

Ministry of Scientific and Technical Research

Some Notes on Tone in the Xədi Language

Elizabeth GATHMAN

**Société Internationale de Linguistique
B.P. 1299, Yaoundé
Republic of Cameroon**

1994

Some Notes on tone in the Xədi language

by
Elizabeth Gathman

1. Introduction

This paper is a report on the tone research done by Elizabeth Gathman during the research period ending December 1993. It is meant to augment the report done by co-researcher Cindy Langermann in fulfillment of the proposed phonology study. Less was accomplished during this two year period than was planned due to an unexpected emergency medical situation. As a result, the tone studies presented here are largely limited in scope to a lexical tone analysis of disyllabic nouns, with periodic comments that refer to general observations in other categories.

Xədi (ALCAM code 122, and also known by the name Hidé) is a Chadic language spoken in the Mandara mountains of the Far North Province of Cameroon, in the Mayo Tsanaga division. Recent estimates have put the number of speakers at 28,000 in Cameroon, with an additional 25% in Nigeria.

The research to this point shows the Xədi tone system to have two level tones. Tone functions primarily to distinguish lexical items, though further research may reveal a grammatical function as well.

Although there exist a few minimal pairs with tonal contrast, there is as yet no evidence that the benefits possible in writing tone in order to disambiguate these minimal pairs, would outweigh the disadvantages inherent in making the writing system more complex. Thus, this paper proposes no change in the present orthographical system regarding tone; i.e., tone is left unmarked.

2. Lexical Tone on Nouns

2.1. Morphological Structure of Nouns

The noun structure of Xədi includes both mono and polysyllabic words. Most monomorphemic nouns are mono, di, or trisyllabic, but compound nouns of greater length are not uncommon. Xədi noun structure allows suffixes, but no prefixes have been identified as yet. The most common suffixes are the plural marker and the possessive marker. All the examples of tone in this paper are mono-morphemic.

The following example illustrates the addition of suffixes on nouns:

(1)a.

məghamha			mnduha	
məgham	-ha	-a	mndu	-ha
'chief'	PL	of	'man'	PL
'The chiefs of men'				

b.

mnda		məghamha		
mndu	-a	məgham	-ha	-a
'man'	of	'chief'	PL	of
'The chiefs' man'				

2.2. Syllable structure of Noun Roots

The nouns studied for this paper were all disyllabic nouns. They included the following syllable patterns:

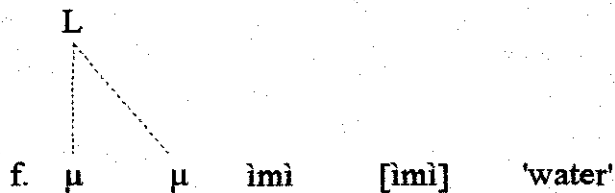
(2) V CV	ù'à	"milk"
CV CV	márnà	"mother"
CV CVC	pápàh	"foot"
CVC CVC	ḡúrzlùḡ	"neck"
CCV CV	klípí	"fish"

2.3. Contrastive Tonal melodies of Noun Roots

The data collected includes the following surface tonal melodies:

(3) high - high	zlámbák	"wing"
high - high falling	dāhânḡ	"fingernail"
high - low	húlfwà	"seeds"
low - high	tílí	"moon"
low - high falling	hètûr	"tail"
low - low	ìmì	"water"

Not all of these melodies occur in all environments, and a word can have different melodies, depending on its environment. It seems that the most appropriate interpretation at the moment, is to take the melodies found in the isolation form as representing the underlying form of the word. This would allow the following underlying forms:

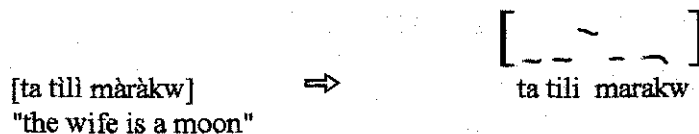


3. Phrasal Tone

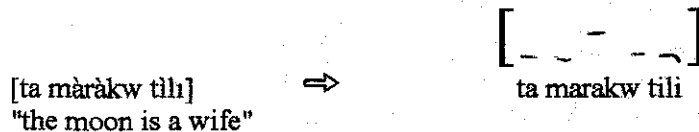
Words ending in a low tone in isolation end in high in the other four contexts analyzed here. The construction of these environments has not yet been fully analyzed, but there seems to be a floating high tone in the construction that puts a high tone on the last syllable of the word in the position immediately following the verb. In examples (5)a and (5)b below, the subject of the sentence has been displaced to the right, its usual place having been taken by the predicate noun.

The following examples illustrate the presence of a floating high tone:

(5)a.



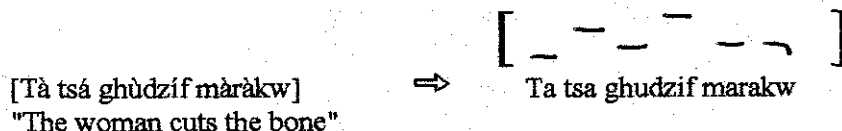
b.



