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Meru Dialects: The Linguistic Evidence

Fridah Erastus KANANA
Kenyatta University, Kenya

ABSTRACT

This paper seeks to describe some linguistic features of six dialects of the so-called Meru group. All the six are found on a geographical continuum and they are mutually intelligible. The argument in this paper is that the linguistic features, e.g. phonological, morphological and lexical systems of dialects, are largely responsible for reduced degrees of intelligibility. Dialect clusters within a given geographical area exhibit common phonological characteristics for that particular cluster. Besides this sharing of phonological characteristics, there exist features that are peculiar to individual dialects. That is, there are idiosyncratic features inherent in a given dialect that set it off from the other dialects in the same cluster. The existences of these peculiar features, therefore, enable us to draw dialect boundaries from a phonological point of view. Morphological features as well as lexical differences that are unique to one dialect also provide a firm basis for drawing linguistic boundaries. The total of these diversities in unity constitute a language continuum. The dialects maintain individual characteristics, though some may seem simple, to set them off from one another.

Keywords: *dialectology, phonology, morphology, lexicon.*

1. INTRODUCTION

It is a common phenomenon that dialect clusters within a given geographical area tend to be more intelligible amongst each other than dialects that are more distant, even though they belong to the same language. This has made it difficult for many researchers who have attempted to draw linguistic boundaries. For instance, what some scholars have grouped as different languages has been questioned by other scholars as to whether these are separate languages or simply dialect clusters; Sukuma/Nyamwezi and Zulu/Xhosa are examples of such cases. Other examples of such clusters include: Kikuyu, Luhya, Kalenjin, Pokomo and Mijikenda languages in Kenya.

"Meru", which is regarded here as another cluster, has for a long time been used as an umbrella term by colonial administrators to embrace the whole population found north of River Thuci to Nyambene Range, between Mt. Kenya in the west and the Upper Tana River in the east. However, Europeans who had settled in this region did not regard all the linguistic groups as Meru. For instance, Fadiman (1973) says that before the colonial era, the name Meru referred only to five of the present nine sections; Imenti, Igembe, Tigania, Miutine and Igoji. British administrators chose to include the Tharaka, who live

in the adjoining Eastern Plains, and later the Mwimbi, Muthambi and Chuka who border the Meru to the south.

The six dialects that will be the focus of our discussion are Imenti, which is the most dominant group, Tharaka, Igoji, Mwimbi, Muthambi and Chuka. Muthambi and Mwimbi will be, in some cases, categorised as Upper and Lower Muthambi (U.M and L.M respectively); and Upper and Lower Mwimbi (U.MW and L.MW respectively) where necessary. There are instances where clear-cut sub-dialects emerge with reference to certain features. Upper Muthambi borders Chuka and Lower Muthambi borders Lower Mwimbi geographically. These dialects (Imenti, Tharaka, Igoji, Mwimbi, Muthambi and Chuka) were earlier defined by Möhlig (1974, 1980) but our findings do not always agree with Möhlig's, and therefore we find it necessary to provide new data to define these dialects and sub-dialects.

2. THE SOUND SYSTEMS

The dialects mentioned above are phonologically closely related. All of them except Chuka have basically the same consonant and vowel system. Chuka varies slightly in the consonant system; this group does not have a palatal fricative /ʝ/ and a voiceless bilabial stop /ɒ/.

The sound systems are as follows:

Table 1. *The Consonant System of Imenti, Igoji, Mwimbi, Muthambi & Tharaka*.

	Bilabial	Dental	Alveolar	Palatal	Velar
Plosive	p b		t (d)	c (ɟ)	k g
"Trill"			r		
Fricative	(β)	ð		ʝ	(ɣ)
Semi-vowel	(w)			(y)[1]	
Nasal	m		n	ɲ	ŋ

Table 2. *The Consonant System of Chuka*.

	Bilabial	Dental	Alveolar	Palatal	Velar
Plosive	b		t (d)	c ɟ	k g
"Trill"			r		
Fricative	(β)	ð			(ɣ)
Semi-vowel	(w)			(y)	
Nasal	m		n	ɲ	ŋ

All the dialects utilise five places of articulation. These places of articulation are: bilabial, dental, alveolar, palatal and velar. In terms of manners of articulation, the dialects have four of them, namely: stops, fricatives, a liquid and glides. The stops and fricatives are in opposition, hence some consonants

[1] In this paper we use the symbol /y/ to represent the palatal glide and /ʝ/ to represent the voiced palatal fricative.

are enclosed in brackets. The use of brackets for various stops and the fricative /β/ and /ɣ/ shows some kind of opposition. This means the stops are in opposition with fricatives articulated at the same place. However, the brackets enclosing the glides do not show an opposition. They simply show that the glides are more like vowels and are not consonants as such, hence some scholars prefer to call them semivowels. All stops can occur in nasal environments, that is to say they can have a nasal prefix (e.g. words in noun class 9/10) or they can be prenasalised. Prenasalised stops occur word medially. The voiceless stops may be found in non nasal environments, especially intervocalically where the stop is sometimes used as a free variant alongside other free variants that speakers use. The voiceless palatal stop is such an example. Intervocalically or word initially stops weaken to continuants.

The vowel system is identical in all the dialects. They have a seven vowel system which includes long and short vowels. There are phonemic and phonetic long vowels. The phonemic ones occur stem medially or finally and phonetic long vowels mostly occur stem initially. Phonetic long vowels are conditioned, among others, by the morphological characteristics of the word, such as morpheme or syllable boundaries. In addition, the morpho-phonological processes operating in these dialects are the same except in very few cases. This implies most morpho-phonological rules are also similar.

The vowels are:

	FRONT	BACK
HIGH	i iː	u uː
	e eː	o oː
	ɛ ɛː	ɔ ɔː
LOW	a aː	

3. Morpho-Phonological Features that Distinguish the Dialects

In this section we will endeavour to clearly exemplify the phonetic-phonological features and some morpho-phonological features that differentiate the dialects.

3.1 Phonetic Realisation of a Dental Fricative /ð/ as an Alveolar Stop /d/ or an Alveolar Tap /ɾ/ in Muthambi, Mwimbi and Igoji

While all continuants strengthen after nasals, the dental fricative remains unchanged in most cases among the dialects, e.g.

Table 3. *Change of the Voiced Inter-Dental Fricative /ð/ to a Voiced Alveolar Stop [d] or Voiced Alveolar Tap [ɾ] in Muthambi, Mwimbi and Igoji.*

IMENTI	THARAKA	CHUKA	MUTHAMBI	MWIMBI	IGOJI	GLOSS
-	-	n.ðikaði	n.**d**ikaɾi, n.**d**ikaði	mo.ɾikaði, n.**d**ikaði,n.ðikaði	n.ðikaði, n.**d**ikaði	*lizard(s)*
e.kɛða	e.kɛða	e.kɛða	e.kɛða, e.kɛ**d**a, e.kɛɾa	e.kɛða,e.kɛ**d**a, e.kɛɾa	e.kɛða	*harvest*
ro.ðiŋgɔ/ n.ðiŋgɔ	ro.ðiŋgɔ/ n.ðiŋgɔ	ro.ðiŋgɔ/ n.ðiŋgɔ	ro.ðiŋgɔ, ro.**d**iŋgɔ/ n.ðiŋgɔ, n.**d**iŋgɔ	ro.ðiŋgɔ/ n.ðiŋgɔ, n.**d**iŋgɔ	ro.ðiŋgɔ/ n.ðiŋgɔ	*wall(s)*
o.ðio	o.ðio	o.ðio	o.ɾio, o.ðio	o.ðio	o.ɾio, o.ðio	*face*
_	ko.ðii	ko.ðie	ko.ɾii	ko.ðii	ko.ðii	*to go*
ko.ði:taŋga	ko.ði:taŋga[2]	ko.ði:taŋga	ko.ði:taŋga, ko.ɾi:taŋga	ko.ði:taŋga, ko.**d**i:taŋga	ko.ði:taŋga	*to accuse*
ro.ðea/ n.ðea	ro.ðea/ n.ðea	ro.ðea n.ðea	ro.ðea, ro.**d**ea/ n.**d**ea	ro.ðea, ro.**d**ea/ n.**d**ea	ro.ðea/ n.ðea	*cheek(s)*
-	e.ðiðina	e.ðiðina, n.ðiðina/ ma.ðiðina	n.ðiɣinɔ, n.**d**iɣinɔ	n.ðiɣinɔ/ ma.ɾiɣinɔ	n.ðiɣinɔ, n.**d**iɣinɔ/ ma.ðiðinɔ	*sweat(s)*
n.ðɔni	n.ðɔni	n.ðɔni	n.ðɔni, n.**d**ɔni	n.**d**ɔni	n.ðɔni	*shame*
n.ðuraku	n.ðuraku	n.ðuraku	n.ðuraku, n.**d**uraku	n.ðuraku, n.**d**uraku	n.ðuraku	*soldier ant*
kw.a:ðimora	kw.a:ðimora	kw.a:ðimora	kw.a:ðimora	kw.a:ðimora	kw.a:ðimora, kw.a:ɾimora	*to sneeze*

