

Dialect Convergence and Divergence: A Case of Chuka and Imenti

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1. Introduction

It is a common phenomenon that dialect clusters within a given geographical area tend to become more mutually intelligible than dialects that are more distant. 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 they 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. This is a consequence of the fact that the distinction between language and dialect is not structurally based. In the vast majority of cases, linguists rely on the sentiments of native speakers. Things are also complicated by the fact that languages may share materials for different reasons: 1) inheritance from a common ancestor, 2) influence from the same language other than a common ancestor, 3) borrowings from each other (as in convergence areas), 4) they accidentally innovated the same forms and/or structures.

Imenti and Chuka belong to the Bantu language family and have been classified variously by different scholars. The dialects are spoken in the Eastern province of Kenya and both are mutually intelligible. Some scholars argue that Chuka is more closely related to Kikuyu (Möhlig 1980), others consider the dialect to be more related to 'Meru'¹ (Bennett 1967, 1962 Kenyan Census), while still others argue that this dialect has leanings towards Kikuyu and Meru (in this case reference is made to the main dominant dialect Imenti) (Lambert 1950). In addition, Maho (2008) considers Chuka to be closer to Tharaka, adding more controversy to the debate.

The argument in this paper is that divergences in the phonological systems of dialects are largely responsible for reduced degrees of intelligibility. That is, there are idiosyncratic features inherent in a given dialect that set it off from the other dialects in the same cluster. In this paper we will endeavour to clearly exemplify the phonological features and some noun class morphophonemics that make Imenti and Chuka similar or dissimilar. A systematic description of the morpho-phonological processes in the two dialects² will enable us to attempt a more scientific differentiation of the dialects.

A general observation can be made about the dialects; phonologically they are closely related. The two dialects have an identical vowel system and vocalic processes. They have a seven vowel system which includes long and short vowels. There are phonemic and phonetic long vowels. Chuka varies

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¹ Meru is an umbrella term that refers to a number of dialects which some scholars have argued that they are independent languages e.g. Tharaka (Lindblom 1914). There has been a lot of controversy in the grouping of these dialects as Meru; some of the grouping is for political reasons but not linguistic as such. The author of this paper attempts to describe the relatedness of these dialects in her PhD thesis from a lexical and morpho-phonological point of view.

² Chuka speakers are approximately 86,000 and Imenti speakers are about 500,000.

slightly in the consonant system; this group does not have a palatal fricative /j/ and a voiceless bilabial stop /p/. The dialects utilise five places of articulation. These places of articulation are: bilabial, dental, alveolar, palatal and velar. In terms of manners of articulation, they have four of them, namely: stops, fricatives, a liquid and glides.

2. Areas of Convergence

In this section the areas of convergence between the two dialects will be discussed. Basically they include the vowel system, vocalic processes and some consonantal processes. The dialects have a seven vowel system as noted above. They have both phonemic long vowels and phonetic long vowels, which are conditioned by various morphophonemic processes. The vowels are:

	FRONT	BACK
HIGH	i i:	u u:
	e e:	o o:
	ɛ ɛ:	ɔ ɔ:
LOW	a a:	

The phonemic long vowels occur stem medially or finally and phonetic vowels occur stem initially and, in a few cases, stem medially, especially after glide formation. Phonetic long vowels are environmentally conditioned. Quite often the vowel of the prefix will be altered to be similar or dissimilar to the initial vowel of the stem.

Phonemically long vowels, on the other hand, have as much freedom of distribution as short vowels. They can occur in stem medial and final positions. They are not conditioned by other sounds that precede or follow them.

Table 1: Phonemically Long Vowels

PHONETIC FORM	GLOSS
[ke.re:ra]	<i>face(s)</i>
[mo.ta:na]	<i>son</i>
[ri:kɔ/ma.ri:kɔ]	<i>fire place</i>
[tɔ:yi] (IM)	<i>smoke</i>
[tɔ:ɔ] (CH)	<i>smoke</i>
[ko.yi.tanga/ko.yi.ta]	<i>to cut/cut into pieces</i>
[ko.re:kia]	<i>to finish</i>
[pamo:]	<i>animal</i>
[n.to:ra] (IM)	<i>village</i>
[e.to:ra] (CH)	<i>village</i>
[ko.yu:nda] (IM)	<i>to ripen</i>
[e.tu:]	<i>cloud</i>
[mo.ri:]	<i>root</i>

Depending on the morpho-phonological conditions of the words, several vocalic processes are seen to operate in these dialects. These include: glide formation, height assimilation, coalescence, length assimilation among others.

