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## Dissimilation in Oromo Phonology

**Fikadu Belda Kebede**

College of Social Sciences and Humanities, Haramaya University, Ethiopia

### **Abstract:**

*This study describes dissimilatory processes in Oromo. The study tries to portray the detailed account of the processes in the language and describes processes at dialectal level when the process under consideration is dialect specific. Though very little attention has been given to dissimilatory process in Oromo in the past, the process has remained the most significant one as compared to other phonological processes. The data used in the study were elicited from eight less educated speakers of the dialects of the language and substantiated by the data obtained from library work and data accumulated by the researcher since 2010 mainly from his teaching experience. The data have been phonemically and phonetically transcribed and descriptively analyzed. In Oromo, segmental and autosegmental, regressive and progressive, partial and total, and contiguous and non-contiguous dissimilatory processes are identified. It is also found out that in most cases, dissimilation in Oromo is accompanied by different phonological processes: assimilation, deletion, reduplication, metathesis and epenthesis. Since dissimilation process in Oromo is predominantly morphophonemic in nature, studying this process is basic to compute the language.*

**Keywords:** *dissimilation, length, gemination, contiguous, non-contiguous, regressive, progressive*

### **1. Introduction**

Oromo is one of the largest ethnic groups living in Africa (Bender et al, 1976) grouped under the Cushitic speaking people living in Eastern and North Eastern Africa. According to the 2007 census, being more than 25 million in number, Oromo accounts for 34.4 percent of the total population in Ethiopia. Oromo is one of the Cushitic languages of the Afro-asiatic phylum which is widely spoken in Ethiopia. Oromo, which is predominantly spoken in Ethiopia with several dialects (Baye, 1986; Mekonnen, 2002) ranging from three to eight, is among the lowland east Cushitic group under the Oromoid languages. It is also spoken outside Ethiopia in neighboring countries mainly in Kenya and Somalia. The speakers of the language call themselves Oromo and their language Afan Oromo. Different scholars, however, often use different names for the language: Oromo, Afan Oromo and Oromiffa (Fikadu, 2010; Tekabe, 2010). In this work, Oromo refers to both the language and the people depending on the context.

A phonological process of a given language needs to be carefully described and studied in detail to make the language use of different technologies. Intellectuals have studied Oromo phonology in general and the phonological process in particular. Gragg (1976) and Waqo (1981), Binyam (1988), Kebede (1994), and Dejene (2010) have studied the Mecha, the Rayya, the Baatee (Wello) and the Kemise Oromo phonology respectively. These studies focused on varieties than detailed descriptions of the phonological processes, and on phonological processes found in different dialects of the language without giving due attention to the language in general. Though not well captured, what is so far addressed by the scholars regarding dissimilation process in Oromo is length dissimilation, a process by which vowels dissimilate in length.

The present study differs from the previous works in that it provides detailed account of the processes which were overlooked by the previous studies. In addition, the previous works reported on dialect specific dissimilatory processes while the present study depicts the detailed description of the processes in the language in general.

The present undertaking has two major significances. First, it develops the grammar of the language so as to develop computer based morphological synthesizers which is fundamental to develop computer based grammatical sketch of the language; and second it contributes to the phonological theory of the language by providing descriptive facts. Unless the phonological processes occur in the language is studied to the maximum limit by the concerned scholars, it is challenging for technology developers to compute the language. In this regard what Dejene et al (2013) have contributed on assimilation in Oromo is significant and lays foundation for further similar investigations.

For the purpose of this study, the data have been elicited from eight less educated speakers of the dialects of the language who were not away from their home villages for a long time at the time this study has been carried out. Library work and teaching experiences of the researcher as a lecturer at least for the last four years also supplemented the data. Data obtained during the library work and

teaching experiences from previous related works, and Oromo written texts were widely taken into account to identify dissimilation processes synchronically occur in the language.

## 2. Oromo Phoneme Inventories

Oromo has 29 segmental phonemes. Among these, five of them are vowels and the remaining 24 are consonants. The 29 phoneme inventories of the language are: a /a/, b /b/, c /c', ch /c/, d /d/, dh /d', e /e/, f /f/, g /g/, h /h/, i /i/, j /j/, k /k/, l /l/, m /m/, n /n/, ny /n/, o /o/, ph /p', q /k', r /r/, s /s/, sh /ʃ/, t /t/, u /u/, w /w/, x /t', y /j/, ' /z/. In Oromo, there are five sounds that are used only in loan words, but are not parts of the phoneme inventories of the language. These are p /p/, v /v/, z /z/, nz /z/ and ts /s', (Bekamaa, 2004; Getaachoo, 2006). In each pair, the first letter shows the grapheme representation of the nearby phoneme. As can be seen from the order pairs, both consonants and vowels are regular in their grapheme representations. (The phonetic alphabet is adopted from Catford, 1988).

