

DENTALITY, AREAL FEATURES, AND PHONOLOGICAL CHANGE  
IN NORTHEASTERN BANTU\*

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A minority of the world's languages appear to have a series of dental (as opposed to alveolar) obstruents. Proto-Bantu does not have such a series, nor do most East African Bantu languages. By contrast, three Bantu languages in northeastern Kenya (the northern Swahili dialects, Pokomo, Elwana) have acquired such a series, which thus merits explanation. There are three mechanisms involved: (a) the borrowing of loan sounds along with loan vocabulary, (b) a simple phonological shift whereby inherited alveolars moved one place to become dental, and (c) a more complicated shift whereby inherited (pre)palatals bypassed an intervening alveolar series to become dental, a process little reported in the literature. It is hypothesised that these forms of dentalisation took place under historical conditions of contact with neighboring Cushitic communities—not the larger Eastern Cushitic communities of today (Somali, Orma), but rather the ancestral forms of what are now remnant languages, (probably) Southern Cushitic Dahalo and (possible) Eastern Cushitic Aweera.

1. Introduction

Our purpose is to attempt to explain the appearance of dentality as an areal innovation in the consonant systems of the Bantu (Sabaki) languages of the Lower Tana region of northeastern Kenya.

A series of dental stops occurs in a minority of languages worldwide. If we take the selection of 700 languages in Ruhlen [1976] to be representative of the world's languages, then we find the following. "Series" is understood to

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\*I am grateful to J. Hewson, T. Hill, and A. Steinbergs for having read and commented on earlier parts and versions of this paper, also to R. Schuh and SAL's anonymous reviewer for their comments on the first version submitted to SAL.

include at least stops, plus some or all of fricatives/affricatives/nasals, etc. A palatal series must include stops, not merely affricates, although comparison of Ruhlen's data indicates a certain confusion between the two. (The predominance of alveolars and of palatal affricates as opposed to dentals and palatal stops might be due to the fact that many of the researchers on whose data Ruhlen relies are English-speakers.)

(1) Alveolar series only between labial and velar:	51.5%
Dental series only between labial and velar:	22.5%
Alveolar and palatal series:	7.5%
Dental and palatal series:	3.5%
Alveolar and retroflex:	3.5%
Dental and retroflex:	3.0%
Alveolar and dental:	3.0%
All other combinations of the above (including none):	5.5%

No language has palatals or retroflexes as the only series between labial and velar. This is true whether palatal is interpreted as having stops or affricates.

If we interpret (1) to indicate relative frequency of a series according to position, regardless of whether it is the only, or one of several, series, then the presence of at least an alveolar series is almost twice as common as that of a dental series, which in turn is nearly three times as common as that of a palatal (which, as stated, never occurs as the only series).<sup>1</sup>

An alveolar, not a dental, series is assigned to Proto-Bantu. The only East African Bantu languages in which dental stops or obstruents appear as reflexes of Proto-Bantu consonants are Makua, Soga, North Pare, Gweno, and the Thagicu languages of central Kenya. Thus, by contrast with the general typo-

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<sup>1</sup>Maddieson [1984:31-32] is understandably more reluctant to distinguish dental and alveolar places, "partly because they are frequently not reliably distinguished in the sources and partly because a contrast between these two places is unusual". Nevertheless, for those languages for which he considers his sources adequate [Maddieson 1984:35] there is a clear preponderance of alveolar over dental.

logical and geographical absence of dental stops in the one hundred or so Bantu languages/dialects of East Africa, the three Bantu languages in the area under scrutiny have a full series of dental stops or obstruents.<sup>2</sup> Since there is no a priori reason why this should be so, it needs some explanation. There is an underlying assumption that, while a number of choices for change are available to a language at any point in its development, the particular choices it makes are actuated by factors which ought to be describable.

The best known of these three languages are the northern Swahili dialects, which have developed their dental series out of what can be assumed to be a historical palatal or pre-palatal series, basically through bypassing an intervening alveolar series. The processes involved are not common (or at least not frequently described). As can be seen in (1), a palatal series is typologically even less frequent than a dental series.

These developments in northern Swahili are best seen in conjunction with what has happened in the two other Bantu languages, Pokomo and Elwana, since dentality in all three seems to have come about under the same formative influence, namely, interaction with certain neighboring Cushitic languages. The Lower Tana is the boundary between the Bantu languages of East Africa and the Cushitic (Afro-Asiatic) languages of northeastern Africa.

