Kussummiya phonology

Wondwosen Tesfaye

The article provides a descriptive account of the phonology of Kussummiya spoken in southwest Ethiopia. It is basically a qualitative study in that linguistic data are collected from native speakers by using elicitation technique. The collected data are organized and analyzed categorically. The findings of the study show that Kussummiya has 21 attested consonant phonemes and five short and five long vowel phonemes which is a typical feature of Cushitic vowel system. All consonant phonemes geminate and they occur only in word medial position. Consonant gemination and vowel length are phonemic. Consonant cluster occur in word medial position with a maximum of two non-identical consonants. Some of the phonological processes identified in words or across words are: insertion, deletion, devoicing, spirantisation, assimilation and metathesis.

Keywords: Kussummiya, phonology, phonological process, gemination, consonant cluster

1. Introduction

The Kussumme people live in Diraashe district particularly in a place called “Gatto,”1 in Segen Area Peoples Zone within the Southern Nations, Nationalities and Peoples Regional State of the Federal Democratic Republic of Ethiopia. According to the 2007 Population and Housing census, the Kussumme people are 9,213. The basic economic activities of the people is mixed agriculture. They are pastoralists and cultivators. They grow crops such as sorghum, maize, teff, barley, wheat, peas, chickpeas, lentils, beans and enset (false banana). They also produce cash-crops such as coffee and Khat (Catha edulis). Moreover, they rear animals such as cattle, goats, sheep, mules, donkeys, etc.

They refer to their language by the name “Afa Kussummiya” which means the language of Kussumme. Kussummiya is surrounded by Konso, Diraytata, Mosittacha and Mashooley speech

1 My special thanks go to the Office of the Director for Research of Addis Ababa University for the generous financial support to undertake the research.

2 Gatto is the homeland of Kussumme people.
varieties. According to the information obtained from the language consultants during focus group discussion, there is a high level of mutual intelligibility between Konso, Mashooleya and Kussummiya. Thus, the people of Kussumme communicate with the people of Konso and Mashoole without any difficulty. The intelligibility among the three language speakers can be either due to language contact or close genetic relationship. However, the Kussumme people have a strong self-esteem and language identity as a result they consider themselves and their language different form Konso and Mashooleya. Black’s (1973) work considers Faaʃe, Karatte, Turo and χolme as dialects of Konso but his (1974) work includes Gatto and Maschoole in addition to the previously mentioned dialects. Contrary to this, the House of Federation recognizes Kussumme as one of the nationalities in the country and Kussummiya as their language. The language consultants suggested that they can hear Diraytata and Mosittacha a little bit and hence require interpreter to communicate with them. Multilingualism is common in Kussumme society as a result in addition to their mother tongue they speak Mashooleya and Konso from the neighboring languages, and they also speak Amharic and Oromo languages. Little is known about Kussummiya. Some facts about Kussummiya have been mentioned in passing by in works dealing with a more general concern of Proto-Eastern Cushitic history and reconstruction. However, there is no published work particularly on Kussummiya.

The data for the present study is collected in two field trips to Diraashe district for one month each. The data collected was 500 words including 200 words of basic vocabulary of Swadesh (1952), 300 additional words, and various data on the morphology and syntax of Kussummiya. The first field trip was from February 25, 2021 – March 28, 2021, the second field trip was from May 4, 2021 – June 3, 2021. The key language consultants were seven: Tadesse Guyyita (age 50), Dima Genc’ac’e (age 45), Luttayto Shabele (age 40), Ayyano Bunnayo (age 38), Dubbale Tadesse (age 40), Mengistu Messele (age 42) and Girma Ayyibo (age 55). They were born in Gatto. All of them are farmers who live in Gatto. They served as language consultant in both field trips.

The research methods and techniques used for data collection is basically elicitation. However, interview and focus group discussion are also used to clarify concepts that require more attention and which are not clear during elicitation. The data is transcribed using IPA symbols.

The article has seven sections. The second section, presents some comparative notes. Section three, describes consonant and vowel phonemes. Section four, discusses consonant sequence. Section five, presents syllable structure. Section six, discusses phonological processes and section seven, summarizes the major findings of the study.

3 For example, Black (1974).
2. Comparative notes

Although the purpose of this article is not to compare Kussummiya with other closely related languages and dialects, giving a few comparative notes on closely related languages will help the reader.

Regarding the similarities between Kussummiya and Konso, and their difference from Diraytata and Mosittacha, the following correspondences have been identified. Kussummiya and Konso /d/ corresponds to /k'/ in Diraytata and Mosittacha as the following examples illustrate. Kussummiya ʔanin- ‘bite,’ Konso ʔanin-, Diraytata k’anin- and Mosittacha k’anin-. Kussummiya and Konso /m/ corresponds to /ˈm̩/ in Diraytata and Mosittacha. That is, Kussummiya ʔama ‘breast,’ Konso ʔama, Diraytata ʔamb and Mosittacha ʔamba. By the same token, Kussummiya and Konso /t/ corresponds to /kk/ in Diraytata and /hh/ in Mosittacha. For example, Kussummiya loṭa ‘foot,’ Konso loṭa, Diraytata lukket and Mosittacha luhhe. Similarly, Kussummiya and Konso /tː/ corresponds to /ʃʃ/ in Diraytata and Mosittacha. The following are examples, Kussummiya matta ‘head,’ Konso matta, Diraytata maff and Mosittacha maffa. Similarly, Kussummiya and Konso /ʃʃ/ corresponds to /t/ in Diraytata and /tʃ/ in Mosittacha as shown in the following examples. Kussummiya kurmuʃ ‘fish,’ Konso kurmuʃa, Diraytata k’urt’umet and Mosittacha kurmutʃ’a. Moreover, Kussummiya and Konso /r/ corresponds to /ɾd/ in Diraytata and /ɾʃʃ/ in Mosittacha as the following examples illustrate. Kussummiya karitta ‘belly,’ Konso karitta, Diraytata kar’d and Mosittacha karʔa.

The first person prevocalic clitic ʔin- has the allomorphs ʔin-, ʔim- ʔil- and ʔiw- in Kussummiya as the following examples illustrate: ʔin-riʃ ‘I danced,’ ʔim-tooʃ ‘I watched,’ ʔil-lel-‘I told,’ ʔiw-waat- ‘I roasted.’ The languages closely related to Kussummiya such as Konso, Diraytata and Mosittacha have such allomorphs as those in the following words: Konso ʔin-riʃ, Diraytata and Mosittacha heŋ- hrip-1 ‘I danced,’ Konso ʔin-tooʃ-e, Diraytata and Mosittacha heŋ- tooʃ-i ‘I watched,’ Konso ʔim-poʃ-e, Diraytata and Mosittacha hem-poʃ-i ‘I cried,’ Konso ʔil-lel-e, Diraytata and Mosittacha hel-lel-i ‘I told’ and Konso ʔiw-waat- e, Diraytata and Mosittacha hew-waat-i ‘I roasted.’ Thus, Kussummiya and Konso have identical first person prevocalic allomorphs (ʔin-, ʔim-, ʔil- and ʔiw-) which are different from Diraytata and Mosittacha allomorphs (heŋ-, heŋ- hem-, hel- and hew-).