Vowel lengthening and consonant gemination are phonemic in Oromo. The short and long vowels and the geminated and non-geminated consonants in an identical environment contrast. The minimal pairs of vowel length and consonant gemination are shown as follows:

Vowel lengthening			
/a/ lafa	'earth'	/aa/ laafaa	'soft'
/a/ laga	'river'	/aa/ laagaa	'palate'
Consonant gemination			
/t/ bitaa	'left'	/tt/ bittaa	'to buy'
/l/ balaa	'accident'	/ll/ ballaa	'blind'

The following Tables represent the phoneme inventory of the language which is accepted and used by many researchers like Ishetu (1981), Waqo (1981), Fikadu (2010) and Dejene (2010).

		Bilabial	Labio-dental	Alveolar/ Alveo-dental	Palatal	Velar	Glottal
Ejectives stop, Vl		<i>p'</i>		<i>t'</i>	<i>c'</i>	<i>k'</i>	
Plosives	Vl			<i>t</i>		<i>k</i>	<i>ʔ</i>
	Vd	<i>b</i>		<i>d</i>		<i>g</i>	
Implosive, Vd				<i>ɖ</i>			
Fricatives, Vl			<i>f</i>	<i>s</i>	<i>ʃ</i>		<i>h</i>
Affricate	Vl				<i>ç</i>		
	Vd				<i>ʃ</i>		
Nasals, Vd		<i>m</i>		<i>n</i>	<i>ɲ</i>		
Lateral, Vd				<i>l</i>			
Flap, Vd				<i>r</i>			
Glides, Vd		<i>w</i>			<i>j</i>		

The consonant phoneme inventory of Oromo<sup>1</sup>

<i>i</i>	<i>u</i>
<i>e</i>	<i>o</i>
<i>a</i>	

The vowel phoneme inventory of Oromo

## 3. Phonotactics

In Oromo, there are many restrictions that govern the distribution of phonemes. The following are phonotactic rules that have association with this work:

- More than two similar or different consecutive consonant phonemes are not allowed.
- Two similar consonants are used to represent gemination. Consonant gemination is not allowed at the beginning and at the end of words; it only occurs in the middle of words.
- Consonant clusters at the beginning and at the end of words are not allowed, but it is possible in the middle of words.
- Diphthongs or more different vowel phonemes are not allowed in a word.
- More than two similar vowels are not allowed in a word.

(Toleera et al, 1993; Namee, 1993; Dejene, 2010).

#### 4. Dissimilation

Dissimilation is a process by which linguistic features of a language dissimilate. While dissimilation process is, in principle, possible with any phonological features it ought to be restricted to only autosegmental level (Suzuki 1998). According to Crystal (1997), dissimilation is a process by which an influence exercised by one sound segment upon the articulation of another, so that the sounds become less alike, or different. Elements involved in dissimilation process should not necessarily be identical or have common features to dissimilate. In this regard, Obligatory Contour Principle (OCP)<sup>2</sup> has been argued by Suzuki for many reasons of which its non-generalizability is the basic. According to Suzuki (1998), OCP focuses only on the avoidance of 'adjacent identical' elements disregarding verities of constraints governing various types of dissimilatory phenomena. Suzuki argued the phenomenon as:

*This (adjacent identical) predicts that dissimilation occurs only under the compulsion to avoid identical feature specifications between the two segments in question. Although most cases are found to be characterizable as identity avoidance, there are cases in which dissimilation is observed even though there is no identical feature specification to be avoided. One such example is found in Russian, that dissimilation obtains even when the two vowels are not identical (1998, p. 23).*

This can be witnessed in Russian as /r'ek'i/ → /r'ak'i/ where, non high /e/ dissimilates with the next high /i/ and realized as lower /a/. Thus, dissimilation is attainment or removal or alteration of certain elements or features because of the existence of certain elements regardless of their preliminary common value so that the two elements in comparison do not obtain common attribute in the process.

Dissimilation process occurs to create auditory distinct segments so as to facilitate speech perception (Katamba, 1989), and most likely speech production easier (Fallon, 2002). Compared to other phonological process dissimilation has got due attention recently (Fallon, 2002; Suzuki 1998). However, the attention given to dissimilation in Oromo hitherto compared to other phonological processes like assimilation, deletion, metathesis and insertion is so limited.