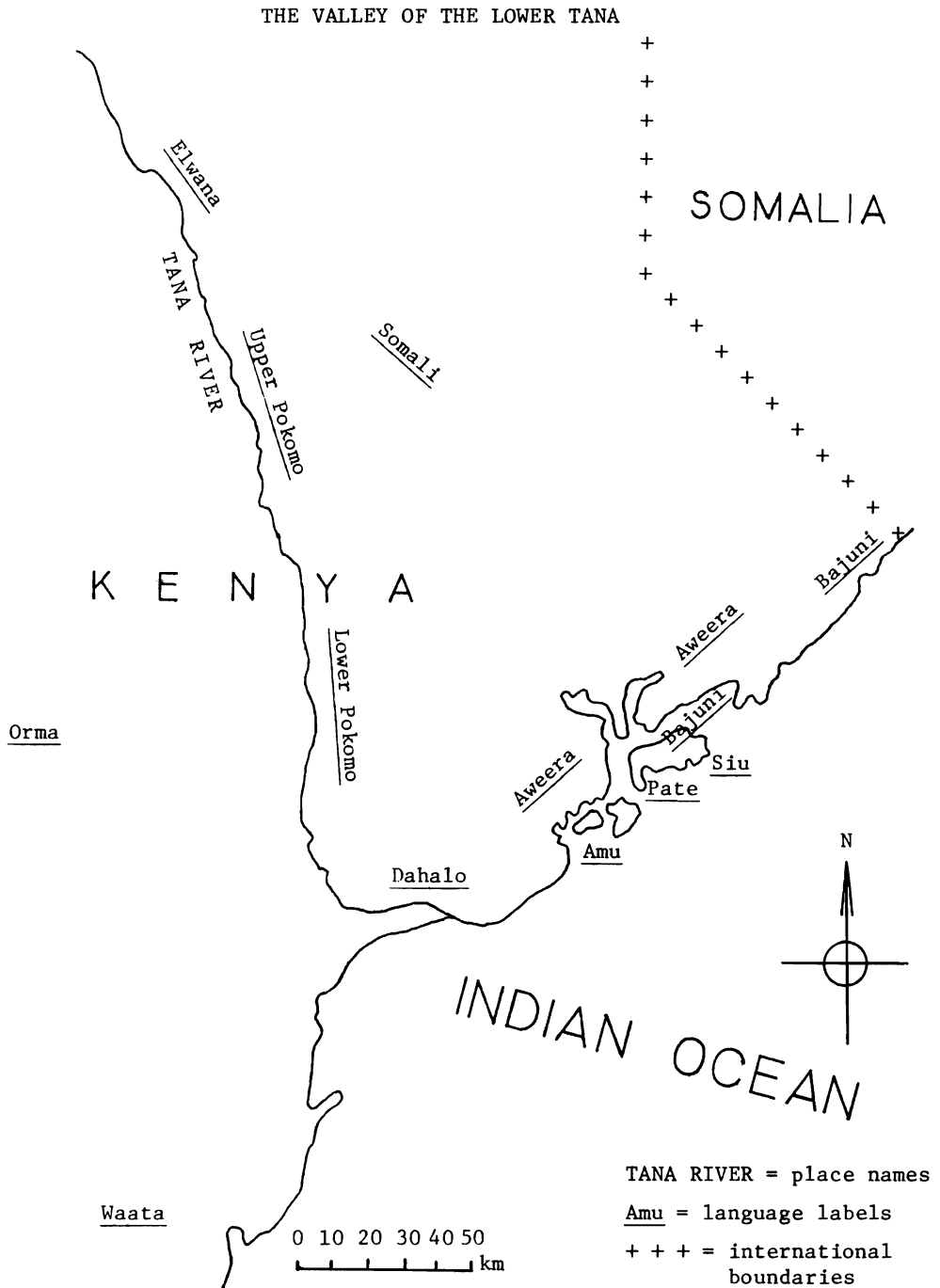
## 2. Background

2.1. The language situation. In all, seven languages/dialects are spoken in the area (see maps, pp. 246-247):

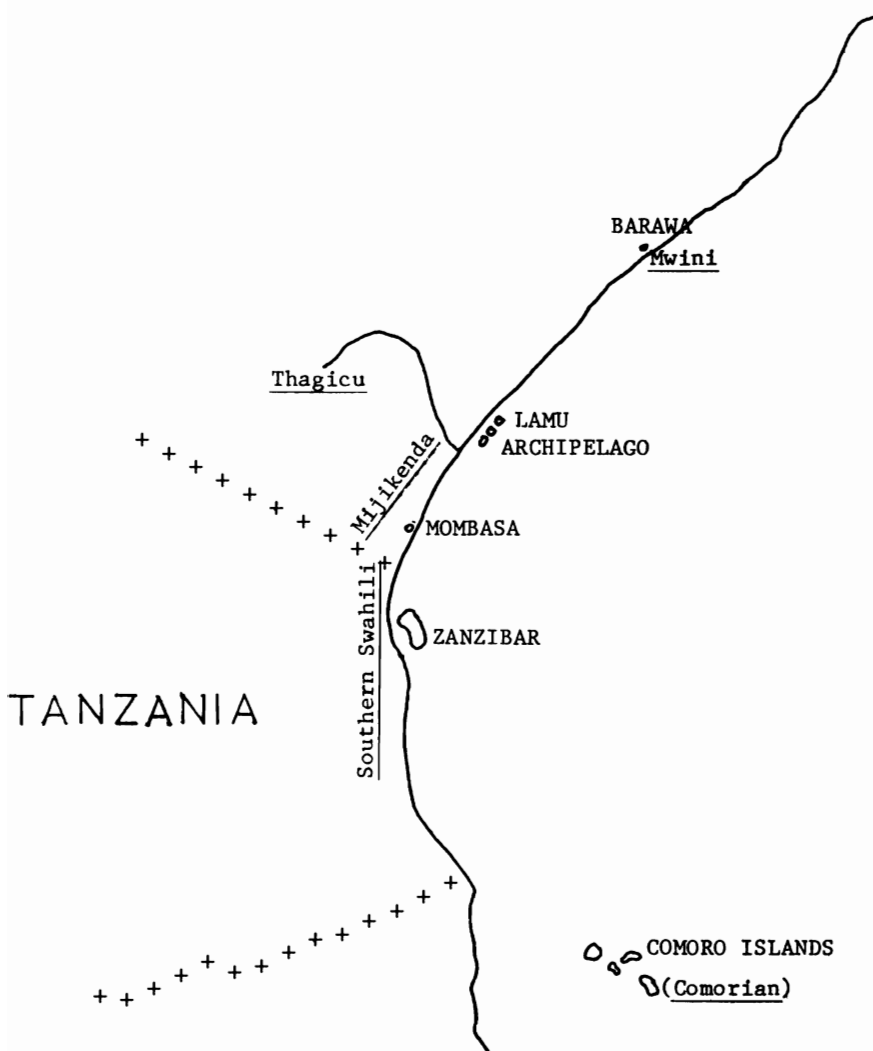
-*Somali* (Eastern Cushitic, SAM subgroup), spoken to the north and east of the Tana and into Somalia. Kenya Somali numbers are hard to estimate, but are

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<sup>2</sup>A dental series also appears in three languages/dialects known or suspected to have been spoken in the area within the last millenium. These are (a) the Swahili dialects of the southern Kenya coast, of which the best known is Mviḡa, the dialect of Mombasa Old Town; (b) at least some, perhaps all, of the Mijikenda dialects today spoken along the immediate hinterland of the southern Kenya coast; (c) Waata, an Orma dialect also spoken in the immediate hinterland of the central and southern Kenya coast. These are not dealt with here but each one of them can also be explained by one or other of the types of process outlined in this paper.



(Continuation south from previous page)



probably around 100,000. The majority of Somalis in northeastern Kenya and southern Somalia today speak northern Somali dialects, their ancestors having only migrated south during the nineteenth century.

-*Aweera* (also called *Boni*: Eastern Cushitic, SAM subgroup), spoken along the coastal hinterland north of the Tana and over the border into southern Somalia. Heine [1982] puts Kenya Aweera at nearly 2,000. Aweera, together with Garre and Tunni, is a southern Somali dialect.<sup>3</sup> Southern Somali dialects have most likely been spoken along this coast throughout the present millenium, that is, for a long time prior to the advent of northern Somali communities.

-*Orma* (also called *Galla*: Eastern Cushitic, Oromo subgroup), spoken along, and to the south of, the Tana. If we include just Orma and Munyo, the adjacent and thus relevant dialects, they number slightly over 20,000. Orma speakers are thought to have entered the region during the seventeenth century.

-*Dahalo* (Southern Cushitic remnant language), spoken in a small area bounded by the northern mouth of the Tana and the adjacent northern coast. Their numbers are not known, but are probably between 200 and 400 (Zaborski, p.c.). Dahalo has at some point in its history absorbed Khoisan elements. Dahalo speakers are likely to have been present throughout the present millenium.

-*Elwana* (also known as *Ilwana* and *Malankote*: Eastern Bantu, Sabaki subgroup), spoken along the Tana above Pokomo, almost to Garissa. Pokomo and Elwana together number some 50,000. Sabaki speakers are likely to have been present in the area throughout the present millenium.

-*Pokomo* (Eastern Bantu, Sabaki subgroup), spoken along the lower reaches of the Tana between Elwana and the coast.

-*Northern Swahili* (Eastern Bantu, Sabaki subgroup), spoken on the coast and islands north of the Tana and into Somalia as far as the town of Barawa. The population of the towns and villages housing the five commonly recognised dialects of northern Swahili (Amu, Pate, Siu, Bajuni, Mwiini) is about 40,000.

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<sup>3</sup>For differences between northern and southern Somali, see Heine [1978].

2.2. Relevant parts of the consonantal systems

2.2.1. Eastern Cushitic: relevant parts of their consonantal systems. Somali and Aweera both derive from Proto-SAM, for which Heine [1978] reconstructs the relevant parts of the consonant system as:

(2) Proto-SAM:	<u>dental</u>	<u>alveolar/post-alveolar</u>	<u>palatal</u>
	* <u>d</u>	* <u>ɖ</u>	
	* <u>t</u>		* <u>c</u>
	* <u>n</u>	* <u>s</u>	* <u>z</u>

Deriving from this, many northern and central Somali dialects today have a system such as [Armstrong 1964:3, Heine 1978:11-18]:

(3) Northern and Central Somali:	<u>d</u> [ <u>d</u> , <u>ð</u> ]	<u>ɖ</u>	<u>j</u>
	<u>t</u>	<u>s</u>	<u>ʃ</u>
		<u>n</u>	

The only voiced fricative in this system is [ð], the intervocalic allophone of /d/. This system reflects the Proto-SAM system almost exactly, except /j/ which results from palatalisation of \*/g/, /ʃ/ from \*/c/, and /d/ from \*/z/. Ruhlen also shows an affricate /ʃ/. (The nasal here could be dental, although it is not shown as such by Heine or Armstrong.)

The relevant parts of the Proto-Aweera consonant system are reconstructed as follows by Heine [1982:71]. Parentheses indicate borrowed units.

(4) Proto-Aweera:	* <u>d</u> [ <u>d</u> , <u>ð</u> ]	* <u>ɖ</u>	(* <u>ʃ</u> ) (* <u>ʒ</u> )
	* <u>t</u>		(* <u>c</u> )
(ejectives)	(* <u>t'</u> )		(* <u>c'</u> )
		* <u>s</u>	
	* <u>n</u>		* <u>ɲ</u>

As in Somali, the only voiced fricative in the system is [ð], the intervocalic allophone of /d/. The ejective series and the (parenthesised) palatal stops are all borrowed, mainly from Orma, possibly from Dahalo. The remaining consonants all derive directly from the Proto-SAM system, except:

(5) <u>Proto-SAM</u>		<u>Proto-Aweera</u>
*nz	→	*n
*z	→	*ɟ
*c, palatalisation of velars	→	*ʃ

Since the palatal stops are all borrowed, there was presumably a period before this borrowing when Aweera was devoid of such a series. Three actual Aweera dialect systems can be seen in Heine [1982:21, 44] and Heine [1977:251]. They are essentially the same as Proto-Aweera.

Excluding individual loan sounds, the relevant Orma dialects, Munyo and Waata (see fn. 2) both have the following system [Heine 1980:144, 1981:21]:

(6) Orma:	<u>dental</u>	<u>alveolar/postalveolar</u>	<u>palatal</u>
	ɗ [ɗ, ɔ̃]	ɗʰ	ɟ
	ɗ̥ [ɗ̥, θ]		c
	ɗ'		c' (ejectives)
		s	
	n		ɲ

Again, /z/ is absent; [ɔ̃], the voiced allophone of /ɗ/, is mentioned for Waata, but not Munyo.

2.2.2. Bantu: relevant parts of the Pokomo consonantal system [Nurse 1983: 234]. Pokomo is a dialect spectrum, and what follows are the units between labial and velar common to all the dialects. Parentheses again indicate borrowed units.

(7) Pokomo:	(t)		c
	ɗ	(d)	ɟ
		(ɗʰ)	ɟʰ
	(ɔ̃)	s z	ʃ
		n	ɲ
	(nt <sup>h</sup> ) (nd)	nt <sup>h</sup> nd	nc <sup>h</sup> nj

In addition to what is shown in (7), Upper Pokomo also has ejective (ɗ') and (c'); Lower Pokomo also has (ɗ<sup>h</sup>), (t), ts, dz, ns, nts, nz, ndz, (c<sup>h</sup>). It is not clear if the first element of the affricates is alveolar or



dental; in one closely related Sabaki language, Mijikenda, it is dental, whereas in another, Comorian, it is alveolar.

