

# More on Phonological Variation in Tigrinya<sup>1</sup>

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*Summary.* The phonology of Tigrinya has received considerable attention, in both descriptive and theoretical terms. This paper contributes to that literature by presenting facts from a rural dialect of Tigrinya; the dialect is spoken in the village Kerkos, just outside of Mekele. This paper focuses on the distribution of bilabial and velar stops and fricatives, those segments that have been observed to participate in spirantization. The dialect reveals a pattern unlike those previously documented for other Tigrinya dialects.

## 1. Introduction

Significant work has been done on the phonology of Tigrinya. Documentation on Tigrinya includes Leslau (1939, 1969), Palmer (1955, 1957), followed by Pam (1973). In more recent years, researchers have combined descriptive and theoretical goals, analyzing Tigrinya in various generative models (see, for example, Angoujard 1988; Angoujard and Denais 1989; Bagemihl 1987; Berhane 1991; Denais 1991; Lowenstamm and Prunet 1985, 1986; Buckley 1997; Rose 1997; and Tewelde 2002). This body of work has contributed to models of phonology and to comparative studies in Ethio-Semitic languages.

In this paper, a phonological description is given for a dialect of Tigrinya spoken in Ethiopia. The data was elicited from a speaker of Tigrinya from Kerkos, a village in Tigray approximately 15 kilometers outside of Mekele. The phonology of this dialect is compared to the two dialects described in Berhane (1991). This study demonstrates that there is a unique constellation of phonological properties of this dialect, and that these properties differentiate it from the other two documented dialects.

This paper is organized in the following way. The second section summarizes the overview of the dialects presented in Berhane (1991). The third section begins the sketch of the phonology of the Kerkos dialect, presenting the distribution of

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velar stops and fricatives. The fourth section presents the facts relevant to the distribution of the voiced bilabial stop and fricative.

## 2. Previous Work on Tigrinya Dialects

Leslau's work on Tigrinya includes Leslau (1939), which presented work on the Tigrinya spoken in Akkele Gouzay and Hamasen, located in what is now Eritrea, and in Adwa, in northern Ethiopia. Together these varieties make up the Northern Tigrinya dialect.

Berhane (1991) includes considerable documentation of his own dialect, Southern Tigrinya. This is the dialect spoken in Tigray. For Berhane (1991: 153) claims that these dialects of districts like Axum and Adwa, close to the border with Eritrea, are mainly influenced by Northern Tigrinya.

There are a number of points of comparison that differentiate Northern and Southern Tigrinya. Overall, there are seventeen points of comparison made in Berhane (1991) for the northern and southern dialect groups of Tigrinya, which he also terms the Z-group and the L-group. This is because the relative clause marker, prepositions, and nominal prefixes begin with an /l-/ in Southern Tigrinya and a /z-/ in Northern Tigrinya. This is shown in (1):

(1) Different markers in relatives, adverbials and nominals:<sup>2</sup>

Northern Tigrinya	Southern Tigrinya	Gloss
zi-gărăfä	li-gărăfä	'who (ms) whipped'
bi-zäy	bi-läy	'without'
bäbäynu zi-hibrom	bibäynu li-hibrom	'of various colors'

The differences in (1) contribute to a larger set of phonological differences between Northern and Southern Tigrinya. In (2), we give the phonological dimensions that demarcate these two dialects; other dissimilar features exist, but are not discussed in this paper.

- (2) Phonological differences between Tigrinya dialects
  - a. Environment where velar spirantization occurs
  - b. Environment where the voiced bilabial spirantizes
  - c. Nasal versus the liquid in object clitic prefixes
  - d. Possessive prefixes with a glide (/na/ versus /nay/)
  - e. Distribution of alveolar versus alveopalatal fricative
  - f. Distribution of the labial consonants

<sup>2</sup>Due to font compatibility issues, the following symbols are used in this paper: [i] represents the mid central vowel (barred i), [b] represents a voiced bilabial fricative, [ʔ] represents glottal stop, [H] represents the voiceless pharyngeal fricative and [h] the voiced pharyngeal fricative. (irrelevant in electronic form)

In the next section, the distribution of each of these features is discussed for the Kerkos dialect.