Regarding the differences among Kussummiya, Konso, Diraytata and Mosittacha the following correspondences have been identified: Kussummiya /h/ corresponds to /k/ /h/ or /χ/ in Konso, and /k/ /or /h/ in Diraytata and Mosittacha as the following examples illustrates: Kussummiya huta ‘dog,’ Konso kuta, Diraytata herra, Mosittacha herro. Kussummiya diiha ‘blood,’ Konso diiha, Diraytata diik, Mosittacha diika. Kussummiya hala ‘yesterday,’ Konso χala, Diraytata hal and Mosittacha hala. Moreover, Kussummiya /hh/ corresponds to /χχ/ in Konso, and /hh/ in Diraytata and Mosittacha as in Kussummiya mahha ‘name,’ Konso maχha, Diraytata mahhh, and Mosittacha mahha.
The first and second person singular pronouns in Kussummiya are different from Konso, Diraytata and Mosittacha. For example, ʔana ‘I’ and heʔe ‘you (sg.)’ in Kussummiya corresponds to ʔanti and ʔatti in Konso, ʔantot and ʔatti in Diraytata, and ʔantʃo and ʔatʃʃi in Mosittacha. The third person singular pronoun is different from Diraytata and Mosittacha. For example, ʔiʃa ‘he’ in Kussummiya and Konso corresponds to ʔijja and ʔijjatʃa in Diraytata and Mosittacha respectively. This is shown in Table 1 below:

<table>
<thead>
<tr>
<th>Person</th>
<th>Kussummiya</th>
<th>Konso</th>
<th>Diraytata</th>
<th>Mosittacha</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>ʔana</td>
<td>ʔanti</td>
<td>ʔantot</td>
<td>ʔantʃo</td>
<td>‘I’</td>
</tr>
<tr>
<td>2SG</td>
<td>heʔe</td>
<td>ʔatti</td>
<td>ʔatti</td>
<td>ʔatʃʃi</td>
<td>‘you (sg)’</td>
</tr>
<tr>
<td>3SG (M)</td>
<td>ʔiʃa</td>
<td>ʔiʃa</td>
<td>ʔiʃja</td>
<td>ʔiʃʃja</td>
<td>‘he’</td>
</tr>
<tr>
<td>3SG (F)</td>
<td>ʔiʃʃetʃa</td>
<td>ʔiʃʃetʃa</td>
<td>?it</td>
<td>?iʃʃa</td>
<td>‘she’</td>
</tr>
<tr>
<td>1PL</td>
<td>ʔiʃno</td>
<td>ʔiʃnu</td>
<td>ʔiʃno</td>
<td>ʔiʃʃoʃa</td>
<td>‘we’</td>
</tr>
<tr>
<td>2PL</td>
<td>ʔiʃʃina</td>
<td>ʔiʃʃina</td>
<td>ʔiʃna</td>
<td>ʔiʃʃatʃa</td>
<td>‘you (pl)’</td>
</tr>
<tr>
<td>3PL</td>
<td>ʔiʃʃoʃa</td>
<td>ʔiʃʃoʃa</td>
<td>ʔiʃʃja</td>
<td>ʔiʃʃatʃa</td>
<td>‘they’</td>
</tr>
</tbody>
</table>

Table 1. Pronouns in Kussummiya, Konso, Diraytata and Mosittacha

The possessive marker in Kussummiya is the prefix ʔah-, in Konso it is χa(a)-, in Diraytata and Mosittacha it is hek-.

<table>
<thead>
<tr>
<th>Person</th>
<th>Kussummiya</th>
<th>Konso</th>
<th>Diraytata</th>
<th>Mosittacha</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>1SG</td>
<td>ʔahaw</td>
<td>ʔajja</td>
<td>hekaw</td>
<td>hekahu</td>
<td>‘mine’</td>
</tr>
<tr>
<td>2SG</td>
<td>ʔahajti</td>
<td>ʔajjti</td>
<td>hekajt</td>
<td>hekajʃi</td>
<td>‘yours (sg)’</td>
</tr>
<tr>
<td>3SG (M)</td>
<td>ʔahaddi</td>
<td>ʔaaddi</td>
<td>hekajj</td>
<td>hekajji</td>
<td>‘his’</td>
</tr>
<tr>
<td>3SG (F)</td>
<td>ʔahaddi</td>
<td>hekaddi</td>
<td>hekaddi</td>
<td>‘her’</td>
<td></td>
</tr>
<tr>
<td>1PL</td>
<td>ʔahinno</td>
<td>ʔannu</td>
<td>hekajnu</td>
<td>hekajno</td>
<td>‘ours’</td>
</tr>
<tr>
<td>2PL</td>
<td>ʔahissina</td>
<td>ʔajʃʃin</td>
<td>hekajn</td>
<td>hekajna</td>
<td>‘yours (pl)’</td>
</tr>
<tr>
<td>3PL</td>
<td>ʔahissole</td>
<td>ʔajʃʃi</td>
<td>hekaddu</td>
<td>hekaddo</td>
<td>‘theirs’</td>
</tr>
</tbody>
</table>

Table 2. Possessive pronouns in Kussummiya, Konso, Diraytata and Mosittacha

The nominative case is marked by the suffix -e on a noun as in Datikko-e to-e ‘Datikko died’ in Kussummiya, in Konso it is marked by the suffix -ʔ as in Datikkoʔ to-e, in Diraytata it is marked by the suffix -t as in Datikko-t he-toy-i, in Mosittacha it is marked by the suffix -ntʃi as in Datikko-ntʃi he-toy-e.
Accusative case is not morphologically marked in Kussummiya, Konso, Diraytata and Mosittacha and hence the citation form of a noun is used as an accusative form.

Dative case in Kussummiya, is marked by the morpheme -teʔe as in Kittonnajjo-teʔe dass-e ‘Kittonnajjo gave a milk to Datikko’, in Konso, it is marked by the suffix -ʔ as in Kittonnajjo-ʔannaa Datikko-teʔe, in Diraytata, it is marked by the suffix -as as in Kittonnajjo-tʔannaa Datikko-as he-daʔʃʃ-i, and in Mosittacha, it is marked by the suffix -hhi as in Kittonnajjo-ntʃiʔannaa Datikko-hhi he-ḥeʃʃʃ-e.

3. Consonant and vowel phonemes
3.1. Consonant phonemes

This section presents the inventory of consonant phonemes, description of consonant phonemes, consonant germination and distribution of consonant phonemes.

3.1.1. Inventory of consonant phonemes

Kussummiya has 21 clearly attested consonant phonemes. That is, four stops (p, t, k, ?,), four implosives (ɓ, ɗ, ʄ, ʛ), three nasals (m, n, ɲ), five fricatives (f, s, ʃ, ɣ, h), one affricate (ʧʃ), two liquids (l, r) and two semivowels (w, j).

<table>
<thead>
<tr>
<th>phonemes</th>
<th>Bilabial</th>
<th>Labiodental</th>
<th>Alveolar</th>
<th>Palatal</th>
<th>Velar</th>
<th>Uvular</th>
<th>pharyngeal</th>
<th>Glottal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stops</td>
<td>p</td>
<td>t</td>
<td>k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>?</td>
</tr>
<tr>
<td>Implosive</td>
<td>ɓ</td>
<td>ɗ</td>
<td>ʄ</td>
<td>ʛ</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nasals</td>
<td>m</td>
<td>n</td>
<td>ɲ</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fricative</td>
<td>f</td>
<td>s</td>
<td>ʃ</td>
<td></td>
<td>ɣ</td>
<td>h</td>
<td>h</td>
<td></td>
</tr>
<tr>
<td>Affricate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ʧʃ</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquids</td>
<td></td>
<td>l, r</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glides</td>
<td>w</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>j</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3. Consonant phonemes of Kussummiya

Close observation of the above consonant inventory reveals that there is no voiced stop in Kussummiya (for the allophonic variation see section 6). The absence of voiced stop is not uncommon to Kussummiya, similar cases have been observed in neighboring languages such as Konso (Ongaye 2013,
Black 1973), Diraytata (Wondwosen 2006, Sinkeneh 1983, Black 1974, Wedekind 1994), Mosittacha (Wondwosen 2000, 2015, Harlow 2016, Yibeltal 2020) and Gawwada (Black 1974, Geberew 2003). However, other Cushitic languages such as Oromo (Andrzejewski 1957, Black 1974, Owens 1985), Burji (Sasse 1982) and Ts’amakko (Savà 2005) make voice distinction. Moreover, like the neighboring language Konso (Ongaye 2013), Kussummiya does not have ejective sounds in its consonant inventory but such sounds exist both in Diraytata (Sinkeneh 1983, Wondwosen 2006) and Mosittacha (Wondwosen 2000, 2015, Harlow 2016, Yibeltal 2020). Besides, both Kussummiya and Konso have the palatal implosive /ʄ/ and the uvular implosive /ʛ/ in addition to the implosives /ɓ/ and /ɗ/. However, the palatal and the uvular implosives are absent from both Diraytata and Mosittacha phonemic inventories. The voiceless pharyngeal fricative /ħ/ exists in Kussummiya but absent in Konso, Diraytata and Mosittacha.