The nonprenasalised palatal stops in Upper and Lower Pokomo are both inherited but derive from different sources: in Upper Pokomo they are the regular reflexes of Proto-Bantu \*/c, j/ and are more frequent, whereas in Lower Pokomo they are less frequent, deriving from palatalisation of older velars. In Lower Pokomo palatalisation of /k/ at least seems to apply variably (in some northern Swahili dialects it is optional in certain contexts).

2.2.3. Bantu: relevant parts of the Elwana and Northern Swahili consonant systems. The available phonetic data for Elwana are limited, but the essential parts are:

(8) Elwana:	ɟ	(ɟ)	ʃ	(ʃ)
	ɟ̥	(ɟ̥)		c
	(ɟ̥)	s	z	(ʃ)
		n		n
		(nd)		(nj)
		(ns)	(nz)	

The relevant parts of the Swahili dialects of northern Kenya and southern Somalia are (omitting a few prenasalised segments of low frequency):

(9) Swahili dialects

<u>Mwiini</u>				<u>Amu</u>					
	ɟ̥	t	c		ɟ̥	t	c		
	(ɟ̥)		(ɟ̥)		ɟ̥ <sup>h</sup>	t <sup>h</sup>	c <sup>h</sup>		
(θ)	(ɟ̥)	s	z	ʃ	(ɟ̥)		(ɟ̥)		
	n		n	n	(θ)	(ɟ̥)	s	z	ʃ
(nɟ̥ <sup>h</sup> )	(nɟ̥)	nt <sup>h</sup>					n	n	
nd		nd		nɟ̥ <sup>h</sup>	(nɟ̥)	nt <sup>h</sup>			
		ns	nz	nd		nd		nj	
						ns			

<u>Bajuni</u>			<u>Siu-Pate</u>		
	t	c		t	c
	t <sup>h</sup>	c <sup>h</sup>		t <sup>h</sup>	c <sup>h</sup>
	(d)	(ʃ)		(d)	(ʃ)
(θ)	ð	(ʃ)	(θ)	ð	ʃ
	n	(n)		n	n
	(nt)	nc		nt <sup>h</sup> (nt)	ns
	nd	nj		nd	nj

In these dialects, many palatals are recent formations resulting from palatalisation of velars.

#### 2.2.4. Southern Cushitic: relevant parts of the Dahalo consonantal system.

The relevant parts of Dahalo are [Ehret 1980:126, Elderkin 1976:22]:

(10) Dahalo:	d	d	d <sup>h</sup>	j	(ʃ)
	t		t		(c)
	t'		ts'		(c')
	ð		s		ʃ
	(ʔ)	ts	dz		
		n		n	
	(nd)	(nʔ)	nd	ndz	(nj)

2.3. Inherited dentality. As can be seen from section 2.2., the relevant parts of the consonantal systems of the three Eastern Cushitic languages have much in common. They have a series of dental stops, and in the case of two of the three (Aweera and Orma), a dental nasal. They have but a single alveolar stop, and no [z], with [ð], the intervocalic allophone of /d/, as the only voiced fricative. The size of their palatal series is variable: in northern Somali it is small; in Aweera it must have been small before the borrowing of today's stops; in the Orma dialects it is more extensive, but, as we will see, Orma is not an important factor in the scenario.

Examination of the material in Ruhlen [1976] and other sources [Maddieson 1984, Tucker and Bryan 1966] suggests that in the non-Bantu languages of north-eastern Africa and even in related languages in the Middle East, a dental ser-

ies is at least as common as an alveolar one, if not more so, and thus seems to be both a geographical and a genetic feature. This stands in contrast to the overall world picture suggested in (1).

### 3. Borrowed Dentality, in the Bantu Languages, Dahalo, and Aweera

In other languages in the area, dentality has been introduced historically through lexical loan sets. This is most obvious in the Bantu languages, especially in Pokomo.

3.1. Pokomo. In general, languages along and near the Tana are characterised by having large consonant inventories. They include Pokomo, which is further characterised by a high percentage of loan units.<sup>4</sup> Pokomo systems stand in clear contrast to those of Eastern Cushitic (see section 2.2): it is the palatal series in general which is inherited, with virtually all the dental obstruents borrowed, as are the nonprenasalised alveolar stops. In these systems the only dental not apparently borrowed is /d/ . This is however misleading, since /d/ is only inherited in historical sequences of /lyV/ , which appears in most Pokomo dialects as [dyV] or [dV] :

(11)	<u>Pre-Pokomo</u>		<u>Lower Pokomo</u>
	-lya	'eat'	- <u>d</u> ya
	mulyango	'door'	m <u>d</u> yango

Since such sequences are infrequent, instances of inherited /d/ are in a statistical minority compared with many other cases of borrowed /d/ in all Pokomo dialects.

Although the detailed sources of the sets of borrowed lexis carrying each of these units would go beyond the scope of this paper (see Nurse [1983a, forthcoming a, b]), the overall patterns are as might be expected. Dental and non-prenasalised alveolar stops and /ð/ have in general been taken from Somali,

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<sup>4</sup>If prenasalised consonants are treated as unitary, then between 35% and 40% of Pokomo consonants (depending on dialect) are borrowed. If treated as sequences, then the percentage rises to between 42% and 48%. None of the t-sounds is inherited, Proto-Bantu nonprenasalised \*/t/ having weakened to a spirant or /h/ in all Pokomo dialects.

Orma, Dahalo, and northern Swahili, and possibly also from Aweera and Elwana, but the data are sparse. Orma and possibly Dahalo are the sources for the Upper Pokomo ejectives and their Lower Pokomo congeners, the aspirated voiceless stops. The two prenasalised dentals are from northern Swahili mainly, but also from Dahalo:

(12)	Pokomo (UP = Upper Pokomo, LP = Lower Pokomo)		Source			
	UP/LP	ḍiba	'100'	Orma	ḍib <sup>a</sup>	
	UP/LP	ḍalea	'cattle pen'	Orma	ḍalea	
	LP	-ṭema	'try'	Dahalo	ṭem-	
	UP	nṭuntuma	'lower arm'	Dahalo	ṭuntumu	
	UP/LP	-ṭunga	'herd cattle'	N. Swahili	-ṭunga	
	UP/LP	mudewere	'spinach'	Dahalo	deḥere	
	UP	kidole	'finger'	N. Swahili	-doe	
	LP	kidoe				
	UP/LP	ḍaifu	'weak'	N. Swahili	ḍaifu	
	UP	ṭandu	'gateway (of branches)'	N. Swahili	ṭandu	'branches'
	UP	fit'o	'(building) sticks'	Dahalo	fit'a	'house wall'
	UP	-obada	'all'	Somali Aweera	baḍaṅ baḍe	'many' "

For /ṭ, ḍ/ and possibly /ṇḍ/, loan words indicate a further source, the Thagicu Bantu languages of central Kenya [Nurse 1983a:236-238]. In view of recorded migration patterns a few centuries ago [Fadiman 1973] this is not surprising. What is more surprising is that Thagicu languages themselves have alveolar /t/ (and /nd/), which appear in loan words in Pokomo as dental /ṭ/ (and /ṇḍ/). In all Pokomo, dental /ṭ/ is the most frequent ṭ-unit, but it is borrowed, inherited Proto-Bantu \*/t/ having weakened in all dialects to a fricative or /h/. This implies, inter alia, that the dental units were already available in Pokomo at the time of borrowings from Thagicu.

(13)	Lower Pokomo	Thagicu (Gikuyu examples)	
	-ḍambya	'wash'	-thamba

-ðeru	'clean, light'	-theru
-t̥onga	'meet'	-t̥ũnga
muraṭina	'sausage tree'	mūraṭina

3.2. Aweera, Elwana, northern Swahili, Dahalo. While most of the Aweera dental series is inherited (section 2.2.1), ejective /t̥/ occurs only in loan words. While Elwana dental stops are induced (section 4.1), /ð/ occurs only in loan words, most obviously from Thagicu. While many of the northern Swahili dental series are induced (section 4.2), a few occur only in loan words. The details vary from dialect to dialect, but in all /ḡ, θ/ are borrowed, as is non-aspirated /nt̥/, e.g. biṅṅi 'woman' and akhsaṅṅe 'thanks', from Arabic. These, and also other dentals, are incorporated in lexical loan sets from languages of the Middle East and the Indian subcontinent and from local Cushitic languages:

(14)	<u>Northern Swahili</u>		<u>Cushitic</u>
	mḡewere	'spinach-like vegetable'	Dahalo deβere
	ḡuko	'deaf'	Dahalo ḡu:ko
Bajuni	ḡandara/ ḡindiri		Dahalo ḡaḡi:ri 'lesser kudu(?)' Aweera ḡaḡi:r/ḡiḡi:r [Heine 1982:91]
	ḡuhu	'bone marrow'	Somali qu:h
	-ḡara	'touch'	Somali ḡa:r-

While all Dahalo dental obstruents are inherited or induced, Dahalo does have a (dental) click [ɽ], occurring with and without prenasalisation. This click is borrowed, presumably from contact with an earlier Khoisan community.