Example 1

PHONETIC FORM	UNDERLYING FORM	GLOSS
[ku:na]	/ko.una/	<i>to break</i>
[ku:ma]	/ko.uma/	<i>to sprout</i>
[ku:ɣeria] (CH)	/ko.uɣeria/	<i>to shout</i>
[ki:m̩ba]	/ke.imba/	<i>corpse</i>
[m̩e:ð̩ri]	/ma.ɛð̩ri/	<i>tears</i>
[k̩o:ni]	/ka.ɔni/	<i>seer (DIM)</i>

On the other hand, when the vowel in the prefix is identical to that of the stem, the two vowels merge since they share similar phonetic characteristics. The output after the merger is a phonetic long vowel.

Example 2

PHONETIC FORM	UNDERLYING FORM	GLOSS
[a:re]	/a.a:re/	<i>daughters</i>
[o:ke]	/o.o:ke/	<i>honey</i>
[e:ɣ̩ɔ] (IM)	/e.eɣ̩ɔ/	<i>tooth</i>
[me:ɣ̩wa] (CH)	/me.eɣ̩wa/	<i>thorns</i>
[β̩i:m̩ba]	/β̩i.imba/	<i>corpses</i>

The morpho-phonological process involved in height assimilation and merger of two identical vowels can be stated in a rule:

'Non low vowels become high before high vowels if they share frontness'

Rule 2

$$\left[\begin{array}{c} V \\ \alpha \text{ Front} \\ - \text{Low} \end{array} \right] \longrightarrow \left[+ \text{High} \right] / \text{---} \left[\begin{array}{c} V \\ \alpha \text{ Front} \\ + \text{High} \end{array} \right]$$

2.1.3. Vowel coalescence

Coalescence is whereby two sounds influence each other. None of the sounds involved totally relinquishes its phonetic features. Instead, the two sounds settle for a mid position. Therefore, the sound that surfaces after coalescence is a different vowel.

Example 3

PHONETIC FORM	UNDERLYING FORM	GLOSS
[m̩ɔ:ð̩io]	/ma.ɔð̩io/	<i>face (pl)</i>
[m̩ɔ:r̩ɣ̩ɣ̩ɔ]	/ma.ɔr̩ɣ̩ɣ̩ɔ/	<i>lie (pl)</i>
[m̩ɔ:ritu]	/ma.ɔritu/	<i>foolishness (pl)</i>

Schematically the vowels in example 3 behave as follows: /a/ \longleftrightarrow /o/ = [ɔ:].

Coalescence also affects front vowels e.g.

PHONETIC FORM	UNDERLYING FORM	GLOSS
[kɛːjɛ]	/ka.ejɛ/	<i>small boy</i> (DIM)
[kɛːɣɔ]	/ka.eɣɔ/	<i>tooth</i> (DIM)

Hence: /a/ \longleftrightarrow /e/ = [ɛː].

The dialects are not as similar in the consonant system and consonantal processes as they are in the vowel system and vocalic processes. Therefore, only the consonantal processes that are identical will be discussed in this section. However, to understand the consonantal processes that are shared by the two dialects, we will first discuss the consonant inventory in the two dialects and the free variants of these consonants.

CONSONANT PHONEME INVENTORY OF IMENTI

	Bilabial	Dental	Alveolar	Palatal	Velar
Plosive	p b		t (d)	c (ɟ)	k (g)
‘Trill’			r		
Fricative	(β)	ð		j	ɣ
Semi-vowel	(w)			(j)	
Nasal	m		n	ɲ	ŋ

Imenti has free variants for some phonemes: the palatal fricative /j/ has two variants [ʒ, dʒ]; voiceless palatal stop /c/ has three free variants: [tʃ, s, ʃ], and the voiced palatal stop /ɟ/ has one variant [dʒ].

CONSONANT PHONEME INVENTORY OF CHUKA

	Bilabial	Dental	Alveolar	Palatal	Velar
Plosive	b		t (d)	c (ɟ)	k (g)
‘Trill’			r		
Fricative	(β)	ð			ɣ
Semi-vowel	(w)			(j)	
Nasal	m		n	ɲ	ŋ

The consonant inventory of Chuka differs slightly from that of Imenti. Chuka does not have a voiced palatal fricative /j/. Instead, it has only a voiceless palatal stop /c/ which is often phonetically realised as [ʃ, s, ç, tʃ] intervocally or word initially. The voiced palatal stop /ɟ/ which is also found in the other dialects has one free variant [dʒ] in Chuka. In addition, Chuka does not have a voiceless bilabial stop /p/.

The dialect also has one liquid /r/, which has an alveolar lateral [l] as a variant. The alveolar lateral [l] is environmentally conditioned in Chuka. It occurs before /e, ɛ, a, o, ɔ/ and never occurs before /i, u/. The liquid is realised as an alveolar trill in Imenti throughout.

2.2. Consonantal Processes

2.2.1. Dahl’s Law

There is a productive synchronic dissimilatory process in both dialects. This rule requires a consonant in a prefix to *disagree in voicing* with the first consonant of the root to which it is attached.

