *baate* the terminal consonant segment has been deleted while in *geesse* the sequence /jt/ softens into [ss]. The vowel length in both cases resulted from the compensatory lengthening, while the softening process is conditioned from the trace of voiced palatal approximant /j/. Thus, we could conclude that there is compensatory lengthening in all environments, but the consonants are sensitive to some phonological processes (assimilation in the above case) when the environment influences them.

In Arsi-Bale, Guji and Borana dialects, the combination of /j+n/ surfaces [nn]. It may give us the impression that the voiced palatal approximant /j/ undergoes complete assimilation with the voiced alveolar nasal /n/ in the dialects under question unless we critically investigate the underlying realization.

If we consider the relationship between /n/ and /ɲ/ in the aforementioned dialects and the other dialects in the language, we learn that they are free variants. Let us substantiate our claim by the following examples:

<i>/keɲɲa/</i>	<i>[keenna]</i> ‘ours’
<i>/k’abeɲɲa/</i>	<i>[k’abeenna]</i> ‘property’
<i>/dageɲɲe/</i>	<i>[dageenne]</i> ‘We heard’

Words in the first group are spoken in the Macha, Tulama, Kamisee and Hararghe dialects, while words in the right-hand are mainly spoken in Arsi-Bale, Guji and Borena dialects. Whether a word is grammatical or lexical, it is predominantly pronounced, based on the above analysis.

Thus, in the light of this analysis, we can argue that the combination of /j+n/ surfaces as [ɲɲ] in all dialects and finally free variation will take place in Arsi-Bale and other aforementioned dialects. We can sum it up as follows:

/j+n)

[ɲɲ]

[nn]

### 3.12 Assimilation of /t / to /ʔ/

In this process, the voiceless alveolar stop /t/ of the preposition *ʔitti* ‘at’ distantly assimilates to the word initial voiceless glottal stop /ʔ/ in some areas in Tulama dialect. As (17) illustrates this process always takes place at morpheme boundaries as follows.

(17) <sup>13</sup>	/si-	itti	ʔoʔ-	e/	[sitt'oʔe]
	you-	at	hot		‘you felt hot.’
	/na-	itti	ʔaare/		[natt'aare]
	me-	at	smoke		‘Smoked at me.’
	/ʔʃee-	itti	déerate/		[ʔʃeett'eerate]
	her-	at	long		‘The size (of cloth)exceeded her.’
	/si-	itti	dāamote/		[sitt'aamote]
	you-	at	cold		‘You felt cold.’
	/nu-	itti	utaale/		[natt'utaale]
	1PL: OBJ-	at	jump		‘It jumped at us.’
	/na-	itti	ʔyye/		[natt'ijje]
	me-	at	shout		‘Shouted at me.’

It may be argued that the voiceless glottal stop / ʔ/ and the voiceless alveolar ejective stop /t'/ have a weak relationship. But I claim that the conditioning factor for the glottalization is the voiceless glottal stop / ʔ/, which is orthographically not yet recognized in the writing system of the language, but phonetically there. Their relationship is that / ʔ/ is a glottal sound, while /t'/ is formed by glottalic egressive airstream mechanism. Thus, the underlining combination of /tʔ/ will surfaces as [tt'] because /t/ assumes a phonetic feature of the glottal sound /ʔ/ and become glottalized. The process results in reciprocal assimilation.

The following rule reads that /tʔ / becomes [tt'] at a word boundary.

<sup>13</sup> OBJ: objective

/t/ [tʰ] \_\_\_\_\_ ʔ #

### 3.13 Vowel Nasalization

In Oromo, all vowels are nasalized when they occur before or after the nasal sounds /n, ŋ, m/. Dejene (2010) claims that vowels in the Kamisee dialect are nasalized when they occur after nasal sounds. But the finding has been refuted by the present study that vowels are nasalized when they occur before and after the nasal sounds. The process has been discussed in (18) as follows:

- (18) /nama/ [nãmã] ‘person’  
 /lilmoo/ [lilmõõ] ‘needle’  
 /lammii/ [lãmmiĩ] ‘relative’  
 /ʔamma/ [ʔãmmã] ‘now’  
 /manneen/ [mãnnẽẽn] ‘houses’  
 /fuŋŋaan/ [fũŋŋããn] ‘nose’

The following nasalization rules say that vowels are nasalized when they are preceded and followed by nasal sounds.