#### 4. "Induced" Dental Articulation

"Induced" dentality here refers to consonants which can be demonstrated to derive in a regular way from earlier stages of the languages involved but in which contemporary dental articulation has replaced an earlier articulation which can be shown to have been non-dental, i.e. alveolar or palatal. Thus, where most East African Bantu languages have alveolars, Elwana has dentals (here Standard Swahili is typical of East African Bantu), as in (15a), and where Standard Swahili has palatals or alveolars, northern Swahili has dentals, as in (15b):

(15) a.	<u>Standard Swahili</u>	<u>Elwana</u>
	-tatu 'three'	-t̪at̪u
	-enda 'go'	-eḽa
	m-t <sup>h</sup> u 'person'	mud̪u
b.	<u>Standard Swahili</u>	<u>Northern Swahili (Bajuni)</u>
	-cheka 'laugh'	-t̪eka
	njia 'path'	nḽia
	-anza 'begin'	-anḽa
	mwizi 'thief'	mwiḽi
(also	mwivi)	
	nyama 'meat'	n̪ama

The changes involved here are always of place, sometimes also of manner. As will be shown, the mechanisms by which these changes have come about vary. The changes are assumed to have been brought about under the earlier influence of non-native speakers. What is meant by "influence" is discussed in section 5. "Induced" dentality is responsible for most dentals in Elwana, northern Swahili, and Dahalo.

4.1. Elwana (see section 2.2.3). Elwana /t̪, ḽ/ derive from older alveolar \*/t/ and \*/nt, nd/ respectively. There are three processes involved: voicing of stops after homorganic, nonsyllabic nasal (which also applies to the other stops); deletion of nasal before voiced stop; and dentalisation. The first two are ordered, the third unordered. A schematic representation of the relevant parts of the system, and omitting \*nj, which involves particular problems, would be:

(16)		*p	Np	Nb		*t	Nt	Nd		*c	Nc		*k	Nk	Ng
	Postnasal voicing	p		Nb		t		Nd		c		Nj	k		Ng
	Nasal loss	p		b		t		d		c		ɟ	k		g
	Dentalisation	p		b		t̪		ḽ		c		ɟ	k		g

The contemporary dental stops here are the result of a simple change of place of the articulator from (apico)alveolar to (apico)dental.

4.2. Northern Swahili (see section 2.2.3). What has happened in the northern Swahili dialects is not so simple. In order to expedite discussion of the dentals, the relevant inherited consonants can be rearranged. The left to right ordering below corresponds to a geographical north to south situation within the area covered by these dialects, i.e. Mwiini is the most northerly and Amu the most southerly:

(17)	<u>Northernmost</u>		<u>Southernmost</u>		<u>Historical base form</u>
	<u>Mwiini</u>	<u>Bajuni</u>	<u>Siu-Pate</u>	<u>Amu</u>	
(1a)	ṭ	ṭ	ṭ	ṭ	[tç]
(1b)	nṭ <sup>h</sup>	ṭ <sup>h</sup>	ṭ <sup>h</sup> /nṭ <sup>h5</sup>	ṭ <sup>h</sup> /nṭ <sup>h</sup>	[ntç]
(2)	nḍ	nḍ	nḍ	nḍ	[ndj] <sup>6</sup>
(3)	nz	nḍ	nḍ	nḍ	[nz]
(4)	z	ð	ð	z	[z]
(5)	n/n <sup>7</sup>	ṇ	ṇ	ṇ	[n]

The base forms of lines 3-5 need no justification since they are shared by all the Sabaki languages and a majority of the closely related North East Coast Bantu languages. The base forms for lines 1a/1b/2, however, do need some explanation as they are crucial to the whole process. Northern Swahili, Elwana, and Pokomo form part of the Sabaki subgroup of languages, together with southern (including Standard) Swahili, Mijikenda, and Comorian. Corresponding to lines 1a/1b/2 we find in Sabaki:

<sup>5</sup>In Siu, Pate, and Amu, the prenasalised segments are kept in monosyllables where the nasal is apparently retained for purposes of (penultimate) stress. In other contexts the nasal is lost.

<sup>6</sup>The nonprenasalised voiced (pre)palatal, \*/ɟ/ or dj, behaves asymmetrically, leniting to [j] and then zero in northern Swahili. Being the least energetic of the set, it is the one we would expect to drop to an even lower energy level.

<sup>7</sup>Where all the other Sabaki languages have the palatal nasal and Bajuni has the dental nasal, Mwiini shows some words with the palatal, others with the dental. We could either say that the change from palatal to dental nasal is in progress in Mwiini or, more likely, that forms with the dental nasal are historical loans from Bajuni, where the change is regular and which until recently was spoken in the area adjacent to Mwiini.

(18)

Elwana	UPokomo	LPokomo	Comorian	Mijik.	No. Sw.	So. Sw.	Historical base form
tʃ	tʃ	ts	ts	ts̱	ṯ	tʃ	*tç or *c
dʒ	ntʃ <sup>h</sup>	nts <sup>h</sup>	(n)ts <sup>h</sup>	ts̱ <sup>h</sup>	(n)ṯ <sup>h</sup>	(n)tʃ <sup>h</sup>	*ntç or *nc
dʒ	ndʒ	ndz	ndz	ndẕ	nḏ	ndʒ	*ndj or *nɟ

Examples, using modified Roman script:

-cheka	-cheka	-tseka	-tseka	-tseka	-teka	-cheka	*-tçeka/-ceka	'laugh'
?	nch <sup>h</sup> a	nts <sup>h</sup> a	nts <sup>h</sup> a	ts̱ <sup>h</sup> a	nṯ <sup>h</sup> a	nch <sup>h</sup> a	*ntça/nca	'point'
jala	njala	ndzaa	ndzaya	ndzala	nda	njaa	*ndjala/nɟala	'hunger'

There are two types of arguments for proposing the historical base forms on the right, geographical and phonological. Geographically, the palatals or prepalatals are found only in languages/dialects on the periphery of the area, Elwana, Upper Pokomo, and southern Swahili. It is simpler to assume retention in historically peripheral relic areas than to assume independent innovation in those same areas for no apparent reason. Phonologically, the assumption of \*tç/c, \*ntç/nc, \*ndj/nɟ would lead to processes such as those in (19) (ignoring aspiration):

$$(19) \quad (n)tç \rightarrow (n)ts \rightarrow \begin{cases} (n)ts̱ & \rightarrow (n)ṯ \\ (n)tʃ & \end{cases}$$

$$ndj \rightarrow ndz \rightarrow \begin{cases} ndẕ & \rightarrow nḏ \\ ndʒ & \end{cases}$$

Such processes are phonetically and phonologically plausible. An alternative scenario would start with \*(n)ts, \*ndz, from which the present situation might also be plausibly explained. The point is that whichever of these starting points be assumed, the dental forms are the end result and need to be explained, since the processes leading to them are not well attested elsewhere.

Viewed as an areal spread, it can be seen that Bajuni is at the center of the changes in (17), as it alone has been affected by all five. Siu-Pate have been affected by four, Amu by three, and Mwiini is peripheral, having been touched by the two core changes, as have the dialects of the southern Kenya coast.



The changes affecting \*/z/ (lines 3,4 in (17)) represent the type of change already seen in Elwana. The articulator moves one place, from alveolar to dental. The surface result is something we have already seen from the Cushitic languages, an absence of [z] and a synchronic alternation of intervocalic [ð] and prenasalised [d̥].

But the phenomena affecting the (pre)palatals (lines 1, 2, 5 in (17)) are not so readily explained.<sup>8</sup> The change of articulation affecting \*/z/ involves a movement from alveolar to dental and involves no intervening series. But in the movement from (pre)palatal to dental, there was an intervening alveolar series.

(20)	<u>labial</u>	<u>dental</u>	<u>alveolar</u>	<u>palatal</u>	<u>velar</u>
Stage 1	p, etc.		t, nt, nd	tç, ntç, ndj	k, etc.
Dentalisation					
Stage 2 <sup>9</sup>	p, etc.	t̥, (n̥)t̥, nd̥	t, nt, nd		k, etc.

Examples, using modified Roman script:

So. Swahili:	paa 'roof'		-tetema 'shiver'	-cheka 'laugh'	kichwa 'head'
			nt <sup>h</sup> a 'wax'	nch <sup>h</sup> i 'country'	
			-enda 'go'	njaa 'hunger'	

No. Swahili: (Amu)	paa	-t̥eka	-tetema	kit̥wa
		nt̥ <sup>h</sup> i	nt̥ <sup>h</sup> a	
		nd̥aa	-enda	

<sup>8</sup>For what follows I am indebted to substantial advice from Trevor Hill.

<sup>9</sup>Siu-Pate and Bajuni have redressed the situation created by the move from Stage 1 to Stage 2 by introducing a third, later, stage:

Stage 2	p	t̥	t	k
Stage 3	p	t̥	tʃ	k

whereby the original Stage 1 situation of alveolars and palatals has been replaced by Stage 3 dentals and palatals, albeit affricates.

Any explanation involving a simple change of place of articulation to dental would affect the intervening alveolars rather than the (pre)palatals, or if it did affect the latter, would be also likely to affect the alveolars.