‘A voiced stem initial segment requires a voiceless consonant in the prefix and a voiceless stem-initial segment requires a voiced consonant in the prefix’ (Katamba 1989:95).

This dissimilation rule in Bantu is called Dahl's Law. Consider the examples below:

Table 3: Dahl's Law

SURFACE FORM	UNDERLYING FORM	GLOSS
[yo.tambora]	/ko.tambora/	<i>to tear</i>
[yo.ko:ra] (IM)	/ko.ko:ra/	<i>to cough</i>
[yo.ko:ra] (CH)	/ko.ko:ra/	<i>to cough</i>
[ko.yona]	/ko.gona/	<i>to snore</i>
[ya.keŋke] (IM)	/ka.keŋke/	<i>new born baby</i>
[ka.yeŋke] (CH)	/ka.gēŋke/	<i>new born baby</i>
[yo:ça] (CH)	/ko.ca/	<i>to come</i>
[kw.e:ja] (IM)	/ko.eja/	<i>to come</i>
[ko.ywa:tia]	/ko.goatia/	<i>to light</i>

The data exemplify that Dahl's Law operates on /k/ which changes to a voiced velar stop/g⁴/ when the first consonant of the stem or root is voiceless. If the stem begins with a voiced consonant the prefix is not voiced (see 'to snore', 'new born baby' (CH)⁵, 'to come' (IM) and 'to light' in the table above). The /k/ in 'to come' (CH) changes because [ç, s, ʃ] are phonetic variants of the voiceless palatal stop in Chuka. Dahl's Law was named after Edmund Dahl who noted it in Nyamwezi. The Law was first formulated by Meinhof, who stated that:

'Wenn in einem Wortstamm zwei aufeinanderfolgende Silben mit einer stimmlosen Explosiva beginnen, so wird die erstere stimmhaft' (Meinhoff 1903:299)⁶.

Preliminarily, we can summarise Dahl's Law as it operates in these dialects as follows; where it has to be understood that the rule in detail is much more complicated.

'/k/ becomes voiced in the environment of a voiceless consonant'

Rule 3

$$k \rightarrow [+Voiced] / _ V + (V) / \left[\begin{array}{c} C \\ -Voiced \end{array} \right]$$

2.2.2. Homorganic nasal assimilation

In anticipation of articulation of a consonant following a nasal, the articulators adjust so that the nasal and the following consonant are articulated at the same place. This is illustrated in table 4.

⁴ Via a subsequent rule g becomes y

⁵ The following abbreviations are used: ADJ = Adjective, CH = Chuka, DIM = Diminutive, IM = Imenti, PERF = Perfect tense, pl = Plural.

⁶ 'If two syllables in a single stem both begin with a voiceless stop, the first of the two will become voiced.'

Table 4: Homorganic Nasal Assimilation

FORM	POINT OF HOMORGANIC NASAL ASSIMILATION	ENVIRONMENT	GLOSS
[m.bori]	Bilabial	class 9/10 initial nominal prefix	<i>goat</i>
[ke.rumba]	Bilabial	prenasalised stop	<i>odour</i>
[n.ðɑ:kɑ]	Alveolar	class 9/10 initial nominal prefix	<i>circumcised boy</i>
[i.ðanðato]	Alveolar	prenasalised fricative	<i>six</i>
[n.daa]	Alveolar	class 9/10 initial nominal prefix	<i>louse</i>
[ye.kundo] (CH)	Alveolar	prenasalised stop	<i>knot</i>
[[ye.kundwa] (IM)	Alveolar	prenasalised stop	<i>knot</i>
[n.ʝoke]	Palatal	class 9/10 initial nominal prefix	<i>bee</i>
[ko.βuŋʝania] (CH)	Palatal	prenasalised stop	<i>to mix</i>
[ŋ.korani]	Velar	class 9/10 initial nominal prefix	<i>different</i>
[kj.ɔ.ŋgɔ]	Velar	prenasalised stop	<i>head</i>

Thus:

'A nasal agrees with the point of articulation of the consonant it precedes'

Rule 4

$$[+ \text{Nasal}] \rightarrow [\alpha \text{ Place of art.}] / _ \left[\begin{array}{c} C \\ \alpha \text{ Place of art.} \end{array} \right]$$

The motivation for the homorganic nasal assimilation is based on considerations of 'articulatory' simplification. The result of assimilation is to reduce the number or the extent of the movements and re-adjustments, which speech producing organs need to perform (cf. Antila 1972:74; Abercrombie 1967:135). Through homorganic nasal assimilation, the speaker, therefore, succeeds in producing some economy of effort in the utterance.

2.2.3. Continuant strengthening and weakening

All continuants in Chuka and Imenti, with the exception of /ð/⁷ become stops when they occur after nasals. On the other hand, the stops weaken to fricatives word initially or intervocalically. In many cases the bilabial fricative weakens further and goes to zero word initially or intervocalically in Imenti. However, in Chuka the fricative is almost always retained in word initial or medial position. The deleted consonant in Imenti surfaces in a nasal environment (cf. glosses 'to hide', 'fences' in table 5). The data are given in the table below.