- a) /v/ [ṽ] \_\_\_\_\_ m  
 n  
 ŋ
- b) /v/ [ṽ] \_\_\_\_\_ m  
 n  
 ŋ

### 3.14 Palatalization

Dejene (2010) claims that the superimposition of the front high unrounded vowel /i/ or the palatal approximant /j/ onto consonants preceding front high and front mid unrounded long vowels /i:, e:/ remarkably takes place in the Kamisee Oromo dialect. Compared to the Kamisee

Oromo dialect, palatalization in other dialects is fairly moderate, but the colour is there. The process has been shown in (19).

(19)	/diida/	[dʲiida]	‘outside’
	/fiige/	[fʲiige]	‘He/I ran.’
	/deemte/	[dʲeemte]	‘You(SG)/she went.’
	/seente/	[sʲeente]	‘You(SG)/she entered.’

The following rule says that a consonant sound becomes palatalized when it is followed by front high and front mid unrounded long vowels.

/c /	[cʲ]	_____	i:
			e:

### 3.14.1 Palatalization of /t, tʰ, d, l/

The remarkable palatalization process in the language takes place when the *causative* process occurs. (20) Shows that in this process when /t, tʰ, d, l/ are followed by causative markers, -s, -sis, -siis, the consonants surface as [tʃ, tʃʰ, ʃ].

(20) <sup>14</sup>	/kut-	sisiis-	Ø-	e/	[kutʃʃisiise]		
	cut-	CAUS-	1SG/3SM-	PRV	‘He/I made cut.’		
	/fitʰ-	sisiis-	Ø-	e/	[fitʃʃisiise]		
	finish-	CAUS-	1SG/3SM-	PRV	‘He/I made finish.’		
	/fid-	sisiis-	-	e/	[fitʃʃisiise]		
	bring-	CAUS-	3SM-	PRV	‘He/I made bring.’		
	/gal-	s-	i-	n	-	e/	[gaffine <sup>15</sup> ]
	enter-	CAUS-	EPN-	1PL-	PRV	‘We made enter.’	
	/kʰal-	siis-	Ø-	e/	[kʰaffiise]		
	kill -	CAUS-	3SM/1SG-	PRV	‘He/I let (someone) slaughter (something).’		

<sup>14</sup> The causative markers have different roles in Oromo. Because it does not serve any purpose here to mention the function of the causative markers in glossing, I just used CAUS to mean *causative marker*.

<sup>15</sup> Some speakers of Oromo pronounce *gaffé* as *galtfine*. In both cases the palatalization process takes place, but the former shows complete assimilation, while the later is partial assimilation.

The following rules shows that /t/ and /d/ become [tʃ], /tʰ/ becomes [tʃʰ] and /l/ becomes [ʃ] when they are followed by /i/.

- a)     t  
          d                    [tʃ]     \_\_\_\_\_ [i]
- /tʰ/                    [tʃʰ]     \_\_\_\_\_ [i]
- c)     /l/                    [ʃ]     \_\_\_\_\_ [i]

Kebede (1994) argues that there is /i/ sound before the causative markers *-s, -sis, -siis, -sisiis* as *-is, -isis -isiis -isiiis*. But Dejene (2010) argues that the synchronic fact does not support the position held by kebede. Logically speaking there may not be any palatalization without some trigger (likely to be /i/ in the present case). But the departure point between the two scholars is whether /i/ is synchronically there or not. The claim behind Dejene’s (2010) and the present study is that the sound /i/ does not exist in any underlying realization in other environments. Thus, it is really difficult to readily conclude that it is there synchronically. Therefore, it is argued that/ i/ is the conditioning factor, but it might have been diachronically deleted and the palatalizing trace remained.

### 3.14.2 Palatalization of /t/

(21) Reveals that /t/ completely and regressively assimilates to the two postalveolar sounds /dʒ, tʃʰ/.