There seems to be a process of mid tone creation which occurs across word boundaries in at least some instances. Those instances would appear to be an additional speaker emphasis on a word. A word that begins with a low tone and that follows a word that ends with a high tone, has its initial low tone raised to mid.

The following examples illustrate variations possible in pronunciation. Example (6)a was the first transcription of the sentence, while Example (6)b was transcribed some time later. The same individual was the language assistant on both occasions. Example (6)c is a further example of mid-tone creation elicited on yet another day.

(6)a.



b.

[Tà tsá ghùdzif m̀àràkw] ⇒ [_ ~ _ _ _ _]
 "The woman cuts the bone" Ta tsa ghudzif marakw

c.

[ndà tsá t̀l̀i tà r̀iǹi] ⇒ [_ _ _ _ _]
 "The moon has cut the animal" nda tsa tili ta rini

The high tone of a word in an utterance may be raised higher than a preceding high tone. This is usually accompanied by an (otherwise optional) phrase pause which can be extremely short. The words "ta" and "nda" which have grammatical functions, ((7)a and (7)b, respectively) carry a lower low tone than the low tone of the nouns in the data.

The following examples illustrate the effect of what appears to be a pause in mid sentence.

(7)a.

[ndà tsá slislik, tà m̀àràkw] ⇒ [_ _ _ _ _]
 "The chaff has cut the woman" nda tsa sliskik, ta marakw

b.

[ndà tsá slislik tà r̀iǹi] ⇒ [_ _ _ _ _]
 "The chaff has cut the animal" nda tsa sliskik ta rini

4. Areas for Further Research

Data needs to be gathered on both monosyllabic roots and trisyllabic roots. A list of forms from each of these categories should be put in known contexts (it would be advantageous to use the contexts already established with disyllabic words, i.e. *d̀àh̀à, t̀l̀i, m̀àràkw,* and *r̀iǹi*) in order to complete the paradigms. Mono and tri-syllabic words should both precede and follow these known contexts. Work should be done as well with compound words, which might yield melodies that are different from those of monomorphemic forms. All further studies would also benefit from studies of other environments, i.e. nouns in noun phrases next to the various possible elements etc.

Tone in the verbal system also needs to be addressed. A first step would be to create a chart where the X axis contains columns of verbal inflections (preterit, imperfect, imperative, etc.) and each row of the Y axis contains one verb.

It is not clear from this study of disyllabic nouns if downstep exists in the language, and this needs to be researched. One should plan to determine the contrasting environments to be used and record them for later instrumental measuring.

There are indications that two-syllable words with low-high tone patterns collapse into a mid-mid tone pattern in normal speech. This could prove to be a mechanism of downdrift, as the final created mid tone becomes the relative high tone for the remainder of the utterance.

The presence of an initial low tone on both *slí'íq* and *hútáf* in their isolation forms are not typographical errors, but need further checking. It would also be well to check if *zlámbák* is a compound word as that might explain its unique high-high melody. A further question that will affect further tone studies is whether the associative marker *-a* (Example (1)a and b) which I have defined as a suffix could be better analyzed as a prefix on the following word.

5. References

Hyman, L. (1992) "Moraic Mismatches in Bantu," *Phonology* 9.2, 225-265.

6. Appendix A : Paradigms

In the following chart, the tones of the nouns in the left-most column and in the top row appear in their isolation forms. The middle four columns are a summary of data elicited in the frame, "noun is a noun". Each word in the left column was elicited in each of the four environments found in the middle four columns. The intent was to elicit data in a noun/noun format.

	<u> </u> dǎhêŋ "the fingernail is a _____"	<u> </u> màràkw "the wife is a _____"	<u> </u> tìlì "the moon is a _____"	<u> </u> rínì "the animal is a _____"
dǎhêŋ "fingernail"	[dǎhêŋ dǎhêŋ]	[dǎhêŋ màràkw]	[dǎhêŋ tìlì]	[dǎhêŋ rínì]
díyák "bird"	[díyák dǎhêŋ]	[díyák màràkw]	[díyák tìlì]	[díyák rínì]
dàdà "father"	[dàdà dǎhêŋ]	[dàdà màràkw]	[dàdà tìlì]	[dàdà rínì]
dúlì "horns"	[dúlì dǎhêŋ]	[dúlì màràkw]	[dúlì tìlì]	[dúlì rínì]
dzèvú "hand"	[dzèvú dǎhêŋ]	[dzèvú màràkw]	[dzèvú tìlì]	[dzèvú rínì]
fàlák "wind"	[fàlák dǎhêŋ]	[fàlák màràkw]	[fàlák tìlì]	[fàlák rínì]
fitík "sun"	[fitík dǎhêŋ]	[fitík màràkw]	[fitík tìlì]	[fitík rínì]
ghánìk "tongue"	[ghánìk dǎhêŋ]	[ghánìk màràkw]	[ghánìk tìlì]	[ghánìk rínì]
ghùdzíf "bone"	[ghùdzíf dǎhêŋ]	[ghùdzíf màràkw]	[ghùdzíf tìlì]	[ghùdzíf rínì]
ghùvíd "grease"	[ghùvíd dǎhêŋ]	[ghùvíd màràkw]	[ghùvíd tìlì]	[ghùvíd rínì]