⁷ The dental fricative is an exception to the rule above, since it is the only fricative that does not harden to a stop. This is the only fricative that occurs intervocalically, initially and after a nasal as exemplified in the table. This could possibly be based on the fact that, whereas all other voiced continuants have a corresponding voiced stop, there is no dental stop.

Table 5: Distribution of Stops and Fricatives

PHONEME	INTERVOCALICALLY	NOMINALISATION	PERFECTIVE	GLOSS
/β → b/	[ka.βura] (DIM)	[m.bura]		<i>rain</i> (class 12/10)
	[ko.βiða] (CH)		[m.biðire] (CH)	<i>to hide</i>
/β → Ø/	[kw.i:ða] (IM)		[m.biðire] (IM)	<i>to hide</i>
	[rw.i:riyɔ]	[m.biriɔ]	[m.biriɔire]	<i>fence(s)</i>
/ð/	[ro.ðea]	[n.ðea]		<i>cheek(s)</i>
		[n.ða:ka]		<i>son</i>
	ko.ðeka	[n.ðekɔ]	n.ðekire	<i>laugh/laughter</i>
/r → d/	[roomɛ] (IM)	[n.domɛ] (IM)		<i>tongue(s)</i>
	[ro.remɛ] (CH)	[n.demɛ] (CH)		<i>tongue(s)</i>
	[ko.rwa:ra] (CH)		[n.dwa:rɔire](CH)	<i>to fall ill</i>
		[n.dwa:ri] (CH)		<i>illness</i>
	[ko.rɔmba]		[n.dɔmbire]	<i>ask/beg</i>
	[ko.raða]		[n.daðire]	<i>shoot</i>
/s, ʃ, ç → ʒ/	[ya.cera] ⁸ (DIM) (CH)	[n.ʒera]		<i>path/way</i>
/j → ɟ/	[ka.ɟera] (IM)			(class 12/10)
/ɣ → g/	[ka.ɣi] (DIM)	[ŋ.gi]	[ŋ.gi]	<i>housefly</i> (class 12/10)
	[ko.ɣorana]	[ŋ.ɣorano]	[ŋ.ɣoranire]	<i>marry</i>

Hence:

'A continuant becomes a stop after a nasal'.

Rule 5

$$\left[\begin{array}{l} + \text{Voiced} \\ + \text{Continuant} \end{array} \right] \longrightarrow \left[- \text{Continuant} \right] / \text{N} ______$$

Weakening of stops

'A stop becomes a continuant word initially or intervocalically'.

Rule 6

$$\left[\begin{array}{l} + \text{Voiced} \\ - \text{Continuant} \end{array} \right] \longrightarrow \left[+ \text{Continuant} \right] / \left\{ \begin{array}{l} \# \\ V \end{array} \right\} ______ V$$

⁸ One should bear in mind that the palatal stop can be any of the free variants given in Chuka. For purposes of economy the palatal stop is used instead of all the possible free variants.

Apply weakening

b → β

b → ∅ (this example is included here to illustrate a further weakening of /β/ which leads to ultimate deletion)

d → r

ɟ → c/j

g → ɣ

We have presented two possible analyses for the data given above. In the absence of independent data, not involving nasals, it is difficult a priori to decide between the two possibilities. Difficulties involving a possible strengthening or lenition rules come from data of the following kinds involving 11/10 nouns. There are a good number of cases where sporadic b's or p's appear in the plural forms of these nouns. There is no indication independently that these nouns which are vowel-initial in the singular should have an underlying form with an initial consonant. On the other hand, if an underlying form consisting of an initial vowel is proposed, we have no means of predicting the initial consonant in the plural forms. The problem will have to remain for now unresolved. Compare examples given below for Imenti *vis-à-vis* Chuka.

Example 4

IMENTI	CHUKA	GLOSS
ro.e/rw.e:, m.pe	ro.βe/ke.βe, m.be	<i>palm(s)</i>
ro.e/rw.e:, m.pe	ro.βe/ke.βe, m.be	<i>palm(s)</i>
ro.βaru, m.baru	ro.βaru, m.baru	<i>rib(s)</i>
rw.a:ru, m.baru	ro.βaru, m.baru	<i>rib(s)</i>
rw.a:ŋi, m.pa:ŋi	ro.βwa:, m.bwa:	<i>branch(es)</i>

The examples in 4 show such complex forms especially in Imenti. In this dialect, continuants (more precisely the bilabial fricatives) are often deleted intervocalically but they surface in nasal environments. The bilabial fricative (which subsequently hardens to a voiced or voiceless bilabial stop after a nasal) is deleted between vowels in Imenti, at least when there is also a morphological boundary.