### 3.1.2. Description of consonant phonemes

In this part, descriptions of consonant phonemes along with examples are given. The description is made based on point of articulation.

1. /p/ is a voiceless bilabial stop.
   - pata ‘back’
   - pijaa ‘water’
   - ʔerpa ‘elephant’
   - ʔappa ‘father’
   - ʔapitta ‘fire’

2. /ɓ/ is a bilabial implosive. It is rare in word initial position.
   - ɓuɓa ‘egg’
   - hibta ‘lip’
   - ʔamba ‘breast’
   - kaba ‘canal’

3. /m/ is a bilabial nasal.
   - muukuta ‘frog’
   - murra ‘forest’
   - mana ‘house’
   - nama ‘man’
dimajta  ‘old man’
maaka  ‘snake’
moonta  ‘sky’

(4) /w/ is a bilabial glide.
waada  ‘God’
waahira  ‘speech’
kaawsa  ‘beard’
ʔalawta  ‘sister’
ʔawrara  ‘throat’

(5) /f/ is a voiceless labio-dental fricative.
farta  ‘horse’
foola  ‘warm (weather)’
filta  ‘hole’
ʔafa  ‘mouth’
lafta  ‘bone’
ʔafuri  ‘four’
koofina  ‘lung’

(6) /t/ is a voiceless alveolar stop.
takka  ‘one’
tira  ‘liver’
talteta  ‘female goat’
moonta  ‘sky’
kuutajta  ‘smoke’

(7) /ɗ/ is an alveolar implosive.
dà?ta  ‘butter’
dâhaa  ‘stone’
dîkla  ‘elbow’
dîihaa  ‘blood’
hoodjita  ‘thorn’
kuɗani ‘ten’

(8) \(/n/\) is an alveolar nasal.

nama ‘man’
kofina ‘lung’
ʔaanna ‘milk’
sinda ‘urine’
ʔana ‘I’

(9) \(/s/\) is a voiceless alveolar fricative.

sinda ‘urine’
surra ‘rope’
sokitta ‘salt’
sona ‘nose’
sipla ‘iron’
pissa ‘flower’
ʔiska ‘star’
sessa ‘three’

(10) \(/l/\) is an alveolar lateral.

lakki ‘two’
lukta ‘foot’
latta ‘sun’
keltajta ‘baboon’
pulajta ‘cold (whether)’
puṣjaḷajta ‘dust’
ʔilta ‘eye’

(10) \(/r/\) is an alveolar trill.

ramajta ‘goiter’

roopa ‘rain’
ʔerpa ‘elephant’
tira 'liver'

(12) /ʃ/ is a palatal implosive.
   folta 'blind person'
   faâaa 'local beer'
   kaafâa 'money'
   firfa 'diarrhea'
   kurmuâa 'fish'

(13) /ɲ/ is a palatal nasal.
   nirfa 'hair'
   naapa 'enemy'
   naagynaa 'tomato'
   sekiuawwa 'vegetable'

(14) /ʃ/ is a voiceless palatal fricative.
   folki 'few'
   fîkreta 'razor'
   ʔîfâ 'he'
   pijâa 'water'
   hafla 'leaf'

(15) /tʃ/ is a voiceless palatal affricate; it is a very rare phoneme.
   natîfâa 'crocodile'
   ʔantfûfa 'saliva'

(16) /j/ is a palatal glide.
   jappa 'grass'
   joojta 'jackal'
   ðojira 'wood'
   ðajranta 'tiger'

(17) /k/ is a voiceless velar stop.
karitta  ‘belly’
kawsa  ‘chin, beard’
karda  ‘feather’
mookota  ‘frog’
amaaka  ‘snake’

(18) /ɬ/ is a uvular implosive.
dapana  ‘hold (in hand)’
dojira  ‘tree’
delpajta  ‘he-goat’
djiranta  ‘tiger’
karda  ‘feather’
secdl  ‘far’
hasa  ‘river’

(19) /ʔ/ is a voiceless glottal stop.
aanna  ‘milk’
aana  ‘I’
linno  ‘we’
saʔa  ‘cow’
sɔʔa  ‘meat’
leʔa  ‘moon’

(20) /h/ is voiceless pharyngeal fricative.
heni  ‘five’
haana  ‘fly (v.)’
diiha  ‘blood’
daha  ‘stone’
mahha  ‘name’
zehi  ‘six’

(21) /h/ is a voiceless glottal fricative.
harka  ‘hand’
The consonant description above shows that in Kussummiya all consonant phonemes occur in word initial and medial positions but not in word final position. Except the phoneme /tʃ/ which occurs only word medial position.

3.1.3. Consonant gemination

In Kussummiya, all consonants may appear geminate. Geminate consonants occur only in word medial position. That is, a geminate consonant may function as ambi-syllabic segments as coda of the preceding syllable and onset of the following syllable. The following are illustrative examples.

<table>
<thead>
<tr>
<th>Consonant</th>
<th>Word</th>
<th>Gloss</th>
<th>Consonant</th>
<th>Word</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>dippa</td>
<td>‘hundred’</td>
<td>/r/</td>
<td>surra</td>
<td>‘rope’</td>
</tr>
<tr>
<td>/ɓ/</td>
<td>ɓuɓa</td>
<td>‘egg’</td>
<td>/ʃ/</td>
<td>kaʃʃaa</td>
<td>‘a children’s game’</td>
</tr>
<tr>
<td>/t/</td>
<td>matta</td>
<td>‘head’</td>
<td>/ʃ/</td>
<td>haʃʃa</td>
<td>‘leaf’</td>
</tr>
<tr>
<td>/k/</td>
<td>lakki</td>
<td>‘two’</td>
<td>/ɡ/</td>
<td>faʃʃa</td>
<td>stick’</td>
</tr>
<tr>
<td>/m/</td>
<td>kammaa</td>
<td>‘behind, after’</td>
<td>/p/</td>
<td>naaŋŋa</td>
<td>‘tomato’</td>
</tr>
<tr>
<td>/w/</td>
<td>dawwija</td>
<td>‘herding’</td>
<td>/j/</td>
<td>faija</td>
<td>‘right hand’</td>
</tr>
<tr>
<td>/f/</td>
<td>taffataa</td>
<td>‘snatch’</td>
<td>/ɛ/</td>
<td>peedda</td>
<td>‘dispute’</td>
</tr>
<tr>
<td>/d/</td>
<td>hiddan</td>
<td>‘bundle’</td>
<td>/ʔ/</td>
<td>seʔʔe</td>
<td>‘this’</td>
</tr>
<tr>
<td>/n/</td>
<td>ʔanna</td>
<td>‘milk’</td>
<td>/h/</td>
<td>mahha</td>
<td>‘name’</td>
</tr>
<tr>
<td>/s/</td>
<td>sessa</td>
<td>‘three’</td>
<td>/h/</td>
<td>mehhi</td>
<td>‘shake’</td>
</tr>
<tr>
<td>/ɬ/</td>
<td>ɬafala</td>
<td>‘tree bark’</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Consonant gemination

Besides, consonant germination is phonemic. This can be learned from the examples below.

(22) a /p/ kappa ‘near’

kappa ‘wheat’
Geminate and non-geminate consonants make meaning distinctions. Moreover, gemination is represented by doubling a consonant.

3.1.4. Distribution of consonant phonemes

The distribution of consonant phonemes in a word initial, medial, geminate, preceding and following a consonant is presented below.