##### 4.1. Dissimilation of Vowel Length

Dissimilation of vowel length is a phonological process where a vowel in consecutive syllable dissimilates in length. The element that dissimilates is the prosodic length in adjacent syllables. Regarding vowel length distribution in Oromo Gragg (1976) asserts that verb and noun roots have no two consecutive long syllables, unless the second syllable is at word final position. Griefenow-Mewis (2001) also points out that Oromo words do not have vowel length in three consecutive syllables. In general, these findings witness that Oromo makes length adjustment in derivational process by morpheme affixation which leads to length dissimilation. The same phenomenon is witnessed in Cairo Arabic where long vowel shortens when another long vowel follows by the affixation process as in /kitaab/ 'book' + /een/ 'dual' /kitabeen/ 'two books' (Kaye, 1997).

Length dissimilation in Oromo occurs when different morphemes are affixed to each other, and phonological process reduplication takes place. Thus, it is morphophonemic. Vowel length dissimilation in different grammatical processes will be discussed as follows.

##### 4.1.1. When Different Inflectional and Derivational Allomorphs of the Same Morphemes Affix to Words of Different Word Categories

In Oromo, different inflectional and derivational allomorphs of the same morphemes affix to words of different word categories to provide different linguistic functions— grammatical and derivational functions. In affixation process, these allomorphs interchangeably affix to words depending on the length of vowels of the immediately preceding syllable. Thus, initial long vowel allomorphs prefer words that have the closest short syllables and vice-versa. These processes occur when:

- i. Allomorphs of inflectional morphemes *-oota* and *-ota*, *-toota* and *-tota*, and *-oolii* and *-olii* affix to nouns to mark plural number

As can be seen from the allomorphs in the order pairs, the first allomorphs have initial long vowels whereas the second allomorphs have initial short vowels. In the affixation process, vowel phonemes at the end of the nouns delete and the two allomorphs in the order pairs affix to the nouns alternatively based on the vowel length immediately preceding them, as presented in (1), (2), (3) and (4).

(1) *-oota* and *-ota*

- a) /nama -oota/ → [namoota]  
person- PL<sup>3</sup> → 'persons'  
/saree -oota/ → [saroota]  
dog- PL → 'dogs'

- b) /kitaaba -ota/ → [kitaabota]  
book-PL → 'books'  
/diina -ota/ → [diinota]  
enemy -PL → 'enemies'

(2) *-toota* and *-tota*

- a) /barataa -toota/ → [barattoota]  
student -PL → 'students'  
/hoJJetaa -toota/ → [hoJJettoota]  
worker-PL → 'workers'
- b) /barsiisaa -tota/ → [barsiiftota]<sup>4</sup>  
teacher- PL → 'teachers'  
/beekaa -tota/ → [beektota]

intellectual -PL→ ‘intellectuals’

(3) -oolii and -olii

- a) /soddaa - oolii/ → [soddoolii]  
family-in-law-PL→ ‘family-in-laws’  
/warra - oolii/ → [warrolii]  
parent -PL → ‘parents’
- b) /gaangee - olii/ → [gaangolii]  
mule-PL → ‘mules’  
/Jaarsa - olii/ → [Jaarsolii]  
elder-PL→ ‘elders’

In Oromo, different inflectional morphemes can be affixed to the same word to give similar grammatical functions (Gumii Qormaata Afaan Oromoo [GQAO], 1998). Within this context, allomorphs -oolii and -olii affix to nouns to which -oolii and -olii affix to mark plural number. Dissimilation of vowel length is evident in this case, as shown in (4).

- (4) a) /soddaa - ootii/ → [soddootii]  
family -in-law-PL→ ‘family -in-laws’  
/warra - ootii/ → [warrootii]  
parent -PL → ‘parents’
- b) /gaangee - otii/ → [gaangotii]  
mule-PL → ‘mules’  
/Jaarsa - otii/ → [Jaarsotii]  
elder-PL→ ‘elders’

ii. Inflectional morpheme -n affixes to nouns to mark plural number

This morpheme affixes to nouns to mark plural number (GQAO, 1998). When it affixes to nouns, the final consonant phonemes of the nouns geminate within the permissible phonotactic rules of the language (see morpheme -n under section 4.2.1(iii)). In some instances, lengthening of the final vowel is preferred to geminating the final consonant of the noun. In other words, vowel length dissimilation is preferred to consonant gemination dissimilation to comply with the phonotactic rules of the language. In the process, the lengthened vowel dissimilates with short vowel in the preceding contiguous syllable.