3. Areas of Divergence

In this section we will exemplify the phonetic-phonological features and noun class morphophonemics that differentiate these two dialects. Each dialect maintains individual characteristics, though some may seem simple, to set it off from the other.

3.1. Deletion, Glide Formation and Compensatory Lengthening

3.1.1. Deletion of /β/

Imenti deletes the voiced bilabial fricative /β/ intervocalically where the phoneme has been retained in Chuka. In cases where the fricative is deleted, the lost segment is filled through glide formation or compensatory lengthening of the vowel. The glide formation rule and vowel lengthening rules are already discussed above (cf. § 2.1, rule 1 and rule 2).

Table 6: Deletion of /β/

IMENTI	CHUKA	PROTO-BANTU	GLOSS
ko:ra~ko.ora	ko.βora	–	<i>to beat someone</i>
yo.ku:e/a.ku:e	yo.kuβe/a.kuβe/βa.kuβe	–	<i>near (ADJ)</i>
ye.ku:e/ η.ku:e	ye.kuβe/η.kuβe	kúpí, kúpí	<i>short (ADJ)</i>
ko.ða~ko.oða	ko.βoða	pùp	<i>to be light (ADJ)</i>
ku:a/ku:ya~ku.uya	ko.βu:βa	–	<i>to kindle/to light fire</i>
ku.rutana~ ku.urutana	ko.βuru:tana	púúpá	<i>to blow</i>
kw.e:ðia	ko.βeβia	yótò, yíà,píà	<i>to burn</i>
–	ko.βa:ta	píát	<i>to sweep⁹</i>
yw.a:ta	–	–	<i>to peel (e.g. roasted yam)</i>

The data in table 6 show:

After deletion of /β/, if the vowel of the prefix is identical to that of the stem the two merge and surface as one long vowel (cf. the form ‘to beat someone’ in Imenti). If the deleted consonant occurs word medially the first vowel of the stem is often lengthened. That is, the vowel in the stem that precedes the deleted consonant is lengthened in Imenti. For example:

Example 5

IMENTI	CHUKA	GLOSS
yo.ku:e/a.ku:e	yo.kuβe/a.kuβe	<i>near</i>
ye.ku:e/η.ku:e	ye.kuβe/η.kuβe	<i>short</i>

In case a low vowel in the prefix precedes a high vowel in the stem, the vowel of the prefix is raised to the height of the vowel of the stem. This is how forms such as ‘to blow’ and ‘to kindle fire’ below are generated in Imenti.

Example 6

IMENTI	CHUKA	INPUT IN IMENTI	GLOSS
ku.rutana	ko.βuru:tana	ko.Øurutana	<i>to blow</i>
ku:a	ko.βu:βa	ko.ØuØa	<i>to kindle fire</i>

Considering the two examples in example 6 above, we note that after the deletion of the consonant /β/ (marked in the table as zero /Ø/ in the input), the vowel of the prefix /o/ is raised to the position of the vowel of the stem /u/. Subsequently, the vowel of the stem is lengthened to compensate the loss of the consonant.

Sometimes after deletion of the voiced bilabial fricative, the vowel of the prefix triggers glide formation according to the glide formation rule discussed and consequently, the vowel of the stem is lengthened (cf. ‘to burn’ and ‘to peel’ in table 6).

⁹ The form ‘to sweep’ and ‘to peel’ (e.g. a roasted root or a tuber such as a yam, cassava or potato) are related. In Chuka the form has a bilabial fricative and in Imenti the bilabial fricative is deleted.

Additional examples:

Table 7: Consonant Deletion, Vowel Lengthening and Glide Formation

IMENTI	CHUKA	PROTO-BANTU	GLOSS
yo.ti:a	yo.ti:βa	—	<i>to sneeze</i>
ro.e/rw.e:	ro.βe	—	<i>palm</i>
j.o:ri/e.ori	e.βori	—	<i>lung</i>
i:ya~ i.iya	e.βiya	PÍGÀ	<i>rock/stone</i>
o.iki/w.i:ki	o.βiki	—	<i>marriage</i>
kw.i:ða	ko.βiða	bǽ	<i>to hide</i>
j.a:re	e.βare	PÍGÀ	<i>cooking stones</i>
rw.ɛ:ni	ro.βeni	PĚNĬ, pĚnĬ	<i>lightning</i>
kw.e:nda	ko.βenda	—	<i>to twist a rope</i>
kw.i:ŋga/ko.iŋga	ko.βiŋga	bũg	<i>to shut/close</i>
kw.a:nda	ko.βanda	pánd	<i>to plant</i>
kw.o:ria	ko.βoria	pón	<i>to care for/cure</i>
yo.taa ¹⁰	yo.taβa	táp	<i>to draw water</i>
yo.tu:a	yo.tu:βa	túúp	<i>to be blunt</i>

The bilabial fricative is very prone to elision in Imenti at the initial and medial positions of the word. See glosses ‘to sneeze’, ‘to draw water’ and ‘to be blunt’ for cases of deletion, stem medially.