For the changes from (pre)palatal to dental we should rather consider that for the palatals and dentals the tongue lies in the same region in both cases, but different parts of the tongue act alternately as the active articulators at the point where they lie. For the former, the blade operates on the palate, while the apex is raised, lying behind the teeth. For the latter, the apex operates on the teeth, while the blade is raised above the palate. Disposition of blade and tip of tongue is identical or similar in both, but, in a kind of rocking movement, one part is raised as the other is lowered.<sup>10</sup>

The foregoing involves an articulatory choice. What kind of choice a body of speakers makes may presumably be related to any of a number of factors, including the general typological environment. Most of Bantu-speaking East Africa has an alveolar (sometimes, with a palatal), not a dental, series of stops. This is true also of southern and Standard Swahili, whose consonant system in this respect more nearly resembles the historical system underlying the northern dialects. But the communities speaking these northern dialects have lived for a millenium or more at the interface with Cushitic northeastern Africa. Northern Swahili dialects presumably made a different articulatory choice during many centuries of exposure to Cushitic-speaking communities for whom dental, rather than non-dental, obstruents were "normal".

4.3. Dahalo (see 2.2.4). The protolanguage ancestral to Dahalo, Proto-Southern-Cushitic (PSC) [Ehret 1980:127] is not credited with any dentals at all. Present day Dahalo dentals derive from the PSC alveolar series, contemporary Dahalo alveolars from PSC palatals, and most modern Dahalo palatal stops and affricates are loans, either from northern Swahili, Pokomo, Elwana, or Orma. Even /ʃ/ does not derive from a PSC palatal stop. Ehret [1980:115-116] interprets all this as a classic chain reaction affecting PSC alveolars and palatals in which

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<sup>10</sup>This alternation across an intervening alveolar is not much reported in the literature but occurs in Sudanese Arabic and some Ewe dialects, according to T. Hill.

the first shift was that of articulation from alveolar to dental, similar to what has happened in Elwana. There is no obvious reason to interpret the Dahalo data differently.

4.4. Summary. All the Bantu languages in the area have evolved a series of dental stops or obstruents which formerly they did not have. This is true also of Dahalo and of two Bantu languages/dialects (Mijikenda, the Swahili dialects of the southern Kenya coast) which may have been spoken earlier in the area.

Three different mechanisms have operated. One involves assuming the historical borrowing of large sets of loan words containing dentals: these sets can be shown for all the languages, most obviously Pokomo. The second involves a relatively simple shift of place of articulation from alveolar to dental and is most clearly seen in Elwana and Dahalo. The third is more complicated, involving a jump over intervening alveolars from (pre)palatal to dental. This is what has happened in northern Swahili.

It cannot be a coincidence that these three processes have all occurred in the same geographical area. The communities affected have all been present in the area for a millenium or slightly longer, as have at least some Cushitic-speaking communities. The Cushitic languages have now, and have always had, a dental series. Hence there must be at least a very strong suspicion that interaction with these Cushitic-speaking communities over a thousand years is responsible for the shift to dentality.

## 5. Discussion

We need now to try to identify the specific early potential Cushitic languages most likely associated with initial dentalisation in the three Bantu languages. Apart from the requirement that the potential donors have a dental series themselves (already demonstrated) there are three ways in which these early donors might be identified. One involves looking at the external historical chronology of the communities concerned in order to establish if it was at least possible or likely that they co-existed with the Bantu languages a thousand years ago. Another is to show the existence of loan word sets from the potential donors, for loan sounds cannot exist independently of loan words. The third would be, if possible, to demonstrate that the potential donors have af-

fects the recipients other than lexically or dentally, in order to strengthen the case.

There is good reason to think that all these Sabaki communities, certainly northern Swahili, probably equally likely but less demonstrably Elwana and Pokomo, have been present in much their present locale since the second half of the first millennium A.D. [Nurse and Spear 1985]. Since dentalisation of original (pre)palatal stops (lines 1, 2 in (17)) occurred in all the northern Swahili dialects, plus those of the southern Kenya coast but in none of the southern Swahili dialects, they are likely to have appeared during the emergence of proto-Northern-Swahili or shortly thereafter, that is, by ca. A.D. 1000.

The known or assumed facts of Thagicu history [Muriuki 1974] make it likely that, although Meru-speakers were on the Lower Tana for some time prior to ca. A.D. 1700 [Fadiman 1973, Nurse 1983a], they were certainly not present there in A.D. 1000. Thagicu loan words, most probably from Meru, are present in considerable numbers in Lower Pokomo, to a lesser extent in Upper Pokomo, Elwana, and Dahalo, but hardly at all in northern Swahili. There are no phonological or other parallels between Thagicu and Pokomo/Elwana/northern Swahili linguistic development. Finally, as we have seen, although Thagicu itself has no dental stops, Thagicu alveolars are interpreted in Pokomo as dental, which implies that dentality already existed in Pokomo before the advent of Thagicu loan words.<sup>11</sup> All this excludes any Thagicu language from the possible set of early contributors to northern Sabaki dentalisation.

The known or assumed facts of Orma history bring them to the coast during the seventeenth century. There are sizeable loan word sets from Orma in Elwana and Pokomo, to a lesser extent in Dahalo and Aweera, not at all in northern Swahili. There is no evidence of any parallel phonological or other processes between Orma and northern Swahili, Pokomo, or Dahalo.<sup>12</sup> This likewise excludes

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<sup>11</sup>J. Hewson suggested that this might be interpreted differently: Thagicu alveolars were originally borrowed as alveolars into Pokomo, and dentalisation happened later. This would raise problems with the chronology of other borrowed *t*-units.

<sup>12</sup>Aweera and Elwana do however show signs of such processes. For morphological processes in Aweera taken from Orma, see Sasse [1979]. Elwana has morpho-

Orma from the set of potential early contributors.

Northern Somali speakers, although today the largest single community in the area, arrived only during the nineteenth century [Lamberti, p.c.]. There is no evidence of parallel phonological or other processes between these Somali dialects and any of the three Bantu languages. And although there are loan words from these Somali dialects in all the languages of the area (for northern Swahili, see Nurse [forthcoming a:Appendix 2]), they are surprisingly few in number in view of Somali numbers today. These considerations also rule out northern Somali dialects as a potential early source of dentality in the target languages.

A final possible formative influence consists of languages from across the Indian Ocean. In discussions of the historical forces that have touched Swahili linguistically there is always mention of lexical, even phonological, material from Arabic, sometimes from Persian and a variety of Indian languages. Part of the same lexis is also present in Pokomo, Elwana, Aweera, and Dahalo, although in these mediation through Swahili may be strongly suspected. It tends to cluster in certain specialised semantic areas. In the speech of first language Swahili speakers it is also responsible for most occurrences of / $\text{q}$ ,  $\theta$ ,  $x$ ,  $\gamma$ / and statistically infrequent [ $\text{nt}$ ,  $\text{nt}_n$ ] etc, for / $\text{ð}$ / in dialects other than Siu, Pate, and Bajuni, and for many occurrences of / $\text{b}$ ,  $h$ ,  $r$ ,  $\text{ʃ}$ / . Most dialects of Arabic and Persian have dental obstruents, as have at least some of the languages of Indian communities known to have come to East Africa. However, not a single convincing study has ever been made of the detailed chronology of this linguistic influence, so we simply do not know the details of how or when it occurred during the last millenium. In the absence of such an analysis, we have to follow the conventional wisdom which says that, although traders and others from the Middle East certainly, and from the Indian subcontinent possibly, have been operating along the East African coast for some two thousand years, Arabic linguistic influence is more obvious than that of Persian or Indian languages

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logical features such as nominal pluralisation by suffixation, said to be Orma (or Dahalo?) in origin, but to my knowledge not analysed in any publication to date.

[Nurse 1983b], and Arabic influence has been heaviest only since the inception of the recent Omani period which started after the departure of the Portuguese in the seventeenth century [Knappert 1983:112]. In the absence of a clear picture of outside linguistic influence in the pre-Portuguese period, i.e. before 1500, which is the period in which we are primarily interested, and in the likelihood that such influence was in any case of secondary importance at that period, it is fair to assume that most influence on Swahili, Pokomo, and Elwana in the past millenium has been exercised by local, and not outside, languages, despite the weight of discussion that emphasises the latter.

Excluding Thagicu languages, Orma, northern Somali, and non-African languages leaves us with Dahalo and Aweera as the only potential sources for northern Sabaki dentalisation. We now examine the three Bantu languages in some detail in an attempt to show exactly what has happened to them other than the appearance of dentality.

5.1. Elwana. The Elwana are few in number, have been directly exposed to many outside influences as a result of their geographical position, and for what it is worth, claim to have lived long in their present location [Bunger 1973]. This combination of factors makes Elwana a natural possible recipient, and it is not surprising that Elwana contains lexical loan sets from virtually all the surrounding languages: northern Somali, Orma, probably Aweera (?), Dahalo [Nurse forthcoming b], Thagicu, Pokomo, northern Swahili, and indirectly from Arabic through Swahili.