3.1.4.1. Stops (p, t, k, ?)

Stops occur in word initial and medial positions. Moreover, all stops geminate in intervocalic position and also they occur as a first member in a non-geminate cluster. Except the glottal stop /ʔ/ all the other stops occur as a second member in a non-geminate consonant cluster.

| initial | medial | geminate | -C | C-
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>/p/</td>
<td>para 'year'</td>
<td>kapaa 'near'</td>
<td>dippa 'hundred'</td>
<td>sapta 'wound'</td>
</tr>
<tr>
<td>/t/</td>
<td>tira 'liver'</td>
<td>huta 'dog'</td>
<td>matta 'head'</td>
<td>naatpa 'crocodile'</td>
</tr>
<tr>
<td>/k/</td>
<td>karitta 'belly'</td>
<td>maaka 'snake'</td>
<td>lakki 'two'</td>
<td>fikreta 'razor'</td>
</tr>
<tr>
<td>/ʔ/</td>
<td>?ana 'l'</td>
<td>saʔa 'cow'</td>
<td>seʔe 'this'</td>
<td>daʔta 'butter'</td>
</tr>
</tbody>
</table>

Table 5. Distribution of stops

3.1.4.2. Implosives (ɓ, ɗ, ʄ, ʛ)

Implosives occur in word initial and medial positions. Besides, all implosives may geminate in a word medial position. The implosives /ɓ/, /ɗ/ and /ʄ/ may occur as a first and second member in a non-
geminate cluster. However, the implosive /ʄ/ may not occur as a first member in a non-geminate cluster but it may occur as a second member in a non-geminate cluster.

<table>
<thead>
<tr>
<th>initial</th>
<th>medial</th>
<th>geminate</th>
<th>-C</th>
<th>C-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ɓ/</td>
<td>bə̀ba  ‘egg’</td>
<td>kaba  ‘canal’</td>
<td>bə̀ba  ‘egg’</td>
<td>hibta  ‘lip’</td>
</tr>
<tr>
<td>/ɗ/</td>
<td>də̞hə̀ ‘stone’</td>
<td>kudani  ‘ten’</td>
<td>hodə̞ta  ‘thorn’</td>
<td>mudkanhonta  ‘plant sp.’</td>
</tr>
<tr>
<td>/f/</td>
<td>foʃə̀a  ‘local beer’</td>
<td>kaʃə̀a  ‘money’</td>
<td>parəfə̀a  ‘type of crop’</td>
<td>—</td>
</tr>
<tr>
<td>/d/</td>
<td>də̞jə̀ra  ‘tree’</td>
<td>seɛə̀ ‘far’</td>
<td>laaɗə̞uta  ‘bread’</td>
<td>tololoɔsaa  ‘tickle’</td>
</tr>
</tbody>
</table>

*Table 6.* Distribution of implosives

3.1.4.3. Nasals (m, n, ɲ)

Nasals may occur in word initial and medial positions. All of them may geminate in word medial position. Moreover, except /ɲ/ all the other nasals may occur as a first member in a non-geminate cluster.

<table>
<thead>
<tr>
<th>initial</th>
<th>medial</th>
<th>geminate</th>
<th>-C</th>
<th>C-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/m/</td>
<td>mana  ‘house’</td>
<td>nama  ‘man’</td>
<td>tomma  ‘hoe’</td>
<td>taamta  ‘branch’</td>
</tr>
<tr>
<td>/n/</td>
<td>nama  ‘man’</td>
<td>ʔana  ‘I’</td>
<td>ʔaanna  ‘milk’</td>
<td>sində̞a  ‘urine’</td>
</tr>
<tr>
<td>/ɲ/</td>
<td>ɲirfa  ‘hair’</td>
<td>sekjə̀nwa  ‘vegetable’</td>
<td>ɲə呼唤na  ‘tomato’</td>
<td>—</td>
</tr>
</tbody>
</table>

*Table 7.* Distribution of nasals

3.1.4.4. Fricatives (f, s, ʃ, h, h)

Fricatives may occur in word initial and medial positions. Besides, all fricatives may geminate in intervocalic positions. They can also occur as first and second member in non-geminate cluster.
Wondwosen Tesfaye – Kussummiya phonology

Table 8. Distribution of fricatives

<table>
<thead>
<tr>
<th>Initial</th>
<th>Medial</th>
<th>Geminate</th>
<th>C-</th>
<th>C-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/f/</td>
<td>farta ‘horse’</td>
<td>ʔafuri ‘four’</td>
<td>taffaa ‘thighs’</td>
<td>lafta ‘bone’</td>
</tr>
<tr>
<td>/s/</td>
<td>surra ‘rope’</td>
<td>kaasa ‘horn’</td>
<td>ʔessē ‘there’</td>
<td>ʔiska ‘star’</td>
</tr>
<tr>
<td>/ʃ/</td>
<td>ʔifaa ‘he’</td>
<td>pifaa ‘water’</td>
<td>hafja ‘leaf’</td>
<td>kojkofa ‘comb of chicken’</td>
</tr>
<tr>
<td>/h/</td>
<td>heni ‘five’</td>
<td>diha ‘blood’</td>
<td>mahha ‘name’</td>
<td>mohna ‘rocky area’</td>
</tr>
<tr>
<td>/h/</td>
<td>harka ‘hand’</td>
<td>laha ‘ram’</td>
<td>mehhi ‘shake’</td>
<td>halhota ‘left (hand)’</td>
</tr>
</tbody>
</table>

Table 9. Distribution of affricate

3.1.4.5. Affricate (tʃ)

<table>
<thead>
<tr>
<th>Initial</th>
<th>Medial</th>
<th>Geminate</th>
<th>C-</th>
<th>C-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/tʃ/</td>
<td>—</td>
<td>fatʃfa ‘stick’</td>
<td>—</td>
<td>ʔantʃfa ‘saliva’</td>
</tr>
</tbody>
</table>

Table 10. Distribution of liquids

3.1.4.6. Liquids (l, r)

Liquids may occur in word initial and medial positions. They geminate in a word medial position and also they occur following and/or preceding a consonant in non-geminate cluster.

<table>
<thead>
<tr>
<th>Initial</th>
<th>Medial</th>
<th>Geminate</th>
<th>C-</th>
<th>C-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/l/</td>
<td>lakki ‘two’</td>
<td>pulajta ‘cold (weather)’</td>
<td>halla ‘kidney’</td>
<td>ʔilta ‘eye’</td>
</tr>
<tr>
<td>/r/</td>
<td>roopa ‘rain’</td>
<td>tira ‘liver’</td>
<td>surra ‘rope’</td>
<td>mardina ‘intestine’</td>
</tr>
</tbody>
</table>

Table 10. Distribution of liquids

The distribution of the affricate /tʃ/ is rare in the sense that it geminates in word medial position and also it occurs following a consonant in non-geminate cluster.
3.1.4.7. Glides (w, j)

Glides may occur in word initial and medial positions. They geminate in word medial position and also they occur preceding a consonant in a non-geminate cluster. However, glides do not occur as a final constituent in a non-geminate cluster.

<table>
<thead>
<tr>
<th>initial</th>
<th>medial</th>
<th>geminate</th>
<th>-C</th>
<th>C-</th>
</tr>
</thead>
<tbody>
<tr>
<td>/w/</td>
<td>waaɗa</td>
<td>‘God’</td>
<td>kawsa</td>
<td>‘beard’</td>
</tr>
<tr>
<td></td>
<td>‘kawsa</td>
<td>‘beard’</td>
<td>dawwijaɑ</td>
<td>‘herding’</td>
</tr>
<tr>
<td></td>
<td>aa</td>
<td>‘herding’</td>
<td>alawta</td>
<td>‘sister’</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
<tr>
<td>/j/</td>
<td>jappa</td>
<td>‘grass’</td>
<td>ḍạjira</td>
<td>‘wood’</td>
</tr>
<tr>
<td></td>
<td>‘jappa’</td>
<td>‘grass’</td>
<td>faijja</td>
<td>‘right (hand)’</td>
</tr>
<tr>
<td></td>
<td>‘jappa’</td>
<td>‘grass’</td>
<td>ajranta</td>
<td>‘tiger’</td>
</tr>
<tr>
<td></td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>—</td>
</tr>
</tbody>
</table>

Table 11. Distribution of glides

3.2. Vowels

In this section, vowel phonemes and their description, vowel length and vowel co-occurrence will be considered.

3.2.1. Vowel phonemes

Kussummiya has five short /i, e, a, o, u/ and five long /ii, ee, aa, oo, uu/ vowels. These vowels are identified based on the height of the tongue (high, mid and low) and the position of the tongue (front, central and back) during the production of a vowel phonemes.

<table>
<thead>
<tr>
<th>Front</th>
<th>Central</th>
<th>Back</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>i, ii</td>
<td>u, uu</td>
</tr>
<tr>
<td>Mid</td>
<td>e, ee</td>
<td>o, oo</td>
</tr>
<tr>
<td>Low</td>
<td>a, aa</td>
<td></td>
</tr>
</tbody>
</table>

Table 12. Vowel phonemes

(23) /i/ is a high front vowel.