3.1.2. 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 Imenti but it is consistently retained in Chuka. In cases where it is deleted in Imenti, the vowel that precedes the alveolar trill is lengthened. Cases where the trill is not deleted are very rare in Imenti and such forms are used interchangeably with those where it is deleted.

Examples:

Table 8: Deletion of /r/

IMENTI	CHUKA	PROTO-BANTU	GLOSS
yw.ɛ:te:ra	yw.ɛ:te:ra	—	<i>to wait</i>
yw.e:to:ra	yw.e:torora	yitudud, yitid	<i>to pour</i>
yo.ke:ria	yo.kereria	—	<i>to lift</i>
yo.ko:ra	yo.ko:ra	kóód	<i>to cough</i>
ko.ri:kana/ ko.ririkana	ko.ririkana	dúduk	<i>to remember</i>
ko.ða:ra	ko.ðarara	—	<i>to shine</i>

3.1.3. Deletion of /ɣ/

The voiced velar fricative /ɣ/ like the voiced bilabial fricative and alveolar trill is consistently retained in Chuka in forms where it has been deleted in Imenti.

¹⁰ 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 a vowel 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.

Example 7

Deletion of /y/

IMENTI	CHUKA	PROTO-BANTU	GLOSS
mu.nda	mo.yonda	gùndà	<i>garden</i>
e.eγɔ~e:γɔ	e.γɛγɔ	gègò	<i>tooth</i>
ko.no:ka	ko.nɔγɔka		<i>to rest</i>

3.2. Devoicing

As noted above, the absence of a voiced palatal fricative /j/ also distinguishes Chuka from Imenti. Whereas Imenti has the voiced palatal fricative, Chuka has a voiceless palatal stop or its free variants.

Table 9: Voiced Palatal Fricative /j/ vs. Voiceless Palatal Stop /c/ or its Free Variants

IMENTI	CHUKA	GLOSS
kw.e:ja	γo:sa, γo:ça~γo.osa, γo.oça (Dahl's Law)	<i>to come</i>
ko.joria~ko.ojoria	γw.e:foria, γw.e:soria (Dahl's Law)	<i>to fill</i>
ɲ.jera, ka.jera	ɲ.jera, γa.jera, γa.çera, γa.sera (Dahl's Law)	<i>path/way</i> (class 12/10)
ro.je	ro:ɲce	<i>water</i>
n.da:ja	n.da:sa	<i>long</i> (ADJ)
ko.ra:ja	ko.ra:fa, ko.ra:ça	<i>far</i>
ɲ.joke, ka.joke	ɲ.joke, γa.coke, γa.soke (Dahl's Law)	<i>bee</i> (class 12/10)
ɲ.jɔka, ka.jɔka	ɲ.jɔka, γa.cɔka (Dahl's Law)	<i>snake</i> (class 12/10)

The devoicing of the palatal fricative in Chuka is a form of strengthening as compared to Imenti. It strengthens in voice and becomes stronger than the voiced fricative in Imenti. The change from a voiceless sound to a voiced one in Imenti should be viewed as a form of weakening. Thus,

Voiceless > voiced, shows changes towards a weaker segment.

3.3. Neutralisation

The opposition between a voiceless bilabial stop /p/ and a voiced bilabial stop /b/ is neutralised in Chuka to a voiced bilabial fricative /β/ intervocalically or a voiced bilabial stop /b/ in nasal environments. On the other hand, the voiceless stop has been retained in Imenti after nasals, but intervocalically it has either weakened to a voiced bilabial fricative or been deleted altogether. All the voiceless consonants of proto-Bantu stems have the feature [+voice] in Chuka but the voiceless stop is retained in Imenti. See examples in table 10.

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

IMENTI	CHUKA	PROTO-BANTU	GLOSS
m.pẽmpẽ	m.bẽmbe	pẽmbá	<i>maize</i>
ro.e/rw.e:, m.pe	ro.βe, m.be	pí	<i>palm of hand/palms</i>
ɣj.ẽmpẽ	ke.ðẽmbe	—	<i>drum</i>
m.paka	m.baka	pákà	<i>cat</i>
m.pio	m.beβo	pépò, PÉPÒ, PÍÒ	<i>cold</i>
i.ya~i.iya	e.βiya	pigà, yádá	<i>stone</i>
kw.a.nda	ko.βanda	pànd	<i>to plant</i>
m.pandire	m.bandire	—	<i>Iplanted (PERF)</i>
kw.i.nga/ko.nga	ko.βinga	—	<i>to shut/to close</i>
m.pingire	m.bingire	—	<i>I closed (PERF)</i>
kw.ɔ.ria	ko.βoria	pón	<i>to care for or to cure</i>
m.boririe	m.boririe	—	<i>I cured (PERF)</i>
ko.ra~ko.ora	ko.βo:ra	kúb, búd	<i>to beat</i>
η.ku:e	η.kuβe	kúpí, kúpí	<i>short</i>
ku:a	ko.βu:βa	pùùpà	<i>to blow/to light fire</i>
m.buyire	m.buβire	—	<i>I blew (PERF)</i>