- |      |          |        |     |     |    |  |          |             |
|------|----------|--------|-----|-----|----|--|----------|-------------|
| (21) | /kaba    | dʒ-    | t-  | Ø-  | e/ |  | [kaba    | dʒdʒe]      |
|      | respect- | 3SF/2- | SG- | PRV |    |  | ‘She     | respected.’ |
|      | /wa      | tʃʰ-   | t-  | Ø-  | e/ |  | [wa      | tʃʰtʃʰe]    |
|      | disturb- | 3SF/2- | SG- | PRV |    |  | ‘She/you | disturbed.’ |

The following rule reads that /t/ becomes [dʒ] and [tʃʰ] when it is preceded by these sounds.

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		ɔ̟	ɔ̟
b)	/t/	tʃ̟	tʃ̟ _____

### 3.14.3 Palatalization of /n/<sup>16</sup>

In the Macha and Tulama dialects, the paltalization of /n/ is accompanied by metathesis and dissimilation. In this process, the voiced alveolar nasal /n/ regressively assimilates to the voiceless palatal ejective affricate /tʃ̟/ and becomes [ɲ]. Another interesting feature in the process is metathesis accompanying the assimilation and the dissimilation of the voiceless palatal ejective affricate /tʃ̟/. When the underlying trigger of palatalization /tʃ̟/ undergoes such a metathesis process, it surfaces as a voiceless glottal stop [ʔ]. The process has been substantiated in (22).

(22)	<i>/miitʃ̟ne/</i>	<i>[miɲʔe]</i>	‘We washed (something)’.
	<i>/watʃ̟ne/</i>	<i>[wajʔe]</i>	‘We shouted or disturbed.’
	<i>/k'itʃ̟ne/</i>	<i>[kiɲʔe]</i>	‘We poured (some liquid) in a little amount’

Waqo (1988) thinks that the above process, i.e, when /n/ is preceded by /tʃ̟/, /n/ is glottalized as [nʔ]. But the fact emerging from the present study refutes the finding. As the examples in (22) reveal it is not the colour of the glottal stop [ʔ] which is superimposed onto /n/; rather /tʃ̟n/ results in fully flagged combination of [ɲʔ].

The order of the three processes will be as follow:

/tʃ̟n/	[tʃ̟ɲ]	[ɲtʃ̟]	[ɲʔ]
--------	--------	--------	------

### 3.15 Vowel Raising

The low mid unrounded vowel /a/ rises to the mid back rounded vowel [o] when it is followed by a voiced labiovelar approximant /w/, and rises to the mid front unrounded vowel [e] when it is

<sup>16</sup> While it is possible to treat this feature under nasal assimilation or assimilation of /n/ to obstruents, I deliberately treated it separately because it has a remarkable feature to be discussed as assimilation plus metathesis and dissimilation.



followed by the high front unrounded vowel /i/ and the voiced palatal approximant /j/ , as has been given in (23).

- (23) a) /matfaaj- t- Ø- e/ [maoofte/matfoote<sup>17</sup>]  
 intoxicate- 3SF/2- SG- PRV ‘You/She became intoxicated.’  
 /ʔurgaaw- t- Ø- e/ [urgoofte]  
 smell good- 3SF/2- SG-PRV ‘You (SG)/she smelt good.’
- a) /murtaaj- s- Ø- e/ [murteesse]  
 decide- CAUS- 3SM /1SG- PRV ‘He/I decided.’  
 /hadʔaaj- s- i- n- e/ [hadʔeessine]  
 sour- CAUS- EPEN- 1PL- PRV ‘We made (something)sour.’
- b) /gaj- n- e/ [geɛjɲe]  
 arrive- 1PL- PRV ‘We have arrived (at somewhere).’  
 /kaaj- t- e/ [keesse<sup>18</sup>]  
 put- 3SF- PRV ‘She put (something somewhere).’  
 /taaʔ- t- e/ [teesse]  
 sit- 3SF- PRV ‘She sat.’