If, however, the phonological processes deriving Elwana from Proto-Bantu or Proto-Sabaki and the results of these processes are compared with the processes deriving the other languages from their earlier forms and the resultant systems, by far the clearest parallel is with Dahalo [Nurse 1983a]. There is a considerable set of rules, some idiosyncratic, shared by Dahalo and Elwana alone. Some have also spread into Pokomo:

- (a) Dahalo has done away with all inherited PSC sequences of nasal and voiced stop, by reducing them to the simple nasal congener (as has Aweera). Elwana observes the same surface constraint, but by replacing the same sequences to the simple stop congener. It also replaces inherited sequences of nasal and voiceless stop by the intermediate step (see section 4.1) of

voicing the stops:

(21)	<u>Elwana</u>	<u>Lower Pokomo</u>	<u>So. Swahili</u>	
	bebe	mp <sup>h</sup> embe	p <sup>h</sup> embe	'horn'
	-eḡa	-enda	-enda	'go'
	βija	-winza	-winja	'hunt'
	mucaga	mutsanga	mcanga	'sand'
	ḡaṭu	nt <sup>h</sup> ahu	t <sup>h</sup> atu	'three' (class 10)
	jaṭu	nts <sup>h</sup> ahu	c <sup>h</sup> atu	'python'
	goba	nk <sup>h</sup> omba	k <sup>h</sup> omba	'bushbaby'
	-nuga	-nuṅk <sup>h</sup> a	-nu <sup>h</sup> a	'smell'

(b) Dahalo has replaced PSC \*mf by mp . So also Elwana:

(22)	<u>Elwana</u>	<u>Pokomo</u>	<u>So. Swahili</u>	
	bisi	mfwisi	fisi	'hyena'

(c) Dahalo has replaced PSC \*/t, d/ by /ṭ, ḡ/ as Elwana has replaced Proto-Bantu \*/t, d/ by /ṭ, ḡ/ (see (21) and section 4.1). Dahalo has developed a dental vs. alveolar contrast in stops. Elwana, Pokomo, and a few of the northern Swahili dialects are virtually the only Bantu languages in East Africa to have done the same.

(d) Dahalo has a contrast between (incomplete) series of implosive and non-implosive non-prenasalised voiced stops, PSC \*/b, d/ having become /β, ḡ/ . While it is true that the regular non-prenasalised voiced stops in some East African Bantu languages, especially along the coast, are normally implosive, no East African Bantu language other than Elwana and Pokomo has a regular implosive vs. non-implosive series.

(e) PSC \*/ŋ, ŋʷ/ are realised in Dahalo as /n, ŋg/ respectively. In other words, Dahalo has replaced all inherited velar nasals. Likewise, Elwana and many Pokomo dialects have got rid of /ŋ/ :

(23)	<u>Lower Pokomo</u>	<u>So. Swahili</u>	
	ŋgombe	ŋombe	'cow'
	bugo	mbuṅo	'tsetse fly'

Most of these Dahalo processes are unique within Southern Cushitic and several of the same processes unique to Elwana (sometimes with Pokomo) within East African Bantu. Nurse [1983:214] hypothesised that these parallels resulted

from widespread assimilation of Dahalo-speakers by the Elwana community.<sup>13</sup>

Ehret [1980:125] suggests a means by which this assimilation could be partly dated. Sequences of intervocalic nasal and voiced stop were lost early in Dahalo, but later reintroduced into Dahalo (and Elwana) through loan words from, most obviously, Pokomo, northern Swahili, and Orma. The Pokomo and northern Swahili material cannot be dated absolutely, but Orma presence along the Tana started around A.D. 1600 and is thus the earliest date we can set on the reintroduction of intervocalic nasal and voiced stop. The preceding stage, involving the reduction of nasal plus voiced stop, and probably the shift of alveolar to dental stop, must have been completed by that time at least. This rather rough-and-ready method would then assign the assimilation of Dahalo-speakers into the Elwana community to a point before A.D. 1600, that is, at least the first half of the present millenium.

5.2. Pokomo. There are great similarities between the external situation of Elwana and Pokomo. Although more numerous, the Pokomo community is also strung out in a thin, vulnerable line of villages along the Tana. Their own traditions of origin, although not thoroughly analysed, are mixed. Some clans claim to have assimilated "Sanye" but since "Sanye" is a cover term referring indiscriminately to Aweera, Dahalo, and Waata, it is not helpful. Other Pokomo clans claim descent from the north, from "Shungwaya"<sup>14</sup> at the time of the Orma incursions [Darroch 1943/4, Spear 1978, Werner 1912/3], but there is also reason to think some Pokomo speakers were along the Tana before that seventeenth century event [Nurse 1983a]. Loan sets in Pokomo derive from the same languages as those in Elwana.

When we compare the diachronic processes which derive Pokomo from Proto-Sabaki or Proto-Bantu with those deriving our other languages, we find nothing so clear as in Elwana. There are some general processes which show no obvious

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<sup>13</sup>Another possibility would be that the unique changes characterising Elwana and Dahalo were produced by their both assimilating speakers of a third, now extinct, language.

<sup>14</sup>"Shungwaya" is an area, allegedly in southern Somalia or northeastern Kenya, claimed by many East African coastal Bantu-speaking communities as their place of origin.



parallel with any surrounding non-Bantu language. Individual Pokomo dialects have undergone some processes shared by neighboring languages, and especially Dahalo. So, as Dahalo for example, many Pokomo dialects avoid [ŋ] by replacing it in a variety of ways. As Dahalo, Upper Pokomo dialects delete nasals before all fricatives. As Dahalo, Lower Pokomo replaces intervocalic [j] by [ɟ]. As the northern Swahili dialects of Kenya and some Aweera dialects, Lower Pokomo deletes [l] in some contexts [Nurse 1983a:212-214]. But whereas for Elwana it was possible to anchor the appearance of dentality in a convincing set of rules shared by Elwana and Dahalo, no such set exists for Pokomo as a whole. Hence there seems to be no firm means of isolating any single early source of the borrowed dentals in Pokomo. The similarities between Dahalo and individual Pokomo dialects, the likelihood that only Dahalo (and possibly Aweera of course) was present early enough, and the lack of parallels with any non-Bantu language other than Dahalo leave it as a possible candidate.

5.3. Northern Swahili. The same general argument that applied to Pokomo also applies to the northern dialects as a whole. There is a set of innovations affecting consonants that distinguishes northern Swahili from southern Swahili and the rest of Sabaki, but apart from the development of the set of dental consonants, there is no convincing body of similar phonological innovations with surrounding languages.<sup>15</sup> However, examination of individual northern Swa-

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<sup>15</sup>Apart from the processes resulting in the dental set, and those mentioned below, some other consonant features defining the northern Swahili dialects are the following:

(a) Loss of nonprenasalised /g/, present in all northern Swahili, Elwana, and all Aweera dialects except Baddey, but only present in a minority of Pokomo (loan?) words. As it is also present in other Sabaki languages farther south, such as Comorian and Mwani, it is not necessarily of northern origin, which is supported by its failure to operate in all Aweera dialects. Probable direction is northern Swahili to Aweera.

(b) ɟ to [j] to zero, present in all northern Swahili, otherwise only in the Baddey dialect of Aweera. Direction is northern Swahili to Baddey.

(c) l-loss before /a,e,o,u/. l-retention in Mwiini indicates that l-loss is a fairly recent development in the other northern Swahili dialects, supported by

hili dialects permits a more detailed statement, which can be linked to geographical and temporal factors. Siu, Pate, and Amu, as far as we know, have always been spoken on the islands, separated from the mainland. By contrast, up to the Orma invasions of the seventeenth century, Bajuni was a mainland dialect, spoken from northern Kenya to at least Kismayu in southern Somalia [Nurse 1980]. Even after the Orma appearance, when some Bajuni communities moved on to the islands of the Lamu Archipelago, others stayed on, or moved back to, the mainland. The rulers of Siu, Pate, and Lamu contracted occasional strategic alliances with Orma and Somali on the mainland, but otherwise contact was of an indirect kind. On the other hand, we know from local traditions and European records that Bajunis mixed with Aweera and Garre Somali, at least, in much more intimate ways [Elliott 1925/6:10-22, 147-163, 245-263, 338-358].

Certain phonological processes affect Bajuni of the northern Swahili dialects, or if they also affect other northern Swahili dialects, they may be suspected of having originated in Bajuni. The general nonlinguistic background to this claim is that prior to the Orma incursions the Bajuni of the mainland coast seem to have been more numerous than the island communities. The Orma arrival forced the Bajuni on to the islands, where they moved into the towns (Siu, Pate, etc.), and today there are many residents who claim to be "Bajuni" (a nonlinguistic label) by origin, as a result. Organ [ms] cites a letter from the Portuguese Viceroy of India, dated 6 January, 1598: "...in no circumstances have you to permit the erection of stone walls there at Patta (Pate), not even then, if they say that the reason is to defend themselves against the Vanagunes (Vagunya, Bajuni)".<sup>16</sup> Examples of the phonological processes affect-

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greater frequency of /l/ in Swahili literature of recent centuries. L-loss in Swahili dialects further south suggests it is a widespread Swahili areal feature. Also lost in Lower, but not Upper, Pokomo before all vowels, and in some Aweera dialects in word final position.