One hypothesis that can be put forward to account for the exception of the dental fricative from the continuant strengthening process is based on a universal language tendency called Humboldt's universal or the principle of one form one meaning (Vennemann 1972; Anttila 1972). If one considers the cavity features proposed by Chomsky and Halle (1968), the sound /ð/ is [+coronal, +anterior]. This means the blade of the tongue is raised towards the front teeth, the alveolar ridge or the hard palate [+coronal]; and in the production of anterior sounds, the main obstruction of the airstream is at a point no farther back in the mouth than the alveolar ridge (cf. Katamba 1989: 44). If the dental fricative then hardens to a stop, one would expect the resultant stop to be [d] which is also [+coronal, +anterior]. The alveolar stop [d] is the non-continuant closest to /ð/. This would be dependent on the symmetry in these dialects whereby a continuant strengthens to a non-continuant at the same point of articulation or the one closest to its point of articulation. The paradigm thus generates symmetry as follows: [β ⟶ b], [r ⟶ d], [ʝ ⟶ ɟ], [ɣ ⟶ g].

If the observation above is true, then to create a symmetrical pattern whereby a continuant becomes the non-continuant closest to it, [ð ⟶ d] would be the expected direction of change. However, this change would result in a phonetic merger; /r/ and /ð/ would be realised as [d]. Such a merger would consequently lead to homophony, thus creating ambiguity in the language.

A situation where the two phonemes merge violates Humboldt's principle of one form one meaning. It may be the case that hardening of the voiced dental fricative to a voiced alveolar stop is blocked to avoid violation of this universal principle. On the contrary, there are cases of merger evident in some of the dialects. For instance, the merger of the two phonemes, alveolar trill and dental fricative, is common in Mwimbi, Muthambi and Igoji where quite often the speakers merge the fricative and the trill to an alveolar stop. Unless the speakers of other dialects are very conversant with these three dialects sometimes comprehension becomes difficult.

The strengthening of the dental fricative to an alveolar stop does not only cause ambiguity in the phoneme system but also in the vocabulary. The merger often results in ambiguity in the meaning of words in other dialects.

Examples:

Table 4. *Homophony*.

CHUKA	MWIMBI	MUTHAMBI	THARAKA	IMENTI	IGOJI	GLOSS
n.ðɛru	n.dɛru	n.dɛru	n.ðɛru	n.ðɛru	n.ðɛru/ n.dɛru	*clean*
n.dɛru	n.dɛru	-	-	-	-	*beard*
n.ðɛkɛ	n.ðɛkɛ/n.dɛkɛ	n.ðɛkɛ/n.dɛkɛ	n.ðɛkɛ	n.ðɛkɛ	n.ðɛkɛ	*that I laugh*
n.dɛkɛ	n.dɛkɛ	n.dɛkɛ	n.dɛkɛ	n.dɛkɛ	n.dɛkɛ	*that I leave*

The forms in the table above show that if a speaker is not conversant with Mwimbi, Muthambi or Igoji, then the intended meaning may be mis-interpreted since two different glosses have the same phonetic form and are also pronounced the same way. In such cases context plays a major role in helping

speakers of Chuka, Tharaka and Imenti to interpret the intended meaning. However, it may not be as easy for speakers who do not interact often with speakers of these dialects, which merge two different phonetic forms, to interpret the intended meaning.

The dental fricative, therefore, differentiates Mwimbi, Muthambi and Igoji from the rest of the dialects. These three dialects harden the dental fricative /ð/ to a voiced alveolar stop [ɗ] mostly after nasals, or it changes to an alveolar tap [ɾ] intervocalically or in word initial position. A person who uses a voiced alveolar tap or a voiced alveolar stop can easily be classified as either a Muthambi or Mwimbi speaker by speakers of other dialects. The use of these two variants is quite seldom in Igoji. Their existence in Igoji can be attributed to contact with Mwimbi speakers, especially Upper Mwimbi, who closely border the population that is categorised as speakers of Igoji.

The failure of the dental fricative to strengthen in Imenti, Tharaka and Chuka, in more strict phonetic terms, is due to the fact that /ð/ does not have a corresponding voiced stop in the same way as other continuants. There is a gap in what would be a perfect symmetrical pattern of correspondences between voiced continuants and voiced non-continuants.

The symmetry would be as follows:

PLACE OF ARTICULATION	CONTINUANT	NON-CONTINUANT
Bilabial	[β]	[b]
Dental	[ð]	_
Alveolar	[r]	[d]
Palatal	[ʝ]	[ɟ]
Velar	[ɣ]	[g]

3.2 DELETION, GLIDE FORMATION AND COMPENSATORY LENGTHENING

a) Deletion of /β/

Imenti, Lower Muthambi, Mwimbi and Igoji delete the voiced bilabial fricative /β/ intervocalically where the phoneme has been retained in Upper Muthambi, Chuka and sometimes Tharaka. That is, there are instances of overlaps between both phenomena (deletion and retention) in Upper Muthambi and Tharaka. The table below (table 5) illustrates cases where the bilabial fricative is retained in Chuka, Upper Muthambi and Tharaka. Another table (table 6) that illustrates cases where the fricative is deleted also in Tharaka and Upper Muthambi is given.

Table 5. *Deletion of /β/.*

IMENTI	THARAKA	CHUKA	U.M	L.M	U.MW	L.MW	IGOJI	GLOSS
ko:ra~ko.ora	ko.βora	ko.βo:ra	_	_	_	_	ko:ra~ ko.ora	*to beat someone*
_	_	ko.riβa	ko.riβa	ko.ria	ko.ria	ko.ria	ko.ria	*to beat someone*[2]
_	ko.βɛ:βa	ko.βɛ:βa	ko.βɛ:βa	_	_	ɣo.tɛ:a	ɣo.tɛya	*to breathe*
_	_	ma.βɛni	_	_	_	ma.ɛ:ni	_	*lie*
ɣo.ku:e, a.ku:e	ɣo.kuβe, a.kuβe	ɣo.kuβe, a.kuβe,βa.kuβe	ɣo.kuβe, a.kuβe	ɣo.ku:e, a.ku:e	ɣo.ku:e, a.ku:e	ɣo.ku:e, a.ku:e	ɣo.ku:e, a.ku:e	*near* (ADJ)
ɣe.ku:e/ ŋ.ku:e	ɣe.kuβe/ ŋ.kuβe	ɣe.kuβe/ŋ.kuβe	ɣe.kuβe/ ŋ.ku:e	_	ɣe.ku:e/ ŋ.ku:e	ŋ.ku:e	ɣe.ku:e/ ŋ.ku:e	*short* (ADJ)
ko:ða~ ko.oða	ko:ða~ ko.oða	ko.βoða	ko.βoða	_	ko:ða~ ko.oða	_	ko:ða~ ko.oða	*light* (ADJ)
ku:a/ku:ɣa~ ku.uɣa	ko.βua	ko.βu:βa	ku:βa	ku:a	ku:a	ku:a	ku:a	*to kindle/to light fire*
ku:rutana~ ku.urutana	ko.βuru:tana, ko.βu:tana	ko.βuru:tana, ko.βu:βana	ko.βuruta na	_	ku:rutana~ ku.urutana	ku:rutana~ ku.urutana	ku:rutana~ ku.urutana	*to blow*
kw.e:ðia	ko.βe:ðia	ko.βe:βia	ko.βe:ðia	-	kw.e:ðia	kw.e:ðia	kw.e:ðia	*to burn*
_	ɣo.cya:ta, ko.jya:ta	ko.βa:ta	ko.βa:ta	ɣw.a:ta	ɣw.a:ta	ɣw.a:ta	_	*to sweep*

The data in table 5 shows that after the deletion of /β/ the vowels are always lengthened to compensate for the lost consonant. For instance, if the vowel of the prefix is identical to that of the stem the two merge and surface as a long vowel (cf. the form "to beat someone"); if the deleted consonant occurs word medially the first vowel of the stem is often lengthened (cf. forms "near, short"). In addition, if a low vowel in the prefix precedes a high vowel in the stem, the vowel of the prefix is raised to the position of the vowel of the stem. This is how forms such as "to blow" and "to kindle" in table 5 above are generated. Thus:

Example 1

IMENTI	ku:rutana	ku:a
THARAKA	ko.βuru:tana	ko.βua
U.M	-	ku:βa
L.M	-	ku:a
U.MW	ku:rutana	ku:a
L.MW	ku:rutana	ku:a
IGOJI	ku:rutana	ku:a
CHUKA	ko.βuru:tana	ko.βu:βa
INPUT	*ko.burutana	*ko.buba
GLOSS	*to blow*	*to kindle fire*

Considering the two forms in example 1, we note that after the deletion of the consonant /β/ (marked in the table as /b/ in the input), the vowel of the prefix /o/ is raised to the position of the vowel of the stem /u/. Subsequently, the prefix vowel in combination with the stem vowel lengthens to compensate for the loss of the consonant. An even more interesting phenomenon is noted on the second form "to kindle fire" where some dialects have lost one consonant and others have lost two (cf. table 5 for details). Chuka has retained two bilabial fricatives in the form "to kindle fire", and Tharaka and Upper Muthambi one each, the processes of deletion and height assimilation are responsible for the forms in example 1 above in the other dialects. The underlying form at some point had the two bilabial fricatives that have been lost at different times in the historical development of these dialects. For example, in Imenti, Lower Muthambi, Upper Mwimbi, Lower Mwimbi and Igoji, after the deletion of the two bilabial fricatives, the vowel of the prefix is raised to the height of the stem initial vowel through height assimilation. The vowel is then lengthened to compensate for the two consonants that are deleted. Upper Muthambi, on the other hand, deletes only the stem initial consonant which is also compensated through height assimilation and vowel lengthening. Tharaka deletes the stem medial consonant but in this case there is no lengthening, perhaps because of the differences in qualities of the vowels involved; a high back vowel and a low (non front/non back) vowel.

Sometimes after the deletion of the voiced bilabial fricative, the vowel of the prefix triggers glide formation according to the glide formation rules that operate in these dialects and consequently, the vowel of the stem is lengthened

(cf. “to burn” and “to sweep” in table 5). Therefore, compensatory lengthening, height assimilation and glide formation are some of the strategies Imenti, Mwimbi, Lower Muthambi and Igoji use to compensate for the loss of the voiced bilabial fricative found in Tharaka, Upper Muthambi and Chuka.

Tharaka alternates features that are found in Mwimbi, Igoji, Lower Muthambi and Imenti. Sometimes the bilabial fricative is deleted and its position filled through the strategies discussed above. In a few cases the vowels that are retained after deletion do not lengthen like in other dialects (see “palm”, “to twist a rope”, “to sneeze” in table 6 below). One can argue that in the first two examples (palm, to twist a rope) the vowel is only lengthened when there is glide formation, and this holds true for all the dialects.Therefore, Tharaka is not special here, but such an explanation does not apply to the form “to sneeze”.

The presence of such exceptions in Tharaka may be attributed to influence from neighbouring Imenti speakers. It could also be a recent development in Tharaka whereby the sounds are gradually getting deleted since the speakers of Tharaka are often in contact with the neighbouring dialects in day-to-day interactions and ventures such as trade, religion and education. Moreover, the forms with the bilabial fricatives could also be viewed as retentions of old forms in Tharaka, since such cases are few as compared to Chuka. We also do not rule out the possibility that such retentions could be historical accidents.

Table 6. *Consonant Deletion, Vowel Lengthening and Glide Formation.*

IMENTI	THARAKA	CHUKA	U.M	L.M	U.MW	L.MW	IGOJI	GLOSS
ɣo.tiːa	ɣo.tia	ɣo.tiːβa	_	_	ɣo.tiːa	_	_	*to sneeze*
ro.e, rw.eː	ro.e	ro.βe	ro.βe	_	ro.e, rw.eː	ro.e, rw.eː	ke.e, rw.eː	*palm*
y.oːri, e.ori	y.oːri, e.ori	e.βori	e.βori	y.oːri, e.ori	y.oːri, e.ori	y.oːri, e.ori	y.oːri, e.ori	*lung*
iːɣa~i.iɣa	y.iːɣa	e.βiɣa	e.iɣa	_	e.iɣa	e.iɣa	iːɣa~i.iɣa	*rock/stone*
o.iki, w.iːki	_	o.βiki	o.iki	_	o.iːki	o.iːki	o.iki	*marriage*
kw.iːða	kw.iːða	ko.βiða	ko.βiða	kw.iːða	kw.iːða	kw.iːða	kw.iːða	*to hide*
y.aːre	y.aːre	_	e.βare	_	_	y.aːre	y.aːre	*cooking stones*
m.piɔ	m.pɛɔ	m.bɛβɔ	m.peɔ	_	m.peɔ	m.peɔ	m.piɔ	*cold*
rw.ɛːni	rw.ɛːni	ro.βɛni	ro.βɛni	_	rw.ɛːni	rw.ɛːni	rw.ɛːni	*lightning*
kw.eːnda	ko.enda	ko.βenda	_	_	ko.enda	kw.eːnda	kw.eːnda	*to twist a rope*
kw.iːŋga, ko.iŋga	kw.iːŋga, ko.iŋga	ko.βiŋga	ko.βiŋga	_	kw.iːŋga, ko.iŋga	kw.iːŋga	kw.iːŋga, ko.iŋga	*to shut/close*
kw.aːnda	kw.aːnda	ko.βanda	ko.βanda	_	ko.anda, kw.aːnda	kw.aːnda	kw.aːnda	*to plant*
kw.ɔːria	kw.ɔːria	ko.βɔria	_	_	_	kw.ɔːria	kw.ɔːria	*to care for/cure*
ɣo.taa[2]	ɣo.taa	ɣo.taβa	ɣo.taβa	_	ɣo.taa	ɣo.taa	ɣo.taa	*to draw water*
ɣo.tuːa	ɣo.tuːa	ɣo.tuːβa	ɣo.tuːβa	_	ɣo.tuːa	ɣo.tuːa	ɣo.tuːa	*to be blunt*

[2] The sequence of two vowels is equivalent to a long vowel. Sometimes the speakers stress the final vowels to produce a very long vowel. That is, speakers stress the final vowel to the extent that they produce one which is audibly longer than the ordinary long vowels. In such cases a sequence of two identical vowels is used to denote such "very long" vowels.

b) Deletion of /r/

Chuka differentiates itself as a dialect cluster in the usage of the alveolar trill. In some forms the alveolar trill is deleted in other dialects, but it is consistently retained in Chuka. In cases where it is deleted in the other dialects, the vowel that originally preceded the alveolar trill is lengthened. Since the vowel before and the vowel after this consonant slot are identical they simply merge into a long one of the same quality. Imenti is consistent in deletion of the trill and lengthening of the vowels. Cases where the trill is not deleted are very rare in Imenti, and such forms are used interchangeably with those in which the trill is deleted.

Examples:

Table 7. *Deletion of /r/.*

IMENTI	ɣw.ɛːtɛːra	ɣw.eːtoːra	ɣo.keːria	ɣo.kɔːra	ko.riːkana, ko.ririkana	ko.ðaːra
THARAKA	ɣw.ɛːtɛːra	ɣw.eːtoːra	ɣo.keːria	ɣo.kɔrɔra	ko.ririkana	ko.ðarara
CHUKA	ɣw.ɛːtɛrɛra	ɣw.eːtorora	ɣo.kereria	ɣo.kɔrɔra	ko.ririkana	ko.ðarara
MUTHAMBI	ɣw.ɛːtɛrɛra	_	ɣo.keːria	ɣo.kɔrɔra	ko.ririkana	ko.ðarara
U.MW	ɣw.ɛːtɛrɛra	ɣw.eːtoːra	ɣo.keːria	ɣo.kɔrɔra	ko.ririkana	ko.ðarara, ko.ðaːra
L.MW	ɣw.ɛːtɛrɛra	ɣw.eːtoːra	ɣo.keːria	ɣo.kɔrɔra	ko.ririkana	_
IGOJI	ɣw.ɛːtɛːra	ɣw.eːtoːra	ɣo.keːria	ɣo.kɔːra, ɣo.kɔrɔra	ko.ririkana	_
GLOSS	*to wait*	*to pour*	*To lift*	*to cough*	*to remember*	*to shine*

c) Deletion of /ɣ/

The voiced velar fricative /ɣ/ like the voiced bilabial fricative is consistently retained in Chuka in forms where it has been deleted in some of the other dialects. In the dialects where it is deleted, the vowel is lengthened. With reference to the voiced velar fricative, Chuka is again the most conservative. Chuka has forms that are closest to the Common Bantu stems; for example, the Common Bantu stems for “garden” and “tooth” given in the table below have a voiced velar stop /g/ which weakens to a fricative /ɣ/. Imenti and Igoji, on the other hand, have lost the stop in the form “tooth” and instead there is a sequence of two vowels which merge and surface phonetically as a long vowel. Here also, the Common Bantu stop not only weakens to a fricative but it is also deleted completely. In the other dialects the fricative is retained. The same argument can be posited for the loss of the velar fricative in the forms “to rest” in Imenti in the example below.