ʔiska    ‘star’
piʃaa    ‘water’
lakki    ‘two’

(24) /e/ is a mid-front vowel.
\begin{itemize}
  \item \textit{hendi} ‘five’
  \item \textit{leʔa} ‘moon’
  \item \textit{heʔe} ‘you (sg.)’
\end{itemize}

(25) /a/ is a low central vowel.
\begin{itemize}
  \item \textit{ʔappa} ‘father’
  \item \textit{pata} ‘back’
  \item \textit{hiba} ‘lip’
\end{itemize}

(26) /u/ is a high back rounded vowel.
\begin{itemize}
  \item \textit{ʔunta} ‘grain, crop’
  \item \textit{surra} ‘rope’
  \item \textit{ʔajimu} ‘who’
\end{itemize}

(27) /o/ is a mid-back rounded vowel.
\begin{itemize}
  \item \textit{ʔohinta} ‘fence’
  \item \textit{soʔa} ‘cow’
  \item \textit{ʔinno} ‘we’
\end{itemize}

All short vowels occur in word medial and final positions. Most nouns end in the vowel /a/.

3.2.2. Vowel length

In Kussummiya, vowel length is phonemic in the sense that short and long vowels contrast in the same environment. The following are illustrative examples.

\begin{itemize}
  \item (28) a /i/ and /ii/
    \begin{itemize}
      \item \textit{pisa} ‘flower’
      \item \textit{piisa} ‘all’
    \end{itemize}
  \item b /e/ and /ee/
    \begin{itemize}
      \item \textit{hela} ‘age mate’
      \item \textit{heela} ‘boundary’
    \end{itemize}
  \item c /u/ and /uu/
    \begin{itemize}
      \item \textit{furaa} ‘key’
      \item \textit{fuuraa} ‘fear’
    \end{itemize}
  \item d /o/ and /oo/
\end{itemize}
ʃoraa ‘jumping’
ʃooraa ‘thin stick’

e /a/ and /aa/

saraa ‘looting’
saaraa ‘poem’

3.2.3. Vowel co-occurrences

The vowel sequences are shown in the table below. The table is presented in such a way that the left-most column occur preceding the vowels on the top row.

<table>
<thead>
<tr>
<th>/i/</th>
<th>/e/</th>
<th>/a/</th>
<th>/u/</th>
<th>/o/</th>
</tr>
</thead>
<tbody>
<tr>
<td>/i/</td>
<td>hittina ‘root’</td>
<td>ʔappile ‘other’</td>
<td>pʃaa ‘water’</td>
<td>—</td>
</tr>
<tr>
<td>/e/</td>
<td>ħeni ‘five’</td>
<td>ʔeʔe ‘you (sg)’</td>
<td>sessa ‘three’</td>
<td>ʔeruma ‘tallness’</td>
</tr>
<tr>
<td>/a/</td>
<td>laawi ‘green’</td>
<td>talteta ‘female goat’</td>
<td>latta ‘sun’</td>
<td>kaakurta ‘beehive’</td>
</tr>
<tr>
<td>/u/</td>
<td>muukitta ‘to sleep’</td>
<td>surra ‘rope’</td>
<td>huta ‘dog’</td>
<td>muukuta ‘frog’</td>
</tr>
<tr>
<td>/o/</td>
<td>ʃokki ‘few’</td>
<td>roope ‘to rain’</td>
<td>ʔojha ‘fodder’</td>
<td>ʔojunta ‘wetness’</td>
</tr>
</tbody>
</table>

Table 13. Vowel co-occurrences

Kussummiya may not allow cluster of non-identical vowels. But it may allow doubling of identical vowels which is technically termed as vowel length. The vowel phonemes may occur in word medial and final positions, but they may not occur in word initial position.

4. Phonotactics

Kussummiya allows a maximum of two consonant clusters. The non-geminate consonants appear in word medial position.

4.1. Stops as the first member of the cluster

Stops may occur as a first member of the cluster.

(29) a ʃapnaa ‘possession’
As can be observed from the above examples, in (29a), /p/ occurs preceding /n/ in ይการออกแบบ ‘possession,’ in (29b), /t/ occur preceding /ɲ/ in naatna ‘crocodile,’ in (29c), /k/ occurs preceding /m/ in takma ‘honey,’ in (29d, e), /ʔ/ occurs preceding /m/ in joʔmaa ‘grindstone’ and preceding /n/ in haʔnaa ‘rising.’ Similarly, in (29f, g), /p/ occurs preceding /s/ in ው OPSAA ‘light’ and preceding /ʃ/ in ዆_prefs ‘break (v.),’ in (29h, i), /ʔ/ occurs preceding /ʃ/ in teʔʃaa ‘elephantiasis,’ and preceding /s/ in kiʔsaa ‘fire-place,’ in (29j), /p/ occurs preceding /l/ in sipla ‘metal,’ in (29k, l) /k/ occurs preceding /l/ in dikleta ‘elbow’ and preceding /ɾ/ in ዆Prefs ‘razor.’ However, non-geminate cluster of stops may not be followed by implosives or affricate or glides. However, two non-geminate stops may occur in a cluster.

(30)  a  ዕཔል ‘wound’
      b  ውՏክለሑዕ ‘loom soil’

In (30), we can see that two non-geminate stops occur in a cluster. Particularly, in (30a), the bilabial voiceless stop /p/ occurs preceding the voiceless alveolar stop /t/ in ዕ팔 ‘wound.’ Similarly, in (30b) the voiceless alveolar stop /t/ occurs preceding the voiceless bilabial stop /p/ in ውՏክለሑዕ ‘looms soil.’

4.2. Implosives as the first member of the cluster

Implosives may occur as a first member in a non-geminate cluster of consonants as the following examples illustrate.

(31)  a  እሽታ ‘lip’
      b  ሳድካንከንታ ‘plant species’
      c  ዳትስ ‘hang’
In (31a) the bilabial implosive /ɓ/ occurs preceding the voiceless alveolar stop /t/ in hiɓta 'lip;' in (31b) the alveolar implosive /ɗ/ occurs preceding the voiceless velar stop /k/ in mudkanhanta 'plant species;' in (31c) the bilabial implosive /ɓ/ occurs preceding the voiceless palatal fricative /ʃ/ in siɓʃi 'hang;' in (31d, e) the velar implosive /ʛ/ occurs preceding the voiceless alveolar fricative /s/ in tololoʛaa 'tickle' and preceding the lateral /l/ in poɗła 'chief.'

4.3. Fricatives as the first member of the cluster

Fricatives may occur as a first member in a cluster of non-geminate consonants.

(32) a lafta ‘bone’
b ʔiska ‘star’
c koŋkoʃa ‘comb of a chicken’
d haʃhota ‘left hand’
e moŋna ‘rocky area’
f napaha ‘ear’
g pohmajta ‘chameleon’
h pahnaa ‘example’

In (32a) the voiceless labio-dental fricative /f/ occurs preceding the voiceless alveolar stop /t/ in lafta ‘bone’ and in (32b) the voiceless alveolar fricative /s/ occurs preceding the voiceless velar stop /k/ in iska ‘star.’ By the same token, in (32c, d), the voiceless palatal fricative /ʃ/ occurs preceding the voiceless velar stop /k/ in koŋkoʃa ‘comb of a chicken’ and preceding the voiceless glottal fricative /h/ in haʃhota ‘left hand;’ in (32e), the voiceless pharyngeal fricative /ħ/ occurs preceding the alveolar nasal /n/ in moŋna ‘rocky area;’ in (32f-h), the voiceless glottal fricative /h/ occurs preceding the voiceless alveolar stop /t/ in napaha ‘ear,’ preceding the bilabial nasal /m/ in pohmajta ‘chameleon,’ and preceding the alveolar nasal /n/ in pahnaa ‘example.’

4.4. Nasals as the first member of the cluster

Nasals may occur as a first member in non-geminate cluster as shown in the following examples.