- (5) /?ilma -n/ → [?ilmaan]  
son-PL → ‘sons’

In (5), like the other patterns, geminating the final consonant segment /m/ violets the phonotactic rule of the language. Thus, the language lengthens the final vowel phoneme instead of geminating.

iii. Allomorphs of derivational morphemes -siis- and -sis-, -eess- and -ess-, -aaʔ- and -aʔ-, -oom- and -om-, -uumsa and -umsa, -iinsa and -insa, and -naan and -nan affix to words of different word categories<sup>5</sup>

In the order pairs, the first allomorphs have long vowels whereas the second allomorphs have no long vowels. The two allomorphs in the order pairs affix to the words of different word categories depending on the vowel length of the immediately preceding syllable. The processes are shown in (6) to (14):

(6) Allomorphs -siis- and -sis- affix to verb root to form other verbs

- a) /k'ab-siis- Ø -e/ → [k'absiise]  
catch-DCAU-1/3M-PRF<sup>6</sup>→ ‘I/He made catch.’  
/gam-siis - Ø -e/ → [gamsiise]  
challenge- DCAU-1/3M-PRF→ ‘I/He made challenge.’
- b) /?oof-sis - Ø -e/ → [?oofsise]  
drive-DCAU-1/3M-PRF→ ‘I/He made drive.’  
/reeb-sis- Ø -e/ → [reebsise]  
kick-DCAU-1/3M-PRF→ ‘I/He made kick.’

(7) Allomorphs -eess- and -ess- affix to adjectives to form verbs

- a) /Jabaa -eess- Ø -e/ → [Jabeesse]  
strong-SCAU<sup>7</sup>-1/3M- PRF → ‘I/He made strong.’  
/miʔaa -eess- Ø -e/ → [miʔeesse]  
sweet- SCAU-1/3M -PRF → ‘I/He made sweet.’
- b) /deeraa -ess- Ø -e/ → [deeresse]  
long- SCAU -1/3M-PRF→ ‘I/He made long.’  
/booruu -ess- Ø -e/ → [booresse]  
impure – SCAU-1/3M -PRF → ‘I/He made impure.’

Allomorphs -eess- and -ess- also affix to nouns to derive verbs. In the same way, dissimilation of vowel length occurs in the process.

- (8) a) /bosona -eess- Ø -e/ → [bosoneesse]  
forest – SCAU-1/3M-PRF → ‘I/He made forest.’
- b) /bifaan -ess- Ø -e/ → [bifaanesse]  
water- SCAU-1/3M-PRF → ‘I/He made watery.’

(9) Allomorphs *-aaʔ-* and *-aʔ-* affix to adjectives to form verbs

- a) /*daalacca* - *aaʔ* -  $\emptyset$  - *e/* → [*daalachaaʔe*]  
 gray- ST<sup>8</sup> -1/3M- PRF → ‘I/He became gray.’  
 /*k’ulk’ulluu* - *aaʔ* -  $\emptyset$  - *e/* → [*k’ulk’ullaʔe*]  
 pure - ST -1/3M-PRF → ‘I/He became pure.’
- b) /*gurraacca* - *aʔ* -  $\emptyset$  - *e/* → [*gurraachaʔe*]  
 black-ST-1/3M- PRF → ‘I/He became black.’  
 /*booruu* - *aʔ* -  $\emptyset$  - *e/* → [*booraʔe*]  
 impure - ST -3M-PRF → ‘It became impure.’

Allomorphs *-aaʔ-* and *-aʔ-* also affix to nouns to form verbs. Similarly, dissimilation of vowel length occurs in the process.

- (10) a) /*k’opp’*- *aaʔ* -  $\emptyset$  - *an* -  $\emptyset$  / → [*k’opp’aaʔan*]  
 readiness- ST-3<sup>9</sup>-PL-PRF → ‘They became ready.’
- b) /*beela* - *aʔ* -  $\emptyset$  - *an* -  $\emptyset$  / → [*beelaʔan*]  
 hunger- ST-3-PL-PRF → ‘They became hungry.’

Morphemes *-aw/-aaw-* or *-ay/-aay-* are also dialectal variations of *-aaʔ-* and *-aʔ-* in which the morpheme final segments are free variants with /ʔ/.

(11) Allomorphs *-oom-* and *-om-* affix to adjectives and nouns to form verbs

Adjective → verb

- a) /*gamna*- *oom-t-an*-  $\emptyset$  / → [*gamnoomtan*]  
 wise -ST-2<sup>10</sup>-PL-PRF → ‘You (PL) became wise.’
- b) /*haaraa* - *om-t-an*-  $\emptyset$  / → [*haaromtan*]  
 new - ST-2-PL-PRF → ‘You (PL) became new.’