These features seem unlikely to have originated in other local languages as they are also present in other Sabaki languages to the south and/or either absent (Dahalo, Somali, Orma) or not present in all the dialects of the local languages (Aweera).

<sup>16</sup>I am indebted to Jim Allen for this information and the foregoing Elliott reference.

ing Bajuni are first, /z/ → /ð/ . No dialect of Dahalo, Aweera,<sup>17</sup> or southern Somali has /z/ or [z], but all have [ð] . In Dahalo modern /ð/ evolved from \*/z/ [Ehret 1980:115], and in Aweera and Somali [ð] is the intervocalic allophone of /d̥/, also present in Siu and Pate. Second, deletion of homorganic nasal before voiceless stop [Nurse 1982:113], which has also occurred in Dahalo, Aweera, Garre Somali, and Elwana. In the latter, as we have seen, its deletion forms part of a set of rules linked to Dahalo influence. Although this form of deletion is natural enough and is not uncommon in North East Coast Bantu languages, it has conspicuously not happened at all in Pokomo or the northern Swahili dialect Mwiini, which is geographically isolated. In Siu, Pate, and Amu, it has occurred only in certain morphologically conditioned contexts (see fn. 5), and took place about three hundred years ago, just after Bajuni influence made itself felt in these towns. In Bajuni by contrast, it forms part of a wider rule whereby these nasals are also deleted before all fricatives [Nurse 1982:113-114].

Care has to be exercised in interpreting these phenomena. What we see is that, after the breakup of the proto-northern Swahili community, certain changes affected Bajuni in particular. They appear variously in adjoining languages and dialects but all are present in Aweera (and Dahalo). That is, there appears to have been particular phonological interaction between Bajuni and Aweera, which are adjacent and are known to have interacted in nonlinguistic ways. In the middle of the present millenium, and possibly for some centuries previously, the coastal Bajuni community is likely to have been large, powerful, and numerous [Grottanelli 1955, Nurse 1980]. It would therefore be tempting to assume that such a society attracted Aweera-speakers whose assimilation in numbers modified Bajuni pronunciation. In times of peace and prosperity down to the present, the Swahili towns of the northern coast and islands have always attracted Aweera and Dahalo.

However, although that is the more plausible direction of the interaction, there is no hard linguistic evidence that it could not have happened in the opposite direction. After all, in times of demonstrated hardship, e.g. in the

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<sup>17</sup>Sole exception is the Jara dialect. See Heine [1982:21].

nineteenth century, Bajuni sometimes took prolonged refuge in the Boni forest [Ylvisaker 1979:31, 39, 67, 88-89, 126-127]. The most prudent summary would be to say that there is an area embracing Bajuni and Aweera where certain parallel phonological changes occurred. General historical accounts make it most likely that the best explanation lies in assuming a modification of Bajuni articulatory habits by assimilation of Aweera-speakers. Bajuni prestige, power, and numbers then carried some of these changes into Siu and Pate,<sup>18</sup> probably starting in the seventeenth century. If that is the case, then the Bajuni-Aweera interaction must have preceded that date.

This interpretation would also fit lexical loan sets. We find loan sets in the northern Swahili dialects from Dahalo, Aweera, and/or southern Somali, e.g.<sup>19</sup>

(24)	<u>Northern dialects (quoted in Amu)</u>		<u>Dahalo (all these are from PSC)</u>
	mḍewere	'spinach-like vegetable'	ḍeβere
	ḍuko	'deaf'	ḍu:ko
	k <sup>h</sup> engewa (Baj. hengewa)	'kite sp.'	he:nawa
	k <sup>h</sup> unewe	'tick'	ngunewe
	t <sup>h</sup> awau	'vervet monkey'	jaʔawu
	-soa (Mwiini -sooʔa)	'pound'	*so: - (not recorded, but the direct reflex of PSC *ʃool-)

Those from Aweera and/or Somali are heaviest in Bajuni, lighter in Siu, Pate, and Amu:

(25)	<u>All northern dialects (quoted in Amu)</u>	<u>Aweera</u>	<u>Somali</u>	<u>Proto-SAM</u>
	tamarī 'beestings'	*tamar (replaced by Somali form today)	ḍambar	*ḍambar

<sup>18</sup>The opposite can be seen happening today. In parts of the Swahili-speaking Lamu Archipelago, /ð/ is felt to be rustic and is avoided.

<sup>19</sup>Lexical loans from Orma are conspicuously absent. See Nurse [forthcoming a].

(25)	<u>All northern dialects</u> (quoted in Amu)	<u>Aweera</u>	<u>Somali</u>	<u>Proto-SAM</u>
	uβele 'feather'	βa:l	ba:l	*baal
	βaβulona 'marabou stork'	βa:βu	bambu	?
	<u>Bajuni alone</u>			
	ch-uđi 'dung'	uđ:i		*uđđi
	aβaya 'older sister'	?	aba:y	?
	havule 'girl'	hablo	hablo	*'alb

Bajuni could thus have acted as the funnel through which they flowed. The lexical material points to Dahalo, Aweera, or Somali. The phonological material points to Aweera.

These later phonological and lexical loans are not necessarily of the same time or origin as the changes including dentalisation, which had earlier affected all the northern Swahili dialects. The latter may be assumed to have occurred at the time of the proto-northern Swahili community or slightly later. The changes just discussed, and most obviously connected to Aweera, occurred after the breakup of this community, since they hardly affect Mwiini, and Siu, Pate, and Amu only to some extent. We should thus be cautious about attributing the earlier changes unambiguously to Aweera influence.

5.4. Conclusions. Dahalo and Aweera play a central role in this general scenario. Dahalo seems to have been the prime mover in the Elwana changes and to have played some role in those in Pokomo. There is a supporting set of Dahalo loan words in Elwana, Pokomo, and northern Swahili. Aweera is most prominent among the possible sources for the later set of phonological changes affecting Bajuni particularly after the breakup of the proto-northern Swahili community. There is a supporting set of Aweera loan words in northern Swahili, clearest in Bajuni. Either Dahalo or Aweera could have been the catalyst for the early northern Swahili changes.

Hitherto, reference to southern Somali dialects other than Aweera has been minimal. Several of the phonological changes that Aweera has undergone since Proto-SAM [Heine 1978:11-12, 41-42] are, however, also shared by other southern Somali dialects, notably Garre. Some of the loan word sets in northern

Swahili, apparently from Aweera, could as well have come from these other southern Somali dialects.<sup>20</sup> Although today there are no speakers of these other dialects in northern Kenya, they are present in southern Somalia, and historical records indicate their former presence along the northern Kenya coast. Reference to Aweera in what preceded may thus be taken to refer also to other southern Somali dialects, particularly Garre. Henceforth, reference will be made to Aweera and southern Somali.

Is it possible to pinpoint just one of these languages, Dahalo or Aweera/southern Somali, as the single original catalyst? One way of doing this would be by proving that one but not the other had been physically present in the area at the beginning of the second, or end of the first, millenium A.D. But we know next to nothing of the facts (as opposed to the assumptions) of their external history. Of Dahalo history we know absolutely nothing, although loan word patterns in Elwana/Pokomo/northern Swahili suggest Dahalo has been present for a lengthy period on the coast [Nurse forthcoming (b)], and Ehret [1974: 29ff] states that Southern Cushites were a major presence in East Africa in general during the first millenium A.D. General archaeological and linguistic considerations suggest that SAM-speakers could have been in the area by the time in which we are interested [Ambrose 1982:143, Heine et al. 1979]. This suggests the possibility that both could have been present a thousand years ago and does not favor one over the other.

Another approach is to look at the internal linguistic evidence, both phonological and lexical. Certain phonological changes are shared by Dahalo and southern Somali dialects: deletion of voiced stops after homorganic nasals intervocalically; deletion of homorganic nasals before fricatives; replacement of (pre-Dahalo, SAM) /z/ by a dental obstruent in various ways; the appearance of certain implosives. The first two of these at least occurred wherever Dahalo can be shown to be the common factor in contact situations, that is, with Elwana and Aweera, although, as we have seen (section 5.1), the way in which intervocalic nasals plus voiced stop are changed in Elwana differs from

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<sup>20</sup>There are also a few loans in Elwana of Somali origin which do not seem to come from northern Somali dialects.

the mechanism in Dahalo and Aweera. As Ehret [1980:116] points out, deletion of voiced stop after nasal in Dahalo is a very early rule, whereas the same has not been demonstrated for Aweera [Heine 1978, 1982]. A large number of rules distinguish Dahalo from PSC, whereas relatively few rules separate Aweera from proto-SAM, which suggest that Dahalo has a longer independent derivational history than Aweera.