(33) a hampirittta ‘bird’
b kanta ‘neighbor’
c kaankita ‘mule’
d sindaa ‘urine’
e faneala ‘splinter’
f dumduuma ‘forearm’
g konfa ‘short (cloth)’
h tansa ‘dance’
i hantufa ‘saliva’

In (33a) the bilabial nasal /m/ occurs preceding the voiceless bilabial stop /p/ in hampiritta ‘bird;’ in (33b-e) the alveolar nasal /n/ occur preceding the voiceless alveolar stop /t/ in kanta ‘neighbor;’ preceding the voiceless velar stop /k/ in kaankita ‘mule;’ preceding alveolar implosive /ɗ/ in sindaa ‘urine’ and preceding the uvular implosive /ʛ/ in faneala ‘splinter.’ In (33f) the bilabial nasal /m/ occurs preceding the alveolar implosive /ɗ/ in dumduuma ‘forearm’; in (33g, h) the alveolar nasal /n/ occurs preceding the voiceless labio-dental fricative /f/ in konfa ‘short (cloth)’ and preceding the voiceless alveolar fricative /s/ in tansa ‘dance;’ and in (33i) the alveolar nasal /n/ occurs preceding the affricate /tʃ/ in hantufa ‘saliva.’

4.5. Lateral as the first member of a cluster

Lateral can occur as a first member in non-geminate cluster as the following examples illustrate.

(34)

a kilpa ‘knee’
b talteta ‘she-goat’
c alkitta ‘sisal’
d baalbaala ‘potbellied’
e ?ipalda ‘it is wide’
f telajita ‘lizard’
g holma ‘neck’
h holfa ‘earring’
i olsaa ‘dream’
j malhaa ‘flood’

In (34a-j), the alveolar /l/ occurs preceding the voiceless bilabial stop /p/ in kilpa ‘knee,’ preceding the alveolar /t/ in talteta ‘she-goat,’ preceding the voiceless velar /k/ in alkitta ‘sisal,’ preceding the bilabial
implosive /ɓ/ in baaltala ‘potbellied,’ preceding the alveolar implosive /ɗ/ in ñipalá ‘it is wide,’ preceding the uvular implosive /ʛ/ in telalá ‘lizard,’ preceding the bilabial nasal /m/ in holma ‘neck,’ preceding a voiceless labio-dental /f/ in holfa ‘earning,’ preceding the alveolar fricative /s/ in olsaa ‘dream,’ and finally preceding the voiceless pharyngeal fricative /h/ in malhaa ‘flood.’

4.6. Trill as the first member of a cluster

A trill may occur as the first member in non-geminate cluster as the examples below illustrate.

(35) ñerpa ‘elephant’
farta ‘horse’
murkufa ‘fish’
ñerba ‘lie’
tardaa ‘ash’
furfa ‘diarrhea’
mardinaa ‘intestine’
ñurmala ‘market’
ñirna ‘gum’
nirfaa ‘hair’
marsaa ‘buttock’
harharjata ‘warthog’

In (35), the trill /r/ occurs preceding the voiceless bilabial stop /p/ in ñerpa ‘elephant,’ preceding the voiceless alveolar stop /t/ in farta ‘horse,’ preceding the voiceless velar stop /k/ in murkufa ‘fish,’ preceding the bilabial implosive /ɓ/ in ñerba ‘lie,’ preceding the alveolar implosive /ɗ/ in tardaa ‘ash,’ preceding the palatal implosive /ʛ/ in furfa ‘diarrhea,’ preceding the uvular implosive /ʛ/ in mardinaa ‘intestine,’ preceding the bilabial nasal /m/ in ñurmala ‘market,’ preceding the palatal nasal /ɲ/ in ñirna ‘gum,’ preceding the voiceless labio-dental fricative /f/ in nirfa ‘hair,’ preceding the voiceless alveolar fricative /s/ in marsaa ‘buttock,’ and finally preceding the voiceless pharyngeal fricative /h/ in harharjata ‘warthog.’

4.7. Glides as the first member of the cluster

4.7.1. The glide /w/ as the first member of a cluster

The glide /w/ may occur as the first member in non-geminate cluster as shown in the examples below.
In (36), the glide /w/ occurs preceding the voiceless bilabial stop /p/ in *kawpa* ‘besides,’ preceding the voiceless alveolar stop /t/ in *ʔalawta* ‘sister,’ preceding the voiceless velar stop /k/ in *kawkawa* ‘jaw,’ preceding the alveolar implosive /ɗ/ in *hawdatta* ‘clan name,’ preceding the palatal implosive /ʄ/ in *fiwfiwa* ‘chicken,’ preceding the alveolar nasal /n/ in *tawna* ‘bell,’ preceding the voiceless alveolar fricative /s/ in *kawsa* ‘beard,’ preceding the flap /r/ in *dawraa* ‘prohibition,’ and finally preceding the lateral /l/ in *hawla* ‘grave, tomb.’

4.7.2. The glide /j/ as the first member of the cluster

The examples below show when the glide /j/ occurs as the first member in non-geminate cluster.

In (37), the palatal glide /j/ occurs preceding the voiceless velar stop /k/ in *ʔajkitta* ‘grass species,’ preceding the alveolar implosive /ɗ/ in *hajdaa* ‘fried meat,’ preceding the bilabial nasal /m/ in *dejmatta* ‘irony,’ preceding the alveolar nasal /n/ in *hajnaʔtaa* ‘thread,’ preceding the voiceless alveolar fricative /s/ in *kalatejsata* ‘praise,’ preceding the voiceless glottal fricative /h/ in *hajhita* ‘guest,’ preceding the lateral /l/ in *sajleeta* ‘mane,’ and preceding the flap /r/ in *ʄojra* ‘tree.’
From the preceding discussion on a consonant sequence, we observe that a consonant sequence in Kussummiya is made up of two non-geminate consonants. Consonant sequence occurs only in word medial position. The consonants that occur in the coda position are stops, implosives, fricatives, nasals, liquids and glides.

<table>
<thead>
<tr>
<th>Stems</th>
<th>Stems</th>
<th>Implosives</th>
<th>Fricatives</th>
<th>Affricate</th>
<th>Nasals</th>
<th>Liquids</th>
<th>Glides</th>
</tr>
</thead>
<tbody>
<tr>
<td>p</td>
<td>t</td>
<td>k</td>
<td>?</td>
<td>b</td>
<td>d</td>
<td>f</td>
<td>c</td>
</tr>
<tr>
<td>t</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>k</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b</td>
<td>x</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>f</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 14. Phonotactic grid

From the above table, we may learn that not all consonants combine in a sequence in Kussummiya. For example, a stop may be followed by another stop or a fricative or a nasal or a lateral. However, a stop may not be followed by an implosive or an affricate or a glide. Implosives may be followed by stops, fricatives and liquids in non-geminate clusters of consonants. But implosives may not be followed by...
other implosives, affricate and glides. Fricatives may be followed by a stops or fricatives or nasals. Fricatives, however, may not be followed by implosives, affricate, liquids and glides. Affricate, in Kussummiya, may not occur as a first member but it may come as second member in a cluster only with a nasal. Nasals may be followed by a stop, or an implosive, or an affricate or a fricative but they may not be followed by a liquid or a glide. Liquids may be followed by a stop or an implosive or a fricative or a nasal but they may not be followed by an affricate or a glide. Glides may be followed by stops or implosives or fricatives or nasals or liquids but not with an affricate or another glide.

From the preceding discussion on non-geminate cluster of consonants we can make the following generalization. Sonorants make more non-geminate consonant cluster than obstruents. This is because, obstruent’s may allow stops, fricatives, nasals and liquids as the second member, whereas sonorant’s allow stops, implosives, fricatives, affricate, nasals and liquids as their second member in a cluster.

5. Syllable Structure

In this section, syllable types, syllable internal phonotactics, syllable profiles of nouns and verbs will be considered.

5.1. Syllable types

Clements and Keyser (1983) classify the syllable structure of world languages into four canonical types. They argue that languages of the world can fall into one of the four types. The four canonical types are presented in 38 below.