Noun → verb

- a) /*hajjuu* - *oom-t-an*-  $\emptyset$  / → [*hajjoomtan*]  
 literate - ST-2-PL-PRF → ‘You (PL) became literate.’
- b) /*diiiga*-*om-t-an*-  $\emptyset$  / → [*diiigomtan*]  
 relative-ST-2-PL-PRF → ‘You (PL) became relative.’

(12) Allomorphs *-uumsa* and *-umsa* affix to the root of verbs to form nouns

- a) /*bar*- *uumsa/* → [*baruumsa*]  
 educate-ABS<sup>11</sup> → ‘education’  
 /*kaʔ* - *uumsa/* → [*kaʔuumsa*]  
 start- ABS → ‘starting’
- b) /*beek*- *umsa/* → [*beekumsa*]  
 know - ABS → ‘knowledge’  
 /*ʔeek’*- *umsa/* → [*ʔeek’umsa*]  
 disturb- ABS → ‘disturbance’

(13) Allomorphs *-iinsa* and *-insa* affix to the root of verbs to form nouns

- a) /*ʔarg* - *iinsa/* → [*ʔargiinsa*]  
 see- ACT<sup>12</sup> → ‘seeing’  
 /*mug* - *iinsa/* → [*mugiinsa*]  
 sleepy- ACT → ‘sleepiness’
- b) /*deem* - *insa/* → [*deeminsa*]  
 go- ACT → ‘going’  
 /*laak’*- *insa/* → [*laak’insa*]  
 mix- ACT → ‘mixing’

(14) Allomorphs *-naan* and *-nan* affix to the root of the verbs.

- a) /*dug*- *naan/* → [*dugnaan*]  
 drink- PRP<sup>13</sup> → ‘after having drunk’  
 /*duf*-*naan/* → [*dufnaan*]  
 come- PRP → ‘after coming back’
- b) /*deem*-*nan/* → [*deemnan*]  
 go- PRP → ‘after having gone’  
 /*jaat*-*nan/* → [*jaannan*]  
 eat- PRP → ‘after having eaten’

Descriptions in (12) and (14) occur predominantly in Arsi-Bale and Hararghe dialects.

#### 4.1.2. A Reduplication Takes Place

Though rarely, reduplication is the reason for dissimilation to take place (Fallon, 2002). In reduplication, the combination of word initial consonant and vowel(s) repeat themselves to mark different grammatical functions such as number, and repetition or intensification of an action in the language (Owens, 1985; Griefenow-Mewis, 2001; Dejene, 2010). Hausa undergoes similar process as in /daddàkaa/ plural form of /dakàa/, /kakkàfaa/ plural form of /kafàa/ (Newman, 1997). In Oromo, vowel phoneme in the initial syllable remains as it is after reduplication has taken place (see section 4.2.2, example (22b)). What is observed in the reduplication process in example (15) is however different. Words which have long vowels in the initial syllable shorten the vowels after reduplication to dissimilate length in the subsequent adjacent syllable.

- (15) /diimaa/ → [diddiimaa]  
 red → 'red things'  
 /reebe/ → [rerreebe]  
 hit → 'hit repeatedly'  
 /deeraa/ → [deddeeraa]  
 long → 'long things'

#### 4.2. Dissimilation of Consonant Gemination

Dissimilation in gemination is a phonological process whereby non-contiguous consonant phonemes dissimilate. According to Leslau (1997) Amharic undergoes this process, when the same consonant phonemes appear continuously in a word, as in /lət'ətt' ʔalə/ 'stretch somewhat' and /wədədd ʔalə/ 'became expensive'. When the second and the third consonants are different, dissimilation of gemination cannot occur as in /ləzzəbb ʔalə/ 'become calm down'. In Oromo, dissimilation in gemination occurs when different morphemes affix to each other, and when reduplication takes place. Thus, the process is morphophonemic in the language. Dissimilation of consonant gemination in Oromo occurs when:

##### 4.2.1. Different Inflectional and Derivational Morphemes Affix to Words of Different Word Categories

- i. Double causative marker allomorphs *-siis-* and *-sis-* affix to the root of verbs end in /d, t, t'/

In this derivational process, alveolar /d, t, t'/ at the end of verb roots are palatalized through assimilation. Then, the palatalized sound dissimilates with subsequent consonant phoneme via germination, as shown in (16).

- (16) /fid-siis- Ø -e/ → [ficcisiise]  
 bring-DCAU-1/3M-PRF → 'I/He made bring.'  
 /fit'-siis- Ø -e/ → [ficc'isiise]  
 finish-DCAU-1/3M-PRF → 'I/He made bring.'  
 /kut-siis- Ø -e/ → [kuccisiise]  
 break-DCAU-1/3M-PRF → 'I/He made break.'