### 3. Velars in the Kerkos Dialect of Tigrinya

The first feature is the spirantization of velar stops. Velar spirantization is a much discussed feature of Tigrinya phonology (Schein 1981; Kenstowicz 1982). The distribution of velar stops and fricatives in Northern Tigrinya and Southern Tigrinya are given in (3). Southern Tigrinya spirantizes velar stops after vowels and gutturals and word-initially, while Northern Tigrinya only spirantizes intervocally. These examples also show the suffix *-ka* and its spirantized alternant *-xa*. The presence of both alternants suggests that spirantization is an active phonological process.

#### (3) Distribution of velar spirantization

Environment	NT	ST	Gloss
word-initial	käbdi	xäbdi	'belly'
	k'olfa	x'olfa	'child'
post-vocalic	säbäruxa	säbäruxa	'they (mp) broke you (ms)'
post-guttural	ʔabrihka	ʔabrihxa	'you (ms) lighted'
post-glide	mayka	mayka	'your (ms) water'
post-consonantal	ʔidka	ʔidka	'your (ms) hand'
word-final	ḥiyäx	ḥiyäx	'let you (ms) chew'

In the Kerkos dialect, the facts are somewhat different.<sup>3</sup> For example, in word initial position, there are velar fricatives. This might suggest that word-initial spirantization has occurred. However, there are also velar stops in this position. This latter fact suggests that velar stops and fricatives contrast. The patterns that occur initially and medially are given in (4).

#### (4) Distribution of velar stops and fricatives

Environment	Kerkos Tigrinya	Gloss
word-initial	xilittä	'two'
	x'olfa	'child'
	käfti	'cattle'
	k'ibbi	'circular'
post-vocalic	Mäx'älä	Mekele (place name)
	täxli	'tree'
geminate	ʔakkoy	'my uncle'
	däkk'i	'child'
	c'ikk'a	'mud'
word-final	s'ibbux'	'good (m)'

<sup>3</sup>This distribution is reminiscent of Chaha (Banksira 2000) and Muher Gurage (Rose 2000).

At least word-initially, the velars contrast for manner of articulation. However, there appears to be an asymmetric distribution in other positions: only stops permitted as geminates in underived roots and fricatives permitted elsewhere when post-vocalic.

The suffixal data in (5) suggests a different state of affairs than found for the other dialects above in (3). Both of those dialects show *-ka* and *-xa* as related allomorphs. Below in (5), there is no evidence for an alternation, as the velar stop does not surface in the suffix.

(5) Velar fricatives in suffixes

<b>Kerkos Tigrinya</b>	<b>Gloss</b>
g <sup>w</sup> alxa	'your (ms) daughter'
hawxa	'your (ms) brother'
wāddixa	'your (ms) son'
wāddixi	'your (fs) son'

Interestingly, a velar stop can appear in certain contexts. The examples in (6) show how the /k/ surfaces in verbal paradigms. This is found in verbal paradigms where gemination may apply. Tewolde (2002: 43) notes that gemination may occur when object suffixes are attached to certain verbal forms. The bottom two forms in (6) show that this gemination is not unique to velars, but can occur for other consonants when other suffixes are used in the same paradigm.

(6) Velar stops in suffixes

<b>Kerkos Tigrinya</b>	<b>Gloss</b>
?amhirikka	'he caused you (ms) to learn'
?amhiratikka	'she caused you (fs) to learn'
?amhiratikki	'she caused you (ms) to learn'
cf. ?amhiratinna	'she caused us to learn'
?amhiratto	'she caused him to learn'

**4. Voiced Bilabials in the Kerkos Dialect of Tigrinya**

A similar type of relationship between stop and fricative occurs in the labials. Berhane (1992) demonstrates that the voiced bilabial is also subject to spirantization. In the Northern Tigrinya dialect, bilabial spirantization only occurs post-vocally. In the Southern Tigrinya dialect, the same process appears in all environments, except for word-initially, when geminated, or when

following an /m/. The Kerkos distribution more closely resembles Southern Tigrinya in this case, as the bilabial voiced fricative occurs in a wide variety of contexts.