Table 8. *Deletion of /ɣ/.*

COMMON BANTU	*-gùndà	*-gègò	_
IMENTI	muːnda	e.eɣɔ~eːɣɔ	ko.nɔːka
THARAKA	moːnda	e.ɣɛɣɔ	ko.nɔɣɔka
CHUKA	mo.ɣonda	e.ɣɛɣɔ	ko.nɔɣɔka
U.M	mo.ɣonda	e.ɣɛɣɔ	ko.nɔɣɔka
U.MW	mo.ɣonda	e.ɣɛɣɔ	ko.nɔɣɔka
L.MW	mo.ɣonda	e.ɣɛɣɔ	ko.nɔɣɔka
IGOJI	muːnda	e.eɣɔ~eːɣɔ	ko.nɔɣɔka
GLOSS	*garden*	*tooth*	*to rest*

The fricative is deleted in some cases in Tharaka and in other forms it is retained just like the bilabial fricative.

d) Deletion of /ð/

The voiced dental fricative, just like the velar fricative above, is deleted word initially in Imenti, Igoji and some parts of Tharaka. It is, however, retained in Chuka, Muthambi and Mwimbi throughout. An example where the phoneme occurs is illustrated below.

	PHONEME	EXAMPLE	GLOSS
CHUKA/MUTHAMBI/MWIMBI	ð	mo.ðito	*Forest*
IMENTI/IGOJI	Ø	mw.iːto	
THARAKA	Ø ð	mw.iːto, mo.ðito	

3.3 DEVOICING

The absence of a voiced palatal fricative /ʝ/ also distinguishes Chuka from the other dialects. Whereas all the other dialects have the voiced palatal fricative, Chuka has a voiceless palatal stop or its free variants. On the other hand, in Upper Muthambi the occurrence of the voiced palatal fricative and the voiceless palatal stop or its free variants is very unpredictable. Sometimes the speakers use the voiced palatal fricative and in some words a voiceless palatal stop or its free variants (cf. the forms “to fill”, “water”, “long”, and “far” in table 9 below). However, the variations in Upper Muthambi can be attributed to dialect contact. The close geographical contact between Upper Muthambi and Chuka may have influenced the speakers of the former to use the voiceless palatal stop or its variants in place of the voiced palatal fricative.

Table 9. *Voiced Palatal Fricative /ʝ/ vs. Voiceless Palatal Stop /c/ or Its Free Variants.*

IMENTI	THARAKA	CHUKA	U.M	L.M	U.MW	L.MW	IGOJI	GLOSS
kw.e:ʝa	ko:ʝa, ko:ya~ ko.oʝa, ko.oya	ɣo:sa, ɣo:ça~ɣo.osa, ɣo.oça (Dahl's Law)	_	_	kw.e:ʝa	kw.e:ʝa	kw.e:ʝa	*to come*
_	mo.ʝie, mo.ʃie	mo.sie	mo.ʝie	mo.ʝie	mo.ʝie	mo.ʝie	mo.cie, mo.ʝie	*family/home*[3]
ko:ʝoria~ ko.oʝoria	ko:ʝoria~ ko.oʝoria	ɣw.e:ʃoria, ɣw.e:soria (Dahl's Law)	ɣw.e:ʃoria	_	kw.e:ʝoria	kw.e:ʝoria	ko:ʝoria~ ko.oʝoria	*to fill*
ɲ.ɟera, ka.ʝera	ɲ.ɟera, ka.ʝera	ɲ.ɟera, ɣa.ʃera, ɣa.çera, ɣa.sera (Dahl's Law)	ɲ.ɟera, ka.ʝera	ɲ.ɟera, ka.ʝera	ɲ.ɟera, ka.ʝera	ɲ.ɟera, ka.ʝera	ɲ.ɟera, ka.ʝera	*path/way (class 10/12)*
ro:ʝe	ro:ʝe	ro:ɲce	ro:se	ro:ʝe	ro:ʝe	ro:ʝe	ro:ʝe	*water*
n.da:ʝa	n.da:ʝa	n.da:sa	n.da:ʃa, n.da:ca	n.da:ʝa	n.da:ʝa	n.da:ʝa	n.da:ʝa	*long* (ADJ)
ko.ra:ʝa	ko.ra:ʝa	ko.ra:ʃa, ko.ra:ça	ko.ra:sa	_	ko.ra:ʝa	ko.ra:ʝa	ko.ra:ʝa	*far*
ɲ.ɟoke, ka.ʝoke	ɲ.ɟoke, ka.ʝoke	ɲ.ɟoke, ɣa.coke, ɣa.soke (Dahl's Law)	ɲ.ɟoke, ka.ʝoke	_	ɲ.ɟoke, ka.ʝoke	ɲ.ɟoke, ka.ʝoke	ɲ.ɟoke, ka.ʝoke	*bee (class 10/12)*
ɲ.ɟɔka, ka.ʝɔka	ɲ.ɟɔka, ka.ʝɔka	ɲ.ɟɔka, ɣa.cɔka (Dahl's Law)	ɲ.ɟɔka, ka.ʝɔka	_	ɲ.ɟɔka, ka.ʝɔka	ɲ.ɟɔka, ka.ʝɔka	ɲ.ɟɔka, ka.ʝɔka	*snake (class 10/12)*
ɲ.ɟɔɣu, ka.ʝɔɣu	ɲ.ɟɔɣu, ka.ʝɔɣu	ɲ.ɟɔɣu, ɣa.cɔɣu (Dahl's Law)	ɲ.ɟɔɣu, ka.ʝɔɣu	_	ɲ.ɟɔɣu, ka.ʝɔɣu	ɲ.ɟɔɣu, ka.ʝɔɣu	ɲ.ɟɔɣu, ka.ʝɔɣu	*elephant (class 10/12)*

[3] The variations in this form may be a result of borrowing. All the dialects have more than one lexeme for "family/home" and the variations make it difficult to determine the form that is part of the core vocabulary of the language.

The word for "home" also has variations among the dialects and most probably this form is borrowed into the dialects. Moreover, "home" in an African set up is quite an ambiguous term. Dahl's Law is responsible for the variations of the prefixes of the forms "to come" and "to fill" in Chuka and/or Upper Muthambi. The voiceless palatal stop triggers Dahl's Law in Chuka and voices /k/ in the prefix position to /ɣ/ in forms where a voiced palatal fricative is used in the other dialects.

3.4 NEUTRALIZATION

The opposition between a voiceless bilabial stop /p/ and a voiced bilabial stop /b/ is neutralised in Chuka to a voiced bilabial stop [b] in nasal environments. However, intervocalically the stop weakens to a voiced bilabial fricative [β]. That is to say, whenever a form has a voiceless bilabial stop in the Common Bantu stem, the stop either neutralises to a voiced bilabial fricative intervocalically/word initially or changes to a voiced bilabial stop in a nasal environment e.g. in class 9/10 or becomes a prenasalised stop in word medial position. On the other hand, the same phoneme /p/ has been retained in other dialects after nasals, but intervocalically it has either weakened to a fricative or been deleted altogether. In cases where weakening and subsequent deletion has occurred, the phoneme is compensated through three strategies; glide formation, compensatory vowel lengthening and height assimilation (see the discussion on the deletion of /β/).

Upper Muthambi has retained the bilabial fricative in quite a number of cases where the other dialects have lost it. We attributed this to contact between Chuka and Upper Muthambi. However, even in forms where Upper Muthambi has retained the voiced bilabial fricative intervocalically, the bilabial fricative /β/ surfaces in the nasal environment as voiceless bilabial stop /p/, if the fricative is derived from a voiceless stop. Therefore, the voice quality is not neutralised in Muthambi, but all the voiceless bilabial consonants of Common Bantu stems have the feature [+voice] in Chuka.