The examples in table 10 show a systematic change of the proto-Bantu stems concerning /p/. In Chuka the phoneme has been neutralised in voicing and, therefore, becomes a voiced segment in all environments. In addition, the sound is retained in all equivalents of the proto-Bantu stems unlike in Imenti where the phoneme is deleted, especially between vowels.

The neutralisation of /p/ and /b/ in Chuka can be formulated in a rule:

Rule 7

$$\left. \begin{array}{c} p \\ b \end{array} \right\} \longrightarrow b / N \text{ ______}$$

The rule states that: ‘the opposition between the voiced and voiceless bilabial stop is neutralised after a nasal’.

3.4. Palatalisation/Fricativisation/Devoicing of Class 8 Plural Forms

Palatalisation as a phonological process affects plural forms of class 7/8. The proto-Bantu plural marker for this class is *b_j-. This plural marker is realised as {βi-}, {i-} or {βy-} in Imenti, and it is realised as {si/ʃi-}, {i-} or {sy-/ʃy-} in Chuka. Therefore, a sequence of changes have affected the proto-Bantu plural prefix marker *b_j- to generate the present forms in the dialects. Firstly, in Imenti the stop weakened to a fricative to generate the form {βi-}/{βy-}, which is the surface phonetic realisation of class 8 plural prefix to date. However, there are cases where the fricative is dropped and the plural prefix surfaces as a vowel {i-}. On the other hand, the bilabial fricative is palatalised and devoiced in Chuka. Sometimes the plural marker in Chuka is realised with a voiceless palatal stop or palatal fricative {cy-} or {çy-} respectively. These two phonetic variants are rare and we presuppose, 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	CHUKA	GLOSS
mw.a:re, a:re (1/2)	mw.a:re, sj .a:re, fj .a:re ¹¹	<i>daughter(s)/girl(s)</i>
ky.a:ra, <u>fy</u> .a:ra	ky.a:ra, sj .a:ra/ fj .a:ra	<i>finger(s)</i>
ky.ε:βa, <u>fy</u> .ε:βa	ky.ε:βa, sj .ε:βa	<i>sorrow(s)</i>
ky.o:ra, <u>fy</u> .o:ra	ky.o:ra, sj .o:ra/ ɟj .o:ra	<i>frog(s)</i>
ky.ɔ:ŋgɔ, <u>fy</u> .ɔ:ŋgɔ	ky.ɔ:ŋgɔ, fj .ɔ:ŋgɔ/ sj .ɔ:ŋgɔ	<i>head(s)</i>
ki.mba, <u>fi</u> .mba	ki.mba, si .mba/ fi .mba	<i>corpse(s)</i>

Palatalisation, fricativisation and devoicing of class 7/8 nouns in Chuka can be summarised in a rule.

Rule 8

$$\left[\begin{array}{c} C \\ + \text{Labial} \\ - \text{Stop} \end{array} \right] \longrightarrow \left[\begin{array}{c} + \text{Post-alveolar} \\ - \text{Voice} \end{array} \right] / ____ j$$

$$j \longrightarrow \emptyset / C ____ i$$

Since the palatal glide and the high front vowel are phonetically close – both are high – they merge to a high front vowel and the glide is subsequently deleted.

Some forms that are not in class 7/8 are sometimes affected by palatalisation (see the word ‘daughters/girls’) in Chuka. The form is a class 1/2 noun in Imenti. However, the plural in Chuka is formed with a class 8 prefix and thus palatalised like all class 8 plurals in these dialects.

3.5. Class 1/2 Nouns

A case of divergence is marked by the class 2 plural prefix. The prefix in Imenti is {βa-} or {a-} while in Chuka the prefix is {ma-} or {a-}. It is important to note that most words in class 2 have a vowel {a-} as the plural prefix marker and, as a consequence, words such as [mu.nto] ‘person’ and [mo.ka] ‘woman’ have {a-} as the plural prefix, thus [a.nto] and [a.ka] respectively. Imenti has two forms for ‘woman’. In one of these forms the plural has a prefix {ε-}, thus [mw.ε:koro, ε:koro]. The prefix {ε-} is generated as a consequence of a morpho-phonological process; height assimilation where the prefix {a-} is raised to {ε-} in the environment of a vowel with a higher height quality. Therefore, /a/ + /ε/ → /ε:/. However, 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 {βa-} in Imenti? Below are some examples where these prefixes occur:

¹¹ The underlined segments illustrate cases where the class 7/8 plural forms have a prefix with a bilabial fricative; bold is used to show cases of palatalisation and devoicing.