The same dissimilation process takes place when first causative marker morpheme *-s-* affixes to the root of the verbs ending with consonant phoneme /t/.

- (17) /kaat -s- Ø -e/ → [kaaccise]  
 run-SCAU-1/3M-PRF → 'I/He made run.'  
 /naat -s- Ø -e/ → [naaccise]  
 eat-SCAU-1/3M-PRF → 'I/He made eat.'

When both single and double causative marker morphemes affix to the root of the verbs ending with consonant phoneme /f/, the segment geminates to dissimilate with the non-geminated segment /s/ at the initial position of morpheme *-siis-/sis-*, and morpheme *-s-* as in (18).

- (18) a) /kuf -siis- Ø -e/ → [kuffisiise]  
 fall-DCAU-1/3M-PRF → 'I/He made someone/something fall.'  
 /raf -siis- Ø -e/ → [raffisiise]  
 sleep-DCAU-1/3M-PRF → 'I/He made someone/something sleep.'  
 b) /kuf -s- Ø -e/ → [kuffise]  
 fall-SCAU-1/3M-PRF → 'I/He made fall.'  
 /raf -s- Ø -e/ → [raffise]  
 sleep-SCAU-1/3M-PRF → 'I/He made sleep.'

- ii. Plural number marker morpheme *-een* affixes to nouns

When the morpheme affixes to nouns, nouns final vowels delete and the consonants before the deleted vowels geminate to dissimilate with morpheme final /n/.

- (19) /laga - een/ → [laggeen]  
 river - PL → 'rivers'  
 /muka - een/ → [mukkeen]  
 tree - PL → 'trees'

- iii. Plural number marker morpheme *-n* affix to nouns

When morpheme *-n* affixes to nouns, consonant phonemes at the end of the nouns geminate to dissimilate with /n/.

- (20) /beera -n/ → [beerran]  
 woman-PL → 'women'  
 /ʔeessuma -n/ → [ʔeessumman]  
 uncle-PL → 'uncles'  
 /daaʔima -n/ → [daaʔimman]  
 child-PL → 'children'

iv. Co-occurrence of nominalizer allomorphs *-cca* and *-ca* based on stem final segments.

Allomorphs *-cca* and *-ca* are nominalizers affix to the root of the verbs to give derivational function. The allomorphs alternate based on the stem final segments. Roots of verbs with no final /l/ take *-cca* as in (21a) whereas roots of verbs with final /l/ take *-ca*, as in (21b).

- (21) a) /fiig- cca/ → [fiigi<sup>14</sup>cca]<sup>15</sup>  
 run-ACT → 'running'  
 /waam- cca/ → [waamicca]  
 call- ACT → 'calling'  
 /kaat- cca/ → [kaaticca]  
 run- ACT → 'running'  
 b) /ʔutaal- ca/ → [ʔutaalca]  
 jump- ACT → 'jumping'  
 /laal- ca/ → [laalca]  
 see- ACT → 'seeing'

Phonemes /g, t, m/ and the geminated form /cc/ have no feature in common, but based on root co-occurrence restriction it is considered type of 'dissimilatory effect'. Thus, this nominalizer morpheme dissimilates in gemination with /g, t, m/, when it appears following the segments.

#### 4.2.2. A Reduplication Takes Place

The combination of adjectives or verbs initial consonant and vowel(s) repeat themselves to show intensity or repetition. In this process, reduplicated consonant phonemes geminate to dissimilate with the subsequent consonant phoneme, as in (22a). When the second consonant phoneme of the reduplicating word is inherently geminated, the expected gemination in the reduplicated consonant is blocked because of the dissimilation, as in (22b). In this case, the second and the third consonant dissimilate in gemination.

- (22) a) Adjectives  
 /deeraa/ → [deddeeraa]  
 long → 'long things'  
 /Jabaa/ → [JaJJabaa]  
 strong → 'strong things'  
 Verbs  
 /rukute/ → [rurrukute]  
 I/He hit once → 'I/He hit repeatedly.'  
 /mure/ → [mummure]  
 I/He cut once → 'I/He cut into pieces.'  
 b) Adjectives  
 /gurraacca/ → [gugurraacca]  
 black → 'black things'  
 /t'ikk'aa/ → [t't'ikk'aa]  
 small → 'small things'  
 Verbs  
 /micc'iire/ → mimicc'iire  
 I/He twisted → 'I/He repeatedly twisted.'  
 /barresse/ → [babarresse]  
 I/He wrote → 'I/He wrote something.'