As we observe from example (b), the stem final segments are /j/ and /w/ though it has been argued that the stem final /w/ conditions the vowel rising. The reason here is that /w/ and /j/ are free variants in different dialects (Dejene 2010), and the underlying segment to trigger the vowel raising process, thus, is the voiced labiovelar approximant /w/. By the same token, the conditioning and the underlying stem final segment in example (c) is /j/, which surfaces as /j/, and /ʔ/in different dialects.

The following rule illustrates that /a/ rises to [o] after /w/ and rises to [e] after /i/ and /j/.

o

w

<sup>17</sup> It is pronounced as matfoote in the Guji dialect because of the assimilation of bilabials and labiodentals to alveolars.

<sup>18</sup> /jt/ and /ʔt/ softened into [ss].

/a/	e	_____	i
			j

### 3.16 Assimilation of lateral and tap

(24) shows that in the Guji dialect of Oromo the voiced lateral alveolar approximant /l/ and the voiced alveolar tap or trill /r/<sup>19</sup> completely and progressively assimilate to the voiced alveolar implosive /ɗ/.

- |      |              |  |                            |
|------|--------------|--|----------------------------|
| (24) | /hirɗuu /    |  | [hiɗɗuu] ‘not full’        |
|      | /birɗate/    |  | [biɗɗate] ‘He/I glimpsed.’ |
|      | /falɗaana/   |  | [faɗɗaana] ‘spoon’         |
|      | /walɗaansoo/ |  | [waɗɗaansoo] ‘struggle’    |

The following rule shows that /l/ and /r/ become [ɗ] when they are followed by this sound.

l			
r	[ɗ]	_____	[ɗ]

### 3.17 Assimilation of /k’/ and /t’/ to /n/

In many dialects of Oromo, the voiceless alveolar ejective stop /t’/ undergoes progressive voice assimilation with the voiced alveolar nasal /n/ and surfaces as the voiced alveolar implosive [ɗ], while the voiceless velar ejective stop /k’/ undergoes progressive place and voice assimilation with /n/ in the Macha dialect. The other remarkable feature in this assimilatory process is that it is accompanied by metathesis, in which the sequences of /t’+ n/ and /k’+ n/ result in [n+ ɗ]. The process has been discussed in (25).

- |      |                  |  |                   |
|------|------------------|--|-------------------|
| (25) | /lit’- n- e/     |  | [linɗe]           |
|      | enter- 1PL- PRV  |  | ‘We entered.’     |
|      | /fit’- n- a/     |  | [finɗa]           |
|      | finish- 1PL- IPV |  | ‘We will finish.’ |

<sup>19</sup> In Oromo the sound/r/ is an alveolar tap /r/ when it is not geminated, and an alveolar trill when it is geminated. But for simplicity’s sake, I used the same symbol /r/ in both cases.

<i>/hak'- n- a/</i>	<i>[handá]</i>
delete- 1PL- IPV	‘We will delete.’
<i>/laak'- n- e/</i>	<i>[laandé]</i>
mix- 1PL- PRV	‘We have mixed.’

The following rule shows that the combinations of /t'n/ and /k'n/ surface as [nd].

<i>/t'+n/</i>	
<i>/k'+n/</i>	[nd]

### Conclusion

Assimilation in Oromo is more of morpho-phonemic process and takes place mainly at morpheme boundaries. With regard to the direction of assimilation, both progressive and regressive assimilations are evident in the study and predominantly take place contiguously. The fact emerging from the study reveals that though assimilation mainly results from the influence between consonant sounds, there are also assimilatory processes which involve the interaction of consonants and vowel sounds. In the process, the voiced alveolar nasal /n/ actively assimilates to sonorants and obstruents. Many processes in the assimilation occur across the dialects while some processes are dialect specific. For instance, velars in the Macha dialect and bilabials and labiodentals in the Guji dialect assimilate to alveolars. The other remarkable feature in this assimilatory process is that it is accompanied by metathesis. This work, thus throws light onto the description of the language. The assimilatory processes prevailing in the language in general and some facts dialect specifically only when they are common in the dialect in question have been discussed.

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