(38) 

<table>
<thead>
<tr>
<th>Type</th>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type I</td>
<td>CV</td>
</tr>
<tr>
<td>Type II</td>
<td>CV, V</td>
</tr>
<tr>
<td>Type III</td>
<td>CV, CVC</td>
</tr>
<tr>
<td>Type IV</td>
<td>CV, V, CVC, VC</td>
</tr>
</tbody>
</table>

When we consider the syllable structure of Kussummiya in light of the above four canonical types, it seems that Kussummiya falls into Type III.

A syllable that may contain a consonant in its coda is called a closed syllable whereas a syllable that may not contain a consonant in its coda is called an open syllable. Kussummiya does not allow neither onset nor coda cluster. Thus, geminate consonants occur as coda of the preceding and onset of the following syllables. There are four types of syllables as the following examples illustrate.
Based on the above data the following syllable template can be drawn for Kussummiya.

Figure 1. Syllable template

Kussummiya has a CV syllable pattern. In this speech variety, onset and nucleus are obligatory and coda is optional. The nucleus may contain either a long or short vowels. Similar, patterns of syllable can be observed in Konsoid languages such as Konso (Ongaye 2013), Diraytata (Wondwosen 2006) and Mosittacha (Wondwosen 2015, Yibeltal 2020 and Harlow 2015).

5.2. Syllable patterns in nouns

The most common syllable pattern in nouns is CV:

(40)  
ma-na  ‘house’  
na-ma  ‘man’  
ʔa-fa  ‘mouth’  
ti-ra  ‘liver’  
so-na  ‘nose’  
ku-ta  ‘dog’  
sa-ʔa  ‘cow’  
le-ʔa  ‘moon’  
lə-ha  ‘ram’  
ha-ɗa  ‘river’
The other common syllable pattern is CVC-CV structure:

(41)  

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>har-pa</td>
<td>'elephant'</td>
</tr>
<tr>
<td>?am-ba</td>
<td>'breast'</td>
</tr>
<tr>
<td>hib-ta</td>
<td>'lip'</td>
</tr>
<tr>
<td>kaw-sa</td>
<td>'beard'</td>
</tr>
<tr>
<td>far-ta</td>
<td>'horse'</td>
</tr>
<tr>
<td>fit-la</td>
<td>'hole'</td>
</tr>
<tr>
<td>tak-ka</td>
<td>'one'</td>
</tr>
<tr>
<td>pis-sa</td>
<td>'flower'</td>
</tr>
<tr>
<td>sup-ra</td>
<td>'rope'</td>
</tr>
<tr>
<td>tak-ka</td>
<td>'one'</td>
</tr>
<tr>
<td>haf-sa</td>
<td>'leaf'</td>
</tr>
<tr>
<td>mah-ha</td>
<td>'name'</td>
</tr>
<tr>
<td>mat-ta</td>
<td>'head'</td>
</tr>
<tr>
<td>ses-sa</td>
<td>'three'</td>
</tr>
</tbody>
</table>

Another common syllable pattern in nouns is CVV(C)-CV structure:

(42)  

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>maa-ka</td>
<td>'snake'</td>
</tr>
<tr>
<td>waa-qa</td>
<td>'God'</td>
</tr>
<tr>
<td>foo-la</td>
<td>'warm (weather)'</td>
</tr>
<tr>
<td>daa-ta</td>
<td>'butter'</td>
</tr>
<tr>
<td>roo-pa</td>
<td>'rain'</td>
</tr>
<tr>
<td>moon-ta</td>
<td>'sky'</td>
</tr>
<tr>
<td>?aan-na</td>
<td>'milk'</td>
</tr>
<tr>
<td>joqj-ta</td>
<td>'jakal'</td>
</tr>
</tbody>
</table>

The following tri-syllabic nouns with the CV(C)-CV(C) - CV structures have been observed:

(43)  

<table>
<thead>
<tr>
<th>Word</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>?aw-ra-ra</td>
<td>'throat'</td>
</tr>
<tr>
<td>?a-law-ta</td>
<td>'sister'</td>
</tr>
<tr>
<td>hof-de-ta</td>
<td>'thorn'</td>
</tr>
<tr>
<td>so-kit-ta</td>
<td>'salt'</td>
</tr>
<tr>
<td>kel-taj-ta</td>
<td>'baboon'</td>
</tr>
</tbody>
</table>
Regarding quadric-syllabic nouns, they are a few in number in Kussummiya:

(44)  
\begin{align*} 
\text{puj-ja-laj-ta} & \quad \text{‘dust’} \\
\text{se-ki-ɲaw-wa} & \quad \text{‘vegetable’} \\
\text{ʔal-la-ʔit-ta} & \quad \text{‘vulture’} \\
\text{ko-kor-re-ta} & \quad \text{‘guinea fowl’} 
\end{align*}

5.3. Syllable patterns in verb roots

In verb roots, there are five syllable patterns: CVC- (the most common), CVCC-, CVVC-, CV-CV(C)- and CV(C)-CVV(C):

\begin{align*}
\text{CVC-} & \quad \text{dɔt-} \quad \text{‘to dig’} \\
& \quad \text{dam-} \quad \text{‘to eat’} \\
& \quad \text{dur-} \quad \text{‘to cut’} \\
& \quad \text{daw-} \quad \text{‘to hit’} \\
& \quad \text{toj-} \quad \text{‘to see’} \\
& \quad \text{muk-} \quad \text{‘to sleep’} \\
& \quad \text{tak-} \quad \text{‘to swim’} \\
& \quad \text{luk-} \quad \text{‘to suck’} \\
\text{CVCC-} & \quad \text{ʔukk-} \quad \text{‘to drink’} \\
& \quad \text{kull-} \quad \text{‘to enter’} \\
& \quad \text{pidd-} \quad \text{‘to buy’} \\
& \quad \text{ʔerk-} \quad \text{‘to send’} \\
& \quad \text{dink-} \quad \text{‘to kiss’} \\
\text{CVVC-} & \quad \text{tooj-} \quad \text{‘to die’} \\
& \quad \text{fuur-} \quad \text{‘to fear’} \\
& \quad \text{dɑaf-} \quad \text{‘to give’} \\
& \quad \text{pooj-} \quad \text{‘to cry’} \\
\text{CV-CV(C)-} & \quad \text{da-kay-} \quad \text{‘to hear’} \\
& \quad \text{de-ham-} \quad \text{‘to advise’} \\
\text{CV(C)-CVV(C)-} & \quad \text{dɑ-niin-} \quad \text{‘to bite’}
\end{align*}
6. Phonological processes

The phonological processes discussed here are: insertion, deletion, devoicing, spirantisation, assimilation and metathesis. In what follows we shall take up each in turn.

6.1. Insertion

The epenthetic vowel [i] is inserted to break the impermissible consonant cluster as in the examples below.

(45) /iʔakk- + -t + -e/ \rightarrow [iʔakkite]

see - 3FS - PRF 'she saw'

/ipidd- + -t + -e/ \rightarrow [ipiddite]

buy- 3FS - PRF 'she bought'

In (45), the epenthetic vowel [i] is inserted, when the feminine marker morpheme -t is suffixed on the verb roots iʔakk ‘see’ and ipidd ‘buy’ as in iʔakkite ‘she saw’ and ipiddite ‘she bought.’ Similarly, a sequence of two non-identical vowels is not allowed in Kussummiya. Thus, in order to break the impermissible vowel sequence, the glottal stop [ʔ] or the glide [j] is inserted:

(46) /Datikko-e ʔana idaw-e/ \rightarrow [datikkoʔe ʔana idawe]

Datikko-NOM I hit-PRF 'Datikko hit me'

/?jeete-e ʔana idaw-t-e/ \rightarrow [ʔjeeteʔe ʔana idaw-t-e]

she-NOM I hit-3FS-PRF 'she hit me'

/nama-e ito-e/ \rightarrow [namaʔe itoje]

man-NOM die-PRF 'a man died'

In (46) the glottal stop [ʔ] is inserted before the nominative marker morpheme -e as shown in the phonetic forms while in the last example the glide /j/ is inserted on the verb root preceding the aspect marker morpheme -e.
6.2. Deletion

Deletion refers to the loss of a sound in a certain defined context. In other words, it is the omission of a certain sound in a certain context. Consider the following examples.