It is important to clarify that when reference is made to the bilabial fricative in Muthambi, we are referring to those forms that have a voiceless bilabial stop in nasal environments that is weakened intervocalically to a bilabial fricative. This should not be confused with the voiced bilabial stop which is also weakened to a fricative intervocalically in Muthambi and the other dialects, too. The point here is that the voice qualities are distinctly maintained after nasals and it is, therefore, possible to identify the fricative that is derived from a voiced or voiceless bilabial stop, especially by looking at the perfect forms in all the dialects. The dialects have in some instances weakened the Common Bantu voiceless stop to a voiced stop, and in other forms the voiceless bilabial stops of the stems are maintained. This is not the case with Chuka; all bilabial stops without exceptions are neutralised. See examples in table 10.

Table 10. *Neutralisation of /p/ vs. /b/ in Chuka.*

IMENTI	THARAKA	CHUKA	U.M	L.M	U.MW	L.MW	IGOJI	COMMON BANTU	GLOSS
m.pɛmpɛ	m.pɛmpɛ	m.bɛmbɛ	n.dɛmba	m.pɛmpa	m.bɛmba	m.pɛmpa	m.pɛmpɛ	pémbá	*maize*
ro.e,rw.eː m.pe	ro.e m.pe	ro.βe m.be	ro.βe m.pe	_	ro.e, rw.eː m.pe	ro.e, rw.eː m.pe	ro.e m.pe	pí	*palm of hand/palms*
ɣy.ɛmpɛ	ɣy.ɛmpɛ	ke.ðɛmbɛ	_	_	_	_	ɣy.ɛmpɛ	_	*drum*
m.paka	m.baka	m.baka	m.paka	_	_	m.paka	m.paka	pákà	*cat*
m.piɔ	m.pɛɔ, m.piɔ	m.bɛβɔ	m.peɔ	_	m.peɔ	m.peɔ	m.piɔ	pépò, bépò píò, PƐ́PƆ̀	*cold*
iːɣa~i.iɣa	y.iːɣa	e.βiɣa	e.iɣa	_	e.iɣa	e.iɣa	iːɣa~i.iɣa	pigà	*stone*
kw.aːnda	kw.aːnda	ko.βanda	ko.βanda	_	ko.anda, kw.aːnda	kw.aːnda	kw.aːnda	pànd	*to plant*
m.pandirɛ	m.bandirɛ	m.bandirɛ	m.pandirɛ	_	m.pandirɛ	m.pandirɛ	m.pandirɛ	_	*I planted* (PERF)
kw.iːŋga, ko.iŋga	kw.iːŋga, ko.iŋga	ko.βiŋga	ko.βiŋga	_	kw.iːŋga, ko.iŋga	kw.iːŋga	kw.iːŋga, ko.iŋga	_	*to shut/to close*
m.piŋgirɛ	m.biŋgirɛ	m.biŋgirɛ	m.piŋgirɛ	_	m.biŋgirɛ	m.piŋgirɛ	m.piŋgirɛ	_	*I closed* (PERF)
kw.ɔːria	kw.ɔːria	ko.βɔria	_	_	_	kw.ɔːria	kw.ɔːria	_	*to care for/ to cure*
m.bɔririɛ	m.bɔririɛ	m.bɔririɛ	m.bɔririɛ	_	m.bɔririɛ	m.bɔririɛ	m.bɔririɛ	_	*I cured* (PERF)
koːra~ko.ora	ko.βora	ko.βoːra	_	_	_	_	koːra~ko.ora	kúb, búd	*to beat*
ŋ.kuːe	ŋ.kuβe	ŋ.kuβe	ŋ.kuːe	_	ŋ.kuːe	ŋ.kuːe	ŋ.kuːe	kʊpì kùpì	*short*
kuːa	ko.βua	ko.βuːβa	kuːβa	kuːa	kuːa	kuːa	kuːa	pupa	*to blow/to light fire*
m.buɣirɛ	m.bwiːrɛ	m.buβirɛ	m.buβirɛ	m.buɣirɛ	_	m.buːirɛ	m.buɣirɛ	_	*I blew* (PERF)

The examples in table 10 show a systematic change of the Common Bantu stems concerning /p/. In Chuka the phoneme has been neutralised in voicing and, therefore, has become a voiced segment in all environments. In addition, the sound is retained in all equivalents of the Common Bantu stems unlike the other dialects where the phoneme is deleted especially between vowels. It is notable that Tharaka and Upper Muthambi sometimes retain the /β/ intervocalically, and sometimes the phoneme is deleted (cf. examples: "palm", "to beat", "short" and "to blow fire"). Deletion in Tharaka as mentioned earlier may be a recent phenomenon as a result of contact with speakers of other dialects. In addition, there are a number of cases where the voiceless bilabial stop is realised as a voiced stop in Tharaka and very seldom in Upper Mwimbi, especially in the perfect forms (e.g. "I planted" and "I closed"). This voiceless stop has the least frequency of occurrence in Tharaka as compared to other voiceless consonants and probably, the voiced and voiceless bilabial stops are in the process of being neutralised in Tharaka as well.

The variations given for the word "maize" are difficult to account for and the suspicion is that the form could have been borrowed into the language, considering the communities never used to grow maize until recent times. The use of [m.baka] "cat" in Tharaka is also strange because we cannot predict whether the /p/ is neutralised here or a borrowing from Chuka.

It is important to note that although Chuka has a prenasalised bilabial stop /mb/ in forms that have /mp/ in other dialects; the dialect also has a prenasalised bilabial stop /mb/ in words that are also found in all other dialects.

Examples where /mb/ and /b/ are used in all dialects:

FORM	GLOSS
m.baru	*ribs*
mo.ɣambɔ	*voice*
e.ɣamba	*lawsuit*
ko.rɔmba	*to ask/beg*
rwe:mbɔ	*song*
ɲɔmba	*house*

The conclusion one can make from the examples above is that Chuka speakers do not have /mp/ or /p/ in the phoneme system. The dialect has a voiced bilabial stop which occurs after nasals but weakens to a fricative in any other environment. The continuants that occur in non-nasal environments do not undergo lenition in Chuka like they do, for example, in Imenti.

3.5 PALATALISATION/FRICATIVISATION/DEVOICING OF CLASS 8 PLURAL FORMS

Palatalisation as a phonological process affects plural forms of class 7/8. The Common Bantu plural marker for this class is *bi̯-. This plural marker is realised as {βi-}, {i-} or {βy-} in Imenti, Tharaka, Lower Muthambi, Lower Mwimbi and Igoji. In Chuka it is realised as {si-/ʃi-/i-} or {sy-/ʃy-}; in Upper Mwimbi and Upper Muthambi as {ʝi-}, {i-}, {ʝy-}. Therefore, a sequence of changes have affected the Common Bantu plural prefix marker *bi̯- to generate the present forms in the dialects. Firstly, in Imenti, Tharaka, Lower Muthambi, Lower Mwimbi and Igoji the stop weakened to a fricative to generate the form {βi-}/{βy-}, which is the surface phonetic realisation of the class 8 plural prefix of the dialects to date. However, there are cases where the fricative is dropped and the plural prefix surfaces as a vowel {i-}. On the other hand, Upper Muthambi and Upper Mwimbi have gone a step farther, they have raised the consonant from the bilabial position to the palatal place of articulation (i.e. palatalised the voiced bilabial fricative /β/ to a voiced palatal fricative /ʝ/). Thus, the fricative changes its point of articulation from bilabial to palatal. The raising of the bilabial fricative is aided by the presence of palatal glides or high vowels that are found in words affected by these changes.

Chuka, on the other hand, behaves uniquely when it comes to the plural marker of class 8. This dialect palatalises and devoices the bilabial fricative. That is, the Common Bantu plural marker first weakens like in all dialects to a bilabial fricative, which is consequently raised to the post alveolar or alveolar position in the environment of a high vowel or a palatal glide. After palatalisation, the sound is also devoiced. Sometimes the plural marker in Chuka is realised with a voiceless palatal stop or palatal fricative {cy-} or {çy-} respectively. However, these two phonetic variants are rare, and we suppose, they arise because Chuka does not have a voiced palatal fricative. Therefore, there is the possibility that the plural prefix marker of class 8 is realised through two of the variants of the voiceless palatal stop.

Examples:

Table 11. *Fricativisation, Palatalisation and Devoicing of Class 7/8 Nouns*.