#### 4.3. Segmental Dissimilation

##### 4.3.1. Dissimilation of Root Final Consonant Phonemes /d, ʔ, h/ with other Consonants

Consonant phonemes /d, ʔ, h/ at the end of the roots dissimilate with morphemes initial consonants and replaced by compensatory length. In the process, two contiguous consonant segments progressively become totally unlike (totally dissimilate) as VC1 (/d, ʔ, h /)-C2 become VVC2<sup>16</sup>, where C1 is root final and C2 is morpheme initial consonants. The process has been discussed in (23).

- (23) /hod-t-an- Ø/ → [hootan]  
 suck-2-PL-PRF → 'You(PL) sucked.'  
 /hod-sis- Ø -e/ → [hoosise]

suck-DCAU-1/3M -PRF → 'I/He made suck.'  
 /taʔ- t-e/ → [taate]  
 ok-2/3F<sup>17</sup>-PRF → 'It became ok.'  
 /taʔ- sis-e/ → [taasise]  
 happen-SCAU-PRF → 'I/He made happen.'  
 /bah-s-e/ → [baase]  
 leave-SCAU-PRF → 'I/He made leave.'  
 /bah-n-e/ → [baane]  
 leave-2PL<sup>18</sup>-PRF → 'We left.'

#### 4.3.2. Dissimilation of Stem Final Consonant Phonemes /ʔ/ with other Consonants

Stem final /ʔ/ undergoes different phonological processes when it is followed by consonant initial morphemes. Stem /beelaʔ-/ 'hungry' become /beeloʔe/ when it is followed by morpheme /-t-/, 'second person or third person feminine marker'. In the surface form, /a/ is raised to /o/ by assimilating to /w,j/ the underlying variety of /ʔ/, and /ʔ/ is substituted by /f/, that is, ʔt become ft, to exhibit phonological process dissimilation. Based on consonant initial morpheme, /ʔ/ undergoes different process, as shown in (24).

(24) /haasaʔ-siis- Ø- e/ → [haasofsiise] → manner assimilation  
 speakl-DCAU-1/3M-PRF → 'I/He made speak.'  
 /haasaʔ-n-e/ → [haasofne] → no phonological process taken place  
 speakl-2PL-PRF → 'We spoke.'  
 /haasaʔ-t-an-Ø / → [haasoftan]; manner dissimilation  
 speakl-2-PL-PRF → 'You (PL) spoke.'

Segment /w,j/ are variants with /ʔ/, and they undertake the same processes.

#### 4.3.3. Dissimilation of Root Final Velars with other Consonants

In Hararge dialect, root final velars dissimilate with morpheme initial consonant segments. In the process, two contiguous consonant segments progressively dissimilate as in (25), the product being a voiced palatal approximant plus alveolar consonant.

(25) /fiig-t-an- Ø/ → [fiijtan] → [fiijdan]<sup>19</sup>  
 run-2-PL-PRF → 'You(PL) run.'  
 /bak'-s-e/ → [bajse]  
 melt-SCAU-PRF 'I/He made melt.'  
 /beek-t-a/ → [beejta]  
 know-2-IMP<sup>20</sup> → 'You (PL) know.'

#### 4.3.4. Dissimilation of /s/ with other Consonants

Root or stem final /s/ contiguously dissimilate with morpheme initial consonants as V (V)sC → V(V)fC, where /s/ is root or stem final and the C in the underlying form is morpheme initial consonant. The process has been discussed in (26).

(26) /bar-siis-tota/ → [barsiiftota]  
 learn-DCAU-PL → 'teachers'  
 /beek-sis-n-e/ → [beeksifne]  
 know-DCAU 2PL-PRF → 'We made know.'  
 /ʔaʔʔees-t-an- Ø/ → [ʔaʔʔeestan]  
 kill-2-PL-PRF / → 'You (PL) killed.'

Dissimilation process is blocked by root or stem final gemination or clusters. Instead of dissimilation, epenthesis of /i/ takes place to adjust the cluster as per the phonotactic rules in the language, as shown in (27).

(27) /ʔarrabs-t-an- Ø/ → [ʔarrabsitan]  
 insult-2-PL-PRF → 'You (PL) insulted.'  
 /barreess-t-e/ → [barreessite]  
 write-2/3F-PRF → 'You/She wrote.'

#### 4.3.5. Dissimilation of Consonants within Lexical Clusters

Segments within a lexical cluster dissimilate in Oromo. Amharic also exhibits similar process as in /gidgidda/ and /girgidda/ 'wall', /gudg<sup>w</sup>ad/ and /gurg<sup>w</sup>ad/ 'hole', and /ak't'aacc'aa/ and /agt'aacc'aa/ 'direction' (Leslau, 1997). The same is true in Akkadian where the city in Canaan is named /Gint/ and /Gimt/ (Rendsburg, 1997). Rendsburg classified such dissimilation as partial dissimilation. In Oromo, the process has been illustrated in (28).