Evidence from lexis points in the same direction. Dahalo seems to have been in contact with coastal Sabaki languages longer than southern Somali because whereas loan words into Aweera are all recognisably from recent northern Swahili (since their shape is basically that of northern Swahili), Dahalo not only has loans from recent northern Swahili, but also a number of items which represent not a recent, but an older form of Swahili or Pokomo or Mijikenda:

(26)

<u>Dahalo</u>	<u>contemporary northern Sw. (Amu forms)</u>	<u>contemporary Mijikenda (Giryama)</u>	<u>contemporary Lower Pokomo</u>	<u>contemporary Upper Pokomo</u>
βala:ð- 'count'	-wanga Mwiini -walanga (earlier *-wal-anga )	Digo -oranga	-	-
βúŋka 'flour'	unga , but Bajuni vunga	unga	unga	unga
kalaŋkað- 'fry'	-kanga	-kalanga	-kaanga	-kalanga
kítsoka 'axe'	kiṭoka	kiṭsoka	( shoka ) (loans from Standard Swahili)	( shoka )
kítsiki 'tree stump'	kisiki	kisiki	kisichi	siki
lompa:ð- 'ask for'	-omba	-lomba	-yomba	-lomba
míṭiŋká 'bee hive'	mzinga	-	-	-
mútsunḡi 'water pot'	mṭunḡi	mṭunḡi and kiṭsunḡi 'bird's nest'	mṭunḡi and kiḡhunḡi	mṭunḡi c.f. Comorian mtsunḡi
múnta 'field'	mnda	munda	-	-

<u>Dahalo</u>	<u>contemporary northern Sw. (Amu forms)</u>	<u>contemporary Mijikenda (Giryama)</u>	<u>contemporary Lower Pokomo</u>	<u>contemporary Upper Pokomo</u>
funṭa:ḏ- 'teach'	-funṅa	-funṅza	-	-
muts(?)okolo 'grandchild'	muyukuu	mudzukulu	mudzukuu	?
tsúnkule 'hare'	kiṭungue Mvita kiṭunguṭe	(ka)ṭsungula	( sungura )	( sungura )
rúpanga 'machete'	upanga	upanga	yuḡanga	luḡanga
(h)úluḡe 'flower'	u(w)a	lua	( uwa )	luḡa

but more recent

tʃú:mba	chumba	'room'
ʔaṅa:ḏ-	-aṅa	'begin'
manjá:nuni	manjani	'yellow'
tʃú:ṅwe:ṭe	chungwa	'orange'

These loans derive specifically from an earlier form of one Sabaki language or another [Nurse forthcoming b]. None of these earlier loans appears in this shape in any Sabaki language presently adjacent to Dahalo. They have either been lost in the probable source language(s) or have undergone certain sound changes.)

Of the 200 or so identifiable Bantu loan words in Dahalo, none has an original Bantu sequence of intervocalic nasal and voiced stop reinterpreted as simple nasal. In other words, not only is Ehret's claim that this is an early change in Dahalo apparently justified but it was complete and no longer active by the time of contact with Bantu languages.<sup>21</sup> The earliest Bantu sequences of intervocalic nasal and voiced stop taken into Dahalo are interpreted with nasal and voiceless stop, but later ones keep the voiced stop as such sequences become phonemicised in Dahalo. As we have seen, Orma (and northern Somali) sequences of nasal and voiced stop are kept in Dahalo, that is, they are later

<sup>21</sup>This applies to loan words from Swahili, Pokomo, Thagicu, and older Sabaki, but not, as we have seen, to Elwana, where it was complete but its surface effects still active.



loans, whereas the Sabaki loans interpreted as voiceless must be earlier, at least pre-seventeenth century.

Proto-Aweera likewise underwent the process of replacing inherited nasal and voiced stop by simple nasal. Contemporary Aweera nasals plus voiced stop are all loans, some from Orma. By the same reasoning we can attribute the loans to at least the seventeenth century and the simple inherited intervocalic nasal to the preceding period. Aweera has no older Sabaki forms. Therefore, its contact with Swahili is later than Dahalo's, and it has both simple nasal and nasal plus voiced stop in loans from Swahili:

(27)	<u>Aweera</u>		<u>Northern Swahili</u>
	je:m <sup>ə</sup>	'hoe'	yembe
	wi:m <sup>ə</sup>	'millet sp.'	wimbi
	m̥t̥uŋi	'water pot'	m̥t̥uŋi
but	si:mb <sup>ə</sup>	'stick'	simbo
	senci	'money'	senti/senchi (depending on dialect)
	mgange	'doctor'	mganga
	mulo:nje	'tomato sp.'	mlonje
	a:ŋdik-	'write'	-aŋdika

At the stage Aweera was passing through this change it must have been in contact with Swahili, and the stage before the change can be attributed to the pre-seventeenth century period.

If we piece these bits of evidence together, we are forced to the conclusion that Dahalo is the more likely candidate for the earlier center of influence. That Dahalo has a longer derivational history than Aweera/southern Somali is not in itself significant because that history need not have evolved on the coast. That the NC → N change is clearly older in Dahalo than Aweera/southern Somali suggests at least the possibility that it may have come about in the latter under Dahalo influence. Although that suggests Aweera newcomers moving into an older Dahalo area, it could be interpreted in other ways. Dahalo loan words are found in all three Sabaki languages, while Aweera/southern Somali ones are most obvious in only northern Swahili. And Dahalo has older loans from a variety of Sabaki languages, while those in Aweera derive only

from northern Swahili more recently. Aweera/southern Somali phonological influence likewise has touched mainly Bajuni, which must have postdated the proto-northern Swahili period.

To proceed to the conclusion that the Dahalo community was therefore earlier on the coast and provided the catalyst for the appearance of the early dental series in the northern Sabaki languages is embarrassing. Denticity in Dahalo is itself induced, and if Ehret is right, is not a particularly early change in Dahalo. In other words, how and when did dentalisation come about in Dahalo itself? Was it present early enough in Dahalo to have provided the catalyst for the dentalisation in northern Swahili? One potential source would be the Khoisan language that provided Dahalo with its dental click, but that is difficult to prove, because although denticity is common enough in South African Khoisan languages, the only other languages in East Africa known to be Khoisan (Sandawe) or to have come in contact with Khoisan (Hadza) have an alveolar, not a dental, series.

Until we have more data on Dahalo and Aweera/southern Somali, until we know more about the linguistic interaction between them, and until we have a more reliable chronology for them, we must rest content with the hypothesis that Dahalo, firstly, and Aweera/southern Somali, secondly, are the prime candidates for the possible source of the changes that have occurred in northern Swahili, Pokomo, and Elwana, including the appearance of denticity.

A contemporary sociolinguist would be unhappy with what immediately precedes for a different reason. Although the likelihood of older Dahalo, southern Somali, and Sabaki presence and linguistic interaction can be shown, neither the exact nature of the interaction nor even the real fact of their presence can be proved. A sociolinguist would presumably claim that it is not enough to show that two or more historical communities coexisted and that a feature inherited in one led in some way to its appearance in the other. He would demand a more rigorous demonstration of the nature of the transfer. But that is an unrealistic demand, as the northern Kenya coast of a millenium ago is not Martha's Vineyard of today. It is only in a very few historical situations, most obviously where written records are available, that such a demonstration can ever be mounted. In this particular case it is impossible. Da-

halo and Aweera do not even appear in the written or archaeological record, nor in oral traditions. The concrete evidence for Elwana and Pokomo is not much stronger. Thus we can only speculate about the nature of the contact that occurred.

The situation today along the northern Kenya coast is probably the reverse of what it was a thousand years ago. In recent centuries the northern Swahili island settlements have been large, prestigious, and fairly powerful, trading and forging alliances across the Indian Ocean, owning large tracts of land and plantations on the adjacent mainland, and exercising their influence widely along the coast. Aweera and Dahalo, by contrast, have been at the opposite end of the social, economic, political, and cultural scale. People in Lamu are apt to bristle at the idea that they might owe anything to the "Sanye".

During the first millenium A.D., however, at least Southern Cushitic communities in East Africa in general were large and powerful. The earliest archaeological evidence for the area of the northern Swahili settlements [Horton 1980] suggests they were small and dependent, not on trade, but rather on small scale farming, stock, fishing, and hunting, similarly to their neighbors. At this point, the older established Cushites most likely coexisted on a fairly equal basis with the recently arrived ancestral Sabaki or were even superior to them in numbers and power, with the linguistic consequences that would entail. Contact with mainland peoples would have been mainly with Cushitic-speakers. From approximately the ninth to the twelfth century A.D., Swahili communities along the coast expanded rapidly in number, size, and economic power, presumably initiating the situation that exists down to the present, whereby they acted as a magnet for adjacent peoples on the mainland. This would result in continuous assimilation of non-native speakers, with consequences for northern Swahili general vocabulary, and a division of labor in which Cushitic specialisation in activities other than farming and trade would lead to their specialised lexis being absorbed by Swahili.

This would go a long way towards explaining in general how peoples whose presence and language today are of little consequence for adjacent Swahili communities could have provided a context for earlier northern Sabaki phonological development. A parallel exists with the situation in southern Africa, in

which languages ancestral to those spoken by millions of contemporary Bantu-speakers took clicks from Khoisan-speakers who are reduced today to a few thousand. The adoption of dentality is easier to envisage than the adoption of clicks.

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