IMENTI	THARAKA	CHUKA	U.M	L.M	U.MW	L.MW	IGOJI	GLOSS
ky.aːra/ <u>β</u>y.aːra[4]	ky.aːra/ <u>β</u>y.aːra	ky.aːra/ **<u>s</u>y**.aːra, **<u>ʃ</u>y**.aːra	ky.aːra/ **<u>j</u>y**.aːra	_	ky.aːra/ **<u>j</u>y**.aːra	ky.aːra/ <u>β</u>y.aːra	ky.aːra/ <u>β</u>y.aːra	*finger(s)*
ky.ɛːni/ <u>β</u>y.ɛːni	ky.ɛːni/ <u>β</u>y.ɛːni	_	ky.ɛːni/ **<u>j</u>y**.ɛːni	ky.ɛːni/ <u>β</u>y.ɛːni	ky.ɛːni/ **<u>j</u>y**.ɛːni	ky.ɛːni/ <u>β</u>y.ɛːni	ky.ɛːni/ <u>β</u>y.ɛːni	*field(s)*
ky.ɛːβa/ <u>β</u>y.ɛːβa	ky.ɛːβa/ <u>β</u>y.ɛːβa	ky.ɛːβa/ **<u>s</u>y**.ɛːβa	ky.ɛːβa/ **<u>j</u>y**.ɛːβa	_	ky.ɛːa, ky.ɛːya _	_	ky.ɛːa _	*sorrow(s)*
ky.oːra/ <u>β</u>y.oːra	ky.oːra/ <u>β</u>y.oːra	ky.oːra/ **<u>s</u>y**.oːra, **<u>ç</u>y**.oːra	ky.oːra/ **<u>j</u>y**.oːra	_	ky.oːra/ **<u>j</u>y**.oːra	ky.oːra/ <u>β</u>y.oːra	ky.oːra/ <u>β</u>y.oːra	*frog(s)*
ky.ɔːŋgɔ/ <u>β</u>y.ɔːŋgɔ	ky.ɔːŋgɔ/ <u>β</u>y.ɔːŋgɔ	ky.ɔːŋgɔ/ **<u>ʃ</u>y**.ɔːŋgɔ, **<u>s</u>y**.ɔːŋgɔ	ky.ɔːŋgɔ/ **<u>j</u>y**.ɔːŋgɔ	ky.ɔːŋgɔ/ <u>β</u>y.ɔːŋgɔ	ky.ɔːŋgɔ/ **<u>j</u>y**.ɔːŋgɔ	ky.ɔːŋgɔ/ <u>β</u>y.ɔːŋgɔ	ky.ɔːŋgɔ/ <u>β</u>y.ɔːŋgɔ	*head(s)*
ki:mba/ <u>β</u>i:mba	ki:mba/ <u>β</u>i:mba	ki:mba/ **<u>s</u>i**:mba, **<u>ʃ</u>i**:mba	ki:mba/ **<u>j</u>i**:mba	ki:mba/ <u>β</u>i:mba	ki:mba/ **<u>j</u>i**:mba	ki:mba/ <u>β</u>i:mba	ki:mba/ <u>β</u>i:mba	*corpse(s)*
mw.aːre/ aːre	mw.aːre/ aːre	mw.aːre/ **<u>s</u>y**.aːre, **<u>ʃ</u>y.**aːre	mw.aːre/ **<u>j</u>y**.aːre	mw.aːre/ aːre	mw.aːre/ aːre	mw.aːre/ aːre	mw.aːre/ aːre	*daughter(s)/ girl(s)*

[4] The underlined segments illustrate cases where the class 7/8 plural forms have a prefix with a bilabial fricative, bold illustrate cases where the fricative is palatalised (but remains voiced), bold and underlined segments show cases of palatalisation and devoicing.

Some forms that are not in class 7/8 are sometimes affected by palatalisation in some dialects (see the word "daughters/girls" in table 11). The form is a class 1/2 noun in Imenti, Tharaka, Lower Muthambi, Mwimbi and Igoji. However, the plural in Chuka and Upper Muthambi is formed with a class 8 prefix and thus palatalised like all class 8 plurals in these dialects.

3.6 CLASS 1/2 NOUNS

A dialect boundary is also marked by the class 2 plural prefix. The prefix in Imenti, Tharaka, Lower Muthambi, Mwimbi and Igoji is {βa-} or {a-} while in Chuka and Upper Muthambi the prefix is {ma-} or {a-}. It is important to note that most words in class 2 such as [mu.nto] "person" and [mo.ka] "woman" have {a-} as the plural prefix. Imenti, Tharaka, Lower Mwimbi and Igoji have two forms for "woman". In one of these forms the plural has a prefix {ɛ-}, thus [mw.ɛːkoro, ɛːkoro]. The prefix {ɛ-} is generated as a consequence of a morpho-phonological process, namely height assimilation where the prefix {a-} is raised to {ɛ-} in the environment of a vowel with a higher quality. Therefore, /a/ + /ɛ/ $\longrightarrow$ /ɛː/. The other two prefixes ({βa-} and {ma-}) are a 'concern' because their usage is limited to humans and kinship terms. It is natural for class 1/2 to have nouns that are [+human/people]. However, are kinship terms part of this human category? Why is there {ma-} in Chuka and Upper Muthambi and {βa-} in the rest of the dialects? We look at examples where these prefixes occur:

Note: The special forms that have the second plural prefix {ma-} or {βa-} are labelled as class 1b/2b for singular and plural forms respectively.

Table 12. *Class 1/2 and 1b/2b Plural Forms*.

IMENTI	THARAKA	CHUKA	U.M	L.M	U.MW	L.MW	IGOJI	NOUN CLASS	GLOSS
_	maito/ βa.maito	maito/ ma.maito	maito/ ma.maito	maito/ βa.maito	maito/ βa.maito	maito/ βa.maito	maito/ βa.maito	1b/2b	*mother(s)*
ma:mi/ βa.ma:mi ma:ma/ βa.ma:ma	ma:mi/ βa.ma:mi	ma:mi/ ma.ma:mi	_	_	ma:ma/ βa.ma:ma	_	ma:ma/ βa.ma:ma ma:mi/ βa.ma:mi	1b/2b	*mother(s)*
βa:βa/ βa.βa:βa	βa:βa/ βa.βa:βa βa:βu/βa.βa:βu	βa:βa/ ma.βa:βa	βa:βa/ ma.βa:βa	_	βa:βa/ βa.βa:βa	βa:βa/ βa.βa:βa	βa:βa/ βa.βa:βa	1b/2b	*father(s)*
mu.nto/ a.nto	mu.nto/ a.nto	mo.nto/ a.nto	mu.nto, a.nto	mu.nto/ a.nto	mu.nto/ a.nto	mu.nto/ a.nto	mu.nto/ a.nto	1/2	*person/ people*
mw.ɛ:koro/ ɛ:ko:ro	mw.ɛ:koro/ ɛ:ko:ro	_	_	_	mo.ɣɛkoro/ a.ɣɛkoro	mw.ɛ:koro/ ɛ:koro	mw.ɛ:koro/ ɛ:koro	1/2	*woman/ women*
mo.ka/ a.ka	mo.ka/ a.ka mu.nto mo.ka/ a.nto a.ka	mo.ka/ a.ka mo.nto mo.ka/ a.nto a.ka	mo.ka, mu.nto mo.ka/ a.ka	_	mo.ka, mu.nto mo.ka/ a.ka	mo.ka/ a.ka	mo.ka/ a.ka	1/2	*woman/ women*

All the words are of course [+human] but a difference is drawn between, for example, a human being who is [+male/female] and more specific kinship terms like "mother/father". The plural prefixes used for these kinship terms (cases that have no prefix {mo/mu/mw-} are classified as 1b in singular) divide the dialects into two groups: Chuka and Upper Muthambi are the only dialects that use the prefix {ma-} in plural and other dialects use {βa-}.

The dialects have kinship terms in other noun classes as well. These terms are not restricted to class 1/2. In some cases the plural is formed in class 10, 4 or 8 as was the case with "daughters/girls" in Chuka and Upper Muthambi. The motivation for these plural forms is difficult to explain. Either the speakers treat these kinship terms as [+human] or in some other cases the terms are not defined. All the dialects, therefore, possess a number of nouns which are prefixless (cf. table 12), at least in the singular, which do not behave the same way as those of class 1 (they also differ semantically), and most of which seem to be loanwords (though many are common to all dialects and so were presumably acquired early).

The examples in table 13 below show an additional list of nouns and the plural forms in individual dialects. The nouns are all [+human]. However, the more defined the noun is, the more variation is there in the plural prefix. For example, the four nouns: "uncircumcised girl/daughter", "uncircumcised boy/circumcised boy" show such differences.