(28) /dugda/ and /dujda/ 'spine'  
 /saajba/ and /sahba/ 'friend'  
 /maskiida/ and /masgiida/ 'mosque' becomes /mazgiida/ by assimilation;

In (28), the first two examples progressively and the last one regressively dissimilates. Reduplication also triggers manner dissimilation in a cluster of consonants. In the process, unlike the familiar reduplication processes previously discussed (see section



4.1.2 and 4.2.2), the first syllable of the word/*guddaa*/ 'big' repeats itself and becomes */gudguddaa/* 'big things' and becomes */gurguddaa/* through manner dissimilation.

#### 4.3.6. Dissimilation of Non-contiguous Consonants within Different Syllables

Dissimilation can also occur between non-contiguous consonants at the lexical level. The process has been discussed in (29).

- (29) */dagaraa/* and */dakaraa/* 'axe'  
*/daga/* and */daka/* 'stone'  
*/gara/* and */kara/* 'to, for direction'  
*/t'ikk'aa/* and */dikk'aa/* 'small'  
*/fott'ok'/* and */fottok'/* 'split'

In these processes, non-contiguous segments dissimilate with two features – manner and voice. In example (29), the first example bidirectionally dissimilates in voice: Vd-Vd-Vd becomes Vd-Vl-Vd. The second example dissimilates regressively whereas the last three examples progressively dissimilate.

#### 4.3.7. Vowel Dissimilation

Dissimilation of vowel segments occurs in Oromo. In example (30), non-contiguous vowels progressively dissimilate (see similar cases in Russian under section 4).

- (30) */ʔibidda/* and */ʔabidda/* 'fire'  
*/diiccisa/* and */deeccisa/* 'cultural music'  
*/deebate<sup>21</sup>/* and */deebote/* 'he become thirsty'  
*/bakka/* and */bikka/* 'place'  
*/hookk'is/* and */haakk'is/* 'vomit'  
*/kenni/* and */kanni/* 'give'

## 5. Conclusion

Autosegmental (vowel length and consonant gemination) and segmental (consonant and vowel) dissimilation processes are identified in this study. Both dissimilation types occur when different morphemes affix to each other, reduplication takes place, and different segments come together in a lexeme. Reduplication is the common, and affixation is the major causes of dissimilation in Oromo. Dissimilation in Oromo occurs both at lexical and grammatical level; hence it is morphophonemic in the language. Both regressive and progressive, and partial and total dissimilation processes are evident in Oromo. With regard to the proximity of the elements, both contiguous and non-contiguous items dissimilate. The processes predominantly occur across the dialects. In most cases, dissimilation in Oromo is accompanied by different phonological processes: assimilation, deletion, reduplication, metathesis and epenthesis.

## 6. Footnotes

<sup>1</sup> Vl: voiceless; Vd: voiced

<sup>2</sup> OCP is a principle by which dissimilation is considered a process by which adjacent identical elements are prohibited (McCarthy, 1986).

<sup>3</sup> PL: plural

<sup>4</sup> Because of the dissimilation of /s/ with /t/, /st/ becomes /ft/. In the language, */barsiisaa/* can also take plural marker morpheme */-ota/* and become */barsiisota/*.

<sup>5</sup> When morphemes *-eess/-ess-*, *-aaʔ/-aʔ-*, and *-oom/-om-*, affix to words ending in vowel, the vowel will be lost through phonological process deletion.

<sup>6</sup> DCAU: double causative; 1: first person; 3M: third person masculine; PRF: perfective

<sup>7</sup> SCAU: single causative

<sup>8</sup> ST: stative

<sup>9</sup> 3: third person

<sup>10</sup> 2: second person

<sup>11</sup> ABS: abstract

<sup>12</sup> ACT: action

<sup>13</sup> PRP: participle phrase

<sup>14</sup> /i/ is an epenthesis

<sup>15</sup> */figiccad/* and */kaaticca/* are synonym words

<sup>16</sup> C: consonant; V: vowel

<sup>17</sup> 3F: third person feminine

<sup>18</sup> 2PL: second person plural

<sup>19</sup> Dissimilation takes place at the second level. It triggers other phonological process assimilation to take place.

<sup>20</sup> IMF: imperfective

<sup>21</sup> */debate/* is derived from */deebuu/* 'thirsty', */-at-/* 'reflexive marker', */-Ø-/* '3M' and */-e/* 'PRF' and becomes */deebote/* by vowel dissimilation.

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