(47) /huta + -ada/ → [huta:da] ‘dogs’
/okotta + -awwa/ → [okottawwa] ‘cows’
/horma + -da/ → [hormada] ‘oxen’

In (47), the base final vowel [a] is deleted when a plural suffix is attached to it.

6.3. Devoicing

In Kussummiya, implosives are devoiced when they occur geminate. Devoicing of geminate implosives have also been observed in Konso (see Ongaye 2013: 40).

(48) /ɓuɓɓa/ → [ɓuɓ̥ɓ̥a] ‘egg’
/kuddeeta/ → [kuddeeta] ‘thorn’
/kaaffjaa/ → [kaaffja] ‘dispute’
/pëeddàa/ → [peeɗɗa] ‘a children game’

However, non-geminate implosives are not devoiced:

(49) ɗorjanta ‘tiger’
folta ‘blind person’
사회a ‘blood’

6.4. Spirantisation

In Kussummiya, the voiceless bilabial stop /p/ becomes a voiceless bilabial fricative [ɸ] between vowels:

(50) /dápana/ → [ɗafana] ‘hold (in hand)’
/roopha/ → [roofa] ‘rain’
/ʔarrapa/ → [ʔarrafa] ‘tongue’
/hupata/ → [hufata] ‘tortoise’

It is also spirantised following a resonant consonant:

(51) /sipla/ → [siﬂa] ‘metal’
/harpa/ → [harɸa] ‘elephant’
/ʔerpa/ → [ʔerɸa] ‘lie’
/ɮolpajta/ → [ɮolɸajta] ‘he-goat’
/kilpa/ → [kilɸa] ‘knee’

Besides, the bilabial implosive [ɓ] may occur spirantised in a non-geminate cluster preceding the consonant [t] consider the following examples:
(52) /hiɓta/ → [hiɸta] ‘lip’
 /hoɓta/ → [hoɸta] ‘shoe’

6.5. Assimilation

Assimilation is a process by which a consonant becomes more like its neighbor in point or manner of articulation or both. In Kussummiya, assimilation happen when the preceding consonant becomes more like the following consonant or vice versa in point or manner of articulation or both. In a consonant sequence, when the following consonant becomes more like the preceding consonant it is called progressive assimilation and when the preceding consonant becomes more like the following consonant it is called regressive assimilation but in Kussummiya progressive assimilation is very rare. Moreover, assimilation could be complete or partial. The following examples illustrate complete assimilation.

(53) a /ʔin- + -lel + -e / → [ʔillele] I-tell-PRF ‘I told’
 b /ʔin- ← wat + -e/ → [ʔiwwate] I-roast- PRF ‘I roasted’

In (53a), the alveolar nasal /n/ completely assimilates to the following lateral sound [l] in (53a) and in (53b) to the following glide sound [w].

As to the partial assimilation, consider the examples in (54):

(54) /hanʃuʃaa/ → [hanʃufaa] ‘saliva’
 /konʃa/ → [konʃa] ‘short’
 /kaankita/ → [kaaŋkita] ‘mule’
In (54) the alveolar nasal /n/ becomes a palatal nasal /ɲ/ preceding the palatal implosive /ʄ/, while in (54), it becomes /ŋ/ preceding the labiodentals sound /f/, and it becomes /ŋ/ preceding the voiceless velar stop /k/.

The voiceless velar stop /k/ is phonetically a voiced [g] in the environment following a voiced consonant:

(55) /dikla/ → [digla] ‘elbow’
/?ajkitta/ → [ʔajgitta] ‘grass species’
/?alkitta/ → [ʔalgitta] ‘sisal’
/murkufa/ → [murgu/fa] ‘fish’
/kaankita/ → [kaŋɡita] ‘mule’

Similarly, the voiceless bilabial stop /p/ becomes phonetically voiced after a nasal consonant:

(56) /hampiritta/ → [hambiritta] ‘bird’
/tampoota/ → [tamboota] ‘tobacco’
/timaa/ → [timbaa] ‘drum’

6.6. Metathesis

Metathesis occurs in some words that contain non-geminate consonant clusters. Words that allow metathesis are limited in number. They require the alveolar later /l/ to be either the first or the second member in a consonant cluster. The speaker may show preference in the use of one form from the other. For example, in (57) below the variants listed in the left of the arrow are preferred to those in the righ of the arrow.

(57) a /kilpa/ → kipla ‘knee’
b /silpa/ → sipla ‘iron, metal’
c /ʔilkitta/ → ʔiklitta ‘tooth’
d /ʔalkitta/ → ʔaklitta ‘sisal’
e /qolfaa/ → qoflaa ‘bark (of tree)’

7. Conclusion

Kussummiya has 21 consonant phonemes. That is, four stops (p, t, k, ?), four implosives (ɓ, d, ɗ,ʄ), three nasals (m, n, ɲ), five fricatives (f, s, ʃ, ħ, h), one affricate (tʃ), two liquids (l, r) and two glides (w, j). Except the affricate (tʃ) all consonants occur in word initial and medial positions but not in word final
position. Moreover, all consonants may geminate. However, gemination may occur in word medial position only. Thus, geminate consonant may function as ambi-syllabic segments as coda of the preceding syllable and onset of the following syllable. Regarding the vowel phonemes, there are five short (i, e, a, o, u) and five long (ii, ee, aa, oo, uu) vowels. All short vowels occurs in a word medial and final positions. Kussummiya may not allow two non-identical vowels in a sequence.

Consonant sequence, in Kussummiya, is made up of two non-geminate consonants. Consonant sequence may occur only word-medially. The consonants (n, f and tf) may not occur as first member in non-geminate cluster. The consonants that occur in the coda position are stops, implosives, fricatives, nasals, liquids and glides.

The syllable structure of Kussummiya allow neither onset nor coda cluster. There are four types of syllables: CV, CVV, CVVC and CVC. The syllable structures in noun consists of: CV-CV, CVC-CV, CVV(C)-CV, CV(C)- CV (C)- CV and CV (C)- CV(C )-CV-CV (C ). The following syllable structure is observed in verb roots: CVC-, CVC-CV-, CVVC-, CV-CV(C )- and CV(C )-CVV(C ).

Regarding the phonological processes, insertion, deletion, devoicing, spirantisation, assimilation and metathesis have been discussed. The epenthetic vowel [i'] is inserted between the verb root that ends in double consonants and a suffix that begins in a consonant. Moreover, the glottal stop [ʔ] or the glide [j] is inserted to break a sequence of two non-identical vowels. The final vowel of the base may be deleted when a suffix beginning with a vowel is attached to a base. In Kussummiya, implosives are devoiced when they geminate. Moreover, the voiceless bilabial stop /p/ becomes a voiceless labiodentals fricative [ɸ] in intervocalic or when it occurs preceding a resonant consonant.

In Kussummiya, progressive assimilation is rare whereas regressive assimilation is the common type of assimilation. The alveolar nasal /n/ becomes a palatal nasal [ɲ] preceding the palatal implosive /f/, it becomes [ŋ] preceding /f/, it becomes [ŋ] preceding /k/. Similarly, the voiceless bilabial stop /p/ becomes a voiced bilabial stop [b] following a nasal consonant. The voiceless velar stop /k/ becomes a voiced velar stop [g] following a voiced consonant.

Finally, metathesis changes /lp/ into /pl/, as in kilpa becoming kipla ‘knee.’

Symbols and abbreviations

<table>
<thead>
<tr>
<th></th>
<th>First Person</th>
<th></th>
<th>Second Person</th>
<th></th>
<th>Third Person</th>
<th></th>
<th>Feminine</th>
<th></th>
<th>Singular</th>
<th></th>
<th>Consonant</th>
<th></th>
<th>Vowel</th>
<th></th>
<th>Perfective</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>First Person</td>
<td></td>
<td>Second Person</td>
<td></td>
<td>Third Person</td>
<td></td>
<td>Feminine</td>
<td></td>
<td>Singular</td>
<td></td>
<td>Consonant</td>
<td></td>
<td>Vowel</td>
<td></td>
<td>Perfective</td>
</tr>
</tbody>
</table>

44
M  Masculine  NOM  Nominative
PL  Plural  →  the constituent before the arrow is changed into ...

References


__________________________

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