(7) Voiced labials in Kerkos Tigrinya

Environment	Kerkos Tig.	Gloss
word-initial	bic'ä	'yellow'
	βätri	'stick'
intervocalic singleton	deβena	'cloud'
	gäβo	'mountain'
	siβät	'gray hair'
post-consonantal	xalβi	'dog'
	wämβär	'chair'
pre-consonantal	miβlaʕ	'eat'
geminate	ʔabbo	'father'
	k'ibbi	'circular'
word-final	mädäβ	'traditional rural bed'
	zinaβ	'rain'

The only context where the voiced bilabial stop and fricative contrast is word-initially. In the other environments, the distribution is not contrastive because only one of the two appears. This is identical to the distribution patterns for the velar stops and fricatives in (4).

There is another set of contexts that shows the distribution of the voiced bilabial stop and fricative. The verbal paradigms give a variety of contexts in which a given consonant can surface. The morphological environments of the verb are somewhat different for the bilabials than for the velars as there are no bilabial stops or fricatives in the verbal suffixes. However, there are verbal roots with bilabials. In the next set of data, this context is given using the verb root for 'break' in the imperfective (corresponding to paradigm 3 in Berhane 1991: 176). In all occurrences, the bilabial surfaces as a fricative. This is true even when it is a geminate. An acoustic analysis of these forms gives us measurements to make a comparison in length and also verifies that there is no closure for the labial consonant.

(8) Length patterns of labial fricatives in the imperfective

Form	Kerkos Tig.	Average length of the labial
1 s	yisäββir	130 ms
2 ms	tisäββir	147 ms
2 fs	tisäβri	74.3 ms
3 ms	yisäββir	149 ms
3 fs	tisäββir	167 ms
1 p	nisäββir	134 ms

2 mp	tisäβru	85.6 ms
2 fp	tisäβra	58.1 ms
3 mp	visäβru	87 ms
3 fp	visäβra	79.8 ms
infinitive	misβär	79 ms

While the root is treated as "sbr" in other Tigrinya dialects, it appears that the root is "sβr" in this dialect of Tigrinya. The medial labial is a fricative in these contexts, but not necessarily reflecting a synchronic process of spirantization. Comparing these forms with other dialects suggests that perhaps spirantization has been phonologized, at least in certain contexts, resulting in a phoneme shift in some forms. This verbal paradigm resembles the nominal forms for 'dog', where the velar only surfaces as a fricative in the Kerkos dialect. The other dialects of Tigrinya only allow the voiced bilabial stop to occur as geminates; this dialect appears to allow voiced bilabial fricative to occur as a geminate. One possible explanation for this may be that the voiced bilabial fricative shifted status; it may have gone from being an alternant of /b/ to becoming phonologized as the underlying segment.

## 5. Conclusions

This paper has presented data from another Tigrinya dialect. This dialect is spoken in Kerkos, a village near Mekele. A number of phonological characteristics have been given for this dialect: distribution of the velar and labial stops and fricatives; /n/ versus /l/ in the object proclitic; the possessive prefix as /na/ or /nay/; the use of the alveolar or the alveopalatal fricative in certain lexical items; and the distribution of the labial consonants across the vocabulary. In most of these cases, the dialect presented here resembles the dialect of Southern Tigrinya described in Berhane (1991). There are two cases where the distribution represents Northern Tigrinya patterns.

Interestingly, the Kerkos dialect presents an even more radical pattern of "spirantization" than found in Southern Tigrinya. The velar and the voiced bilabial fricatives occur in a wide range of environments. Word-initially, stops and fricatives at these points of articulation contrast. This may be linked to whether the word has a broken plural or employs a suffix. It appears that the restrictions on geminate fricatives may only apply to the velars and not to the voiced bilabial. However, it also appears that verb roots may represent the fricative (and not the stop) underlyingly. These facts deserve more attention; the distribution of the fricatives seems tied to the morphology as a type of paradigmatic effect.

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