Table 12: Class 1/2 and 1b/2b Plural Forms

IMENTI	CHUKA	NOUN CLASS	GLOSS
	maito, ma.maito	1b/2b	<i>mother(s)</i>
ma.mi, βa.ma.mi/ ma.ma, βa.ma:ma	ma.mi, ma.ma:mi	1b/2b	<i>mother(s)</i>
βa:βa, βa.βa:βa	βa:βa, ma.βa:βa	1b/2b	<i>father(s)</i>
mu.nto, a.nto	mo.nto, a.nto	1/2	<i>person/people</i>
mo.ka, a.ka/ mw.ε:koro, ε:ko:ro	mo.ka, a.ka/ mo.nto mo.ka, a.nto a.ka	1/2	<i>woman/women</i>

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.

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, classified as 1b in singular, distinguish the two dialects: Speakers of Chuka dialect use the prefix {ma-} in plural and the speakers of Imenti use {βa-}. There is also concord in the adjectives that speakers use when referring to these nouns, e.g.:

Example 9

[mamami meto mameɣa] (*our good mothers*) (CH)
 [βamami βeto βaβeɣa] (*our good mothers*) (IM)
mothers our good

These kinship 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. The motivation for these plural forms is difficult to explain. Either the speakers treat these kinship terms as [+human] and/or in some other cases they are not defined. The two dialects, therefore, possess a number of nouns which are prefixless, at least in the singular, which do not behave the same way as those of class 1 (they also differ semantically), and most of them seem to be loanwords (though many are common to both dialects and so were presumably acquired early). In sentences, as we saw in example 9, the adjectives, pronouns and even verbs will always agree with the plural prefix. The use of these prefixes is, therefore, systematic. The examples in the table below show a list of such nouns and the plural forms in the two dialects.

Table 13: Class 1/2 Plural Forms

IMENTI	CHUKA	NOUN CLASS	GLOSS
mo.ðo:ɣi, a.ðo:ɣi	mo.ɣwe:mi, a.ɣwe:mi	1/2	<i>hunter(s)</i>
mo.koro, a.koro	mo.koro, a.koro	1/2	<i>old man/old men</i>
mo.rɔɣi, a.rɔɣi	mo.rɔɣi, a.rɔɣi	1/2	<i>witch(es)</i>
mo.keɲe, η.keɲe (1/10)	mo.ðera, me.ðera 3/4	see each dialect	<i>uncircumcised girl(s)</i>
mw.e:je, βj.e:je (1/8)	ke.βe:ce, i.βe:ce (7/8)	see each dialect	<i>uncircumcised boy(s)</i>
mw.a:re, a:re (1/2)	mw.a:re, sj.a:re, ʃj.a:re (7/8)	see each dialect	<i>daughter(s)</i>
mo.ða:ka, n.ða:ka 1/10)	n.ða:ka (9/10)	see each dialect	<i>circumcised boy(s)</i>

It is obvious that the nouns in table 12 & 13 are all [+human]. However, the more defined the noun is, the more variation there is in the plural prefix. For example, the four nouns: ‘uncircumcised girl/daughter’, ‘uncircumcised boy/circumcised boy’ show such differences. 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 the two dialects. Therefore, the defining boundary for the dialects is the plural prefixes of class 2 nouns. Imenti has three forms {a-}, {βa-} and {ε-} and Chuka has two plural prefixes {ma-} and {a-}.

4. Conclusion

In conclusion, we can state that indeed the two dialects are distinguished from one another in a very principled way. They differ in the consonant system, consonantal processes and rules. A morpho-phonological process and/or rule in one dialect need not be a morpho-phonological process and/or rule in another dialect. The dialects also differ with reference to certain morphological features such as class 7/8 plural forms and class 1/2 nouns. In addition, the dialects exhibit cases of similarity or convergence. They share the vowel system, vocalic processes and some consonantal processes.

The examples given in this paper are an indication that it is not possible to generalise that Chuka is closer to Imenti (Meru), without distorting the linguistic reality of the dialect; for, a continuum is a sum total of individual dialects which exhibit certain linguistic features idiosyncratic to them even when they share a majority of other features within a given continuum. We have shown that these distinct features, whether phonological or morphological, though ‘minor’, as a matter of fact constitute a dialect boundary.

Since so much controversy surrounds the classification of Chuka, more research focusing on the Meru-Tharaka group and the Kikuyu group would yield more convincing results on the status of Chuka. The early research has only focused on some of these groups and thus the generalisations about Chuka. At least, this paper has shown that Chuka is indeed more conservative than Imenti and sound lenition and elision is not as prevalent as is the case in Imenti.

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