Table 13. *Class 1/2 Plural Forms.*

IMENTI	THARAKA	CHUKA	U.M	L.M	U.MW	L.MW	IGOJI	NOUN CLASS	GLOSS
mo.ðɔːɣi/ a.ðɔːɣi	mo.ɣweːmi/ a.ɣweːmi	mo.ɣweːmi/ a.ɣweːmi	mw.aːði/ aːði	mo.ɣweːmi/ a.ɣweːmi	muːɣia/ a.uɣia	mo.ɣweːmi/ a.ɣweːmi	mo.ɣweːmi/ a.ɣweːmi mw.aːði/ aːði	1/2	*hunter(s)*
mo.koro/ a.koro	mo.koro/ a.koro	mo.koro/ a.koro	mo.koro/ a.koro	mo.koro/ a.koro	mo.koro/ a.koro	mo.koro/ a.koro	mo.koro/ a.koro	1/2	*old man/old men*
mo.rɔɣi/ a.rɔɣi	mo.rɔɣi/ a.rɔɣi	mo.rɔɣi/ a.rɔɣi	mo.rɔɣi/ a.rɔɣi	mo.rɔɣi/ a.rɔɣi	mo.rɔɣi/ a.rɔɣi	mo.rɔɣi/ a.rɔɣi	mo.rɔɣi/ a.rɔɣi	1/2	*witch(es)*
mo.kɛɲɛ/ ŋ.kɛɲɛ (1/10)	mo.ðɛra/ me.ðɛra (3/4)	mo.ðɛra/ me.ðɛra (3/4)	mo.kɛɲɛ/ ŋ.kɛɲɛ (1/10)	mo.kɛɲɛ/ ŋ.kɛɲɛ (1/10)	mo.kɛɲɛ/ ŋ.kɛɲɛ (1/10)	mo.kɛɲɛ/ ŋ.kɛɲɛ (1/10)	mo.kɛɲɛ/ ŋ.kɛɲɛ (1/10)	see individual dialects	*uncircumcised girl(s)*
mw.eːɟe/ βy.eːɟe (1/8)	mw.eːɟe/ a.eːɟe (1/2)	ke.βeːce/ i.βeːce (7/8)	mw.eːɟe, ke.βeːce/ i.βeːce (1/7/8)	mw.eːɟe/ a.eːɟe (1/2)	mw.eːɟe/ a.eːɟe (1/2)	mw.eːɟe/ a.eːɟe (1/2)	mw.eːɟe/ βy.eːɟe (1/8)	see individual dialects	*uncircumcised boy(s)*
mw.aːre/ aːre (1/2)	mw.aːre/ aːre (1/2)	mw.aːre/ sy.aːre, ʃy.aːre (1/8)	mw.aːre/ ɟy.aːre (1/8)	mw.aːre/ aːre (1/2)	mw.aːre/ aːre (1/2)	mw.aːre/ aːre (1/2)	mw.aːre/ aːre (1/2)	see individual dialects	*daughter(s)*
mo.ða:ka/ n.ða:ka (1/10)	mo.ða:ka/ n.ða:ka (1/10)	n.ða:ka (9/10)	mo.ða:ka/ n.ða:ka (1/10)	mo.ða:ka/ n.ða:ka (1/10)	mo.ða:ka/ n.ða:ka (1/10)	mo.ða:ka/ n.ða:ka (1/10)	mo.ða:ka/ n.ða:ka (1/10)	see individual dialects	*circumcised boy(s)*

Each individual dialect has different ways of treating the kinship terms, hence the variants in plural forms. Take, for instance, Chuka that has "uncircumcised girl" in class 3/4 and "uncircumcised boy" in class 7/8. In the two classes these nouns are treated as [-animate]. Chuka has most variations in the plural prefixes of class 1 nouns. The class to which these nouns are assigned for purposes of concord is not the same in all the dialects. Therefore, the defining boundary for the dialects is the plural prefixes of class 2 nouns. All dialects except Chuka and Upper Muthambi have three forms {a-}, {βa-} and {ɛ-} and these two dialects have two plural prefixes {ma-} and {a-}.

3.7 THE ALVEOLAR TRILL AND ITS PHONETIC VARIANT

All the dialects have one liquid /r/, which has a free variant in Chuka, Muthambi, Mwimbi, Tharaka and Igoji. Imenti has this phoneme realised as an alveolar trill in all environments. The dialects vary as follows: in Chuka /r/ becomes as an alveolar lateral [l] before /e, ɛ, a, o, ɔ/ but not before /i, u/; in Tharaka it is realised as an alveolar lateral before /o, a/; in Muthambi and Mwimbi before /e, ɛ, a, o, ɔ, u/ but never before /i/ and lastly in Igoji before /ɛ, a, o, ɔ, i, u/ but not before /e/. The liquid is realised as a trill in all the dialects in any other environment. This finding contradicts Möhlig (1974) who argues that the liquid is realised as a retroflex in these dialects. In our findings, there is no instance where the alveolar trill becomes a retroflex. In addition, the environments in which the liquid is realised as a lateral do not agree with what Möhlig observed. For instance, he writes:

> "In Imenti, /r/ is realised as a retroflex flap in front of all vowels. In Miutini and Igoji, it is articulated as [l] in front the high vowels /i/ and /u/, in other environments as a retroflex flap. In Mwimbi and Muthambi, however, the realisation as [l] occurs in front of /i/ and /e/." (Möhlig 1974: 78; translation mine).[5]

He further writes this about Chuka:

> "/r/ is articulated as [l] before /i/, but as a retroflex flap in front of all other vowels." (Möhlig 1974: 79; translation mine).[6]

The different realisations of the liquid separate Imenti from the other dialect clusters; this sound is realised as an alveolar trill before all vowels in this dialect.

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5 "/r/ wird im Imenti vor allen Vokalen als retroflexes Zungenspitzen-r realisiert. Im Miutini und Igoji wird es vor /i/ und /u/ als [l], sonst als retroflexes Zungenspitzen-r gebildet. Im Mwimbi und Muthambi hingegen tritt die Realisierungsklasse [l] vor /i/ und /e/ auf".

6 "/r/ wird vor /i/ als [l], vor allen anderen Vokalen als retroflexes Zungenspitzen-r gebildet".

4. EARLIER CONTRIBUTIONS

Before we conclude our findings, it is important to make a few remarks on some earlier contributions on the six dialects (e.g. Möhlig 1974, Möhlig 1980, Maho 2008, Wamberia 1993). We indicated in the introduction that our findings differ in some respects from those of Möhlig's. Möhlig (1974) posits that the dialects investigated in this study have a voiced glottal fricative /ɦ/. According to him, this fricative is not audible in Imenti. He notes that in Lower Muthambi, it is realised as a bilabial approximant which he transcribes as /b/; in Chuka it is mostly replaced by /ɓ/ – the bilabial approximant – and in very few cases, it is realised as /ɦ/. The phoneme is realised as a glottal fricative in Tharaka. On the other hand, Wamberia (1993) argues that this phoneme is actually a glide in Tharaka, which he transcribes as /ʔ/.

Wamberia illustrates the glide with the word "to give" <koa>, for which he says that the vowels in this word do not glide. In our study, this form and many others in Tharaka are not exceptional to the glide formation rule that operates in these dialects. Furthermore, we noted a few cases where forms that do not glide are used interchangeably with those where gliding occurs. Such an example is "to close" in Tharaka, whereby speakers use [ko.iŋga/kw.i:ŋga] interchangeably. These are also some of the few cases where the vowel is not lengthened after glide formation. It is clear that what Wamberia calls a third glide (and transcribes as /ʔ/), in addition to /y/ and /w/, is not audible at all in Tharaka and if it existed, then it has been lost and its place filled by a glide.

In addition, the glottal fricative, as described by Möhlig, is not audible in all the dialects. It is not clear which area Möhlig refers to as Lower Muthambi but in our study, the bilabial fricative /β/ (which we suspect is the bilabial approximant as described by Möhlig) is used in a very small section of Muthambi, which we refer to as Upper Muthambi, and Chuka. Therefore, if the glottal fricative existed at all then it has been deleted completely and the vacuum that is left by the lost consonant is systematically filled through vowel lengthening and glide formation (except in a few cases noted in Tharaka and Upper Muthambi).

In his (1980) study, Möhlig posits that the pharyngeal glide /'/ (transcribed in Wamberia's case as /ʔ/) found in Tharaka is a reflex of /*p/. He notes this about Tharaka, Meru, Gusii, Suba, Bukusu and Dabida:

> "In all these dialects, //P// is represented either as a voiced pharyngeal fricative /ʕ/ or a voiced pharyngeal glide /'/. The latter is hardly audible but clearly existant [sic!], in so far as it prevents two subsequent vowels from merging according to a morphonological rule otherwise operative in these dialects. According to our synchronic chart, /'/ originated from /ʕ/ and /ʕ/ from /ɦ/" (1980: 44).

Therefore, what Möhlig refers to as a glottal fricative (in his 1974 study) and a pharyngeal fricative, or pharyngeal glide (in his 1980 study), and Wamberia's

pharyngeal glide are all reflexes of Proto-Bantu *p. However, these segments have been lost in all the dialects described in this paper except Chuka. In cases where they occur (e.g. in Chuka), they are realised as a voiced bilabial fricative word initially or intervocalically.

Möhlig (1980) treats Chuka as part of Kikuyu but our findings do not lead to that conclusion. We admit Chuka has a few features found in some dialects of Kikuyu (Gichugu/Ndia), notably the bilabial fricative /β/ found word initially or intervocalically. However, this is an isolated case. There is a proposed research on language contact between Chuka and the neighbouring dialects/ languages, e.g. Embu, Mbeere, Kikuyu to find out how much influence has come from these languages.

Möhlig (1980) also claims that Chuka has been influenced by all the dialects investigated in this study. He further notes that Tharaka has influenced Chuka and not vice-versa. Maho (2008) also lists Chuka (E541) under Tharaka in his *"New Updated Guthrie List"* (NUGL Online). However, it is certainly not clear why Maho groups Chuka under Tharaka, i.e. E54. The findings of our study do not point at Tharaka as a stronger cluster, in terms of linguistic dominance, than Chuka. We cannot, therefore, argue that Tharaka has more influence on Chuka and not vice-versa. We view this grouping as one of the weaknesses that Maho notes on his classification from the very beginning, when he states that the purpose of NUGL is to assign codes to languages lacking in Guthrie's classification, whether their linguistic-genetic status within Bantu is known or not. This classification, however, is commendable in that Mwimbi-Muthambi is recognised as constituting a cluster. Their relation to "Meru" is also not far-fetched since we have noted similarities not only in the vocabulary, but also in the morpho-phonological rules and processes. In addition, the differences noted in Muthambi and Mwimbi are a result of influence from their neighbouring dialects (the direction of diffusion of features is predictable). Igoji is, however, not mentioned in the grouping at all. Our findings could also not isolate features that exclusively separate Igoji as a distinct group other than being a border dialect or a mixture zone. Maho's grouping of Chuka under Tharaka is still questionable because his sub-grouping is not dependent on any tangible evidence based on data. In fact he says this about the classification:

> "Any revision on Guthrie's classificatory list is bound to remain a half-done job. There are many regions in the Bantu area where data is lacking for proper statements about linguistic geography. Hence any revision, whether they [sic!] aim towards historical validity like those of Tervuren and SIL, or towards being referential, as the present one, will most certainly have to be revisited again in a near future" (2008: 9).

The findings in our study do not point to Chuka as a group that has been strongly influenced by the other dialects, not even Tharaka. The dialect is the most conservative and if it had been so strongly influenced by the others, then most of these features that characterise Chuka would be levelled. In cases where a form has been borrowed from the neighbouring dialects, the form is used

interchangeably with its equivalent in Chuka and the use of the borrowed forms is seldom. Therefore, the relationship between Chuka and Tharaka remains an open question. However, we would be sceptical to state that Tharaka has had a strong infuence on Chuka because the former shares more features with Imenti than the latter.

Lastly, Möhlig (1974) has no variants for the class 8 plural prefixes. He gives the prefixes as consonant + i. Therefore, the prefixes are {bi-}, {ji-} and {ci-} and this difference from the variants with a glide, most probably, is a question of methodology and his method of transcription. Furthermore, the plural prefix with only {i-} is not represented in his data.

Indeed, Chuka remains the most conservative of all the so-called "Meru" dialects, as opposed to Möhlig's observation that Chuka is influenced from all directions. As much as the construction of the Meru-Embu road in the 1950s opened up Chuka, which was previously isolated in terms of accessibility, the communication patterns do no show much linguistic influence from the neighbouring dialects/languages. Ironically, dialects such as Upper Muthambi have been influenced by Chuka and not vice-versa. We found many innovations in the lexicon that are restricted to Chuka, Tharaka and Imenti. There are extremely few innovations in Mwimbi, Muthambi and Igoji which are not known or used in the other dialect areas. The dialects, except Chuka, are therefore "very" closely related and mutually intelligible.

5. CONCLUSION

In conclusion, we note that the data and examples support the proposition given at the beginning of the paper that certain phonetic-phonological and morphological aspects play a role in drawing dialect boundaries. Secondly, in attempting to draw the dialect boundaries based on the given examples one observes a clear-cut dialect continuum. Speakers of a certain dialect cluster share specific characteristics that make it stand as a unique and different cluster. There are also very peculiar features which indicate the dialects that are not too open to external influence from the neighbouring dialects and those that have changed considerably over the years. This means some dialects are more conservative and less open to change and language dynamism than others. We sum up this paper by highlighting the features that mark dialectal boundaries.

The dental fricative /ð/ is hardened to a stop /d/ after a nasal and sometimes intervocalically, or it changes to an alveolar tap [ɾ] intervocalically or word initially in Mwimbi, Muthambi and Igoji. The phoneme remains unchanged in Chuka, Tharaka and Imenti in all environments.

Deletion of the bilabial fricative /β/ intervocalically is common in Imenti, Lower Muthambi, Mwimbi and Igoji. This deletion separates these dialects from Chuka, Tharaka and Upper Muthambi where the phoneme is retained. The phoneme that is lost is compensated through vowel lengthening, height

assimilation and glide formation. In some cases the bilabial fricative is deleted in Tharaka and the same strategies mentioned above are used to compensate for the lost consonant. In addition to the bilabial fricative, there are other continuants that are prone to deletion among the dialects, namely: the alveolar trill, velar and dental fricatives. Chuka is the most conservative dialect among all the dialects investigated. It consistently retains all the alveolar trills, bilabial, velar and dental fricatives in forms where these phonemes have been lost in other dialects. Imenti, on the other hand, constitutes the other extreme dialect when it comes to deletion of sounds, e.g. it has lost the alveolar trills, bilabial and velar fricatives in forms where the phonemes existed in Common Bantu (as stops).

Devoicing of the palatal fricative /ʝ/ is also a phonetic-phonological feature that distinguishes Chuka as a dialect cluster. In word environments where the other dialects have a voiced palatal fricative /ʝ/, Chuka has a voiceless palatal stop /c/ or its free variants. The bilabial stops /p/ and /b/ are neutralised in Chuka to one phoneme /b/. The voiceless stop is neutralised to a voiced bilabial stop in nasal environments and it is realised as a bilabial fricative intervocalically. In some dialects such as Imenti, the fricative is deleted intervocalically, but it is sometimes retained in Tharaka and Upper Muthambi. The voiceless bilabial stop /p/ does not exist in Chuka. In forms where it occurs in the other dialects, Chuka has a voiced stop or nasal compounds, or a bilabial fricative intervocalically.

Palatalisation and devoicing of the consonant of the class 8 plural prefix is a characteristic feature of Chuka. Although Upper Muthambi and Upper Mwimbi palatalise the prefix, the consonant of the prefix is not devoiced.

All the dialects treat the plural forms of class 1 differently depending on whether the words in this class denote people or kinship terms. In kinship terms a wide variation is noted in the plural prefix. However, there is a clear dialect boundary that is based on class 2 plural prefixes. All dialects use {βa-} for terms such as “father” and “mother” and Chuka uses {ma-}. In addition, three dialects: Imenti, Igoji and Tharaka have a prefix {ɛ-} as a variant for class 2 plurals but Chuka, Muthambi and Mwimbi do not have this prefix. Chuka also has the most variations in the plural prefixes of the kinship terms.

Lastly, Imenti is the only dialect where speakers use the alveolar trill throughout. All the other dialects have an alveolar lateral as a free variant of the trill, and the use of the alveolar lateral is dependent on certain specific vowels in each dialect. It is evident that Chuka is the most conservative dialect and Imenti is the most open dialect to change. The examples given from Common Bantu show that Chuka has retained the stems of the Common Bantu forms without loss of sounds, especially stem initial consonants and in most cases the stops. The latter have only weakened to fricatives intervocalically. On the other hand, Imenti has lost most of the stem initial consonants, especially in noun class 15. The stops are weakened to fricatives and they are further lost through deletion. The words, therefore, have vowel initial stems in cases where the sounds have

been lost. The sounds are, however, compensated through strategies such as glide formation and vowel lengthening.

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About the author: *Fridah Erastus Kanana* (PhD) is a DAAD scholar, and currently a lecturer at the department of English and Linguistics at Kenyatta University, Kenya. Her research interest are in language contact and dialectology with a bias on Central Kenya Bantu languages.