ghwáyák "clouds"	[ghwáyák dáhêŋ]	[ghwáyák màràkw]	[ghwáyák tìlì]	[ghwáyák rínì]
hàdík "dirt"	[hàdík dáhêŋ]	[hàdík màràkw]	[hàdík tìlì]	[hàdík rínì]
hègá "house"	[hègá dáhêŋ]	[hègá màràkw]	[hègá tìlì]	[hègá rínì]
hègù "name"	[hègù dáhêŋ]	[hègù màràkw]	[hègù tìlì]	[hègù rínì]
hèkón "three"	[hèkón dáhêŋ]	[hèkón màràkw]	[hèkón tìlì]	[hèkón rínì]
hètsínj "nose"	[hètsínj dáhêŋ]	[hètsínj màràkw]	[hètsínj tìlì]	[hètsínj rínì]
hètúr "tail"	[hètúr dáhêŋ]	[hètúr màràkw]	[hètúr tìlì]	[hètúr rínì]
húdí "stomach"	[húdí dáhêŋ]	[húdí màràkw]	[húdí tìlì]	[húdí rínì]
húlfwá "seeds"	[húlfwá dáhêŋ]	[húlfwá màràkw]	[húlfwá tìlì]	[húlfwá rínì]
hútáf "five"	[hútáf dáhêŋ]	[hútáf màràkw]	[hútáf tìlì]	[hútáf rínì]
ìmì "water"	[ìmì dáhêŋ]	[ìmì màràkw]	[ìmì tìlì]	[ìmì rínì]
ìrì "eye"	[ìrì dáhêŋ]	[ìrì màràkw]	[ìrì tìlì]	[ìrì rínì]
káram "knee"	[káram dáhêŋ]	[káram màràkw]	[káram tìlì]	[káram rínì]
klipì "fish"	[klipì dáhêŋ]	[klipì màràkw]	[klipì tìlì]	[klipì rínì]

kùzún "grass"	[kùzún dáhêŋ]	[kùzún màràkw]	[kùzún tìlì]	[kùzún rínì]
màmá "mother"	[màmá dáhêŋ]	[màmá màràkw]	[màmá tìlì]	[màmá rínì]
mámà "mudpit"	[mámá dáhêŋ]	[mámá màràkw]	[mámá tìlì]	[mámá rínì]
ménâk "liver"	[ménâk dáhêŋ]	[ménâk màràkw]	[ménâk tìlì]	[ménâk rínì]
màràkw "wife"	[màràkw dáhêŋ]	[màràkw màràkw]	[màràkw tìlì]	[màràkw rínì]
mì'í "women"	[mì'í dáhêŋ]	[mì'í màràkw]	[mì'í tìlì]	[mì'í rínì]
ŋàlóm "hook"	[ŋàlóm dáhêŋ]	[ŋàlóm màràkw]	[ŋàlóm tìlì]	[ŋàlóm rínì]
ŋùdúf "heart"	[ŋùdúf dáhêŋ]	[ŋùdúf màràkw]	[ŋùdúf tìlì]	[ŋùdúf rínì]
ŋúrzlún "neck"	[ŋúrzlún dáhêŋ]	[ŋúrzlún màràkw]	[ŋúrzlún tìlì]	[ŋúrzlún rínì]
ŋùslíŋ "white"	[ŋùslíŋ dáhêŋ]	[ŋùslíŋ màràkw]	[ŋùslíŋ tìlì]	[ŋùslíŋ rínì]
pálá "stone"	[pálá dáhêŋ]	[pálá màràkw]	[pálá tìlì]	[pálá rínì]
pápàh "foot"	[pápàh dáhêŋ]	[pápàh màràkw]	[pápàh tìlì]	[pápàh rínì]
rínì "animals"	[rínì dáhêŋ]	[rínì màràkw]	[rínì tìlì]	[rínì rínì]
sèlà "leg"	[sèlà dáhêŋ]	[sèlà màràkw]	[sèlà tìlì]	[sèlà rínì]

sárák "stick"	[sárák dáhêŋ]	[sárák màràkw]	[sárák tìlì]	[sárák rínì]
sígà "pot"	[sígá dáhêŋ]	[sígá màràkw]	[sígá tìlì]	[sígá rínì]
sléghwà "leaf"	[sléghwá dáhêŋ]	[sléghwá màràkw]	[sléghwá tìlì]	[sléghwá rínì]
slórêŋ "root"	[slórêŋ dáhêŋ]	[slórêŋ màràkw]	[slórêŋ tìlì]	[slórêŋ rínì]
slí'íŋ "teeth"	[slí'íŋ dáhêŋ]	[slí'íŋ màràkw]	[slí'íŋ tìlì]	[slí'íŋ rínì]
slìslík "eggs"	[slìslík dáhêŋ]	[slìslík màràkw]	[slìslík tìlì]	[slìslík rínì]
slìslík "chaff"	[slìslík dáhêŋ]	[slìslík màràkw]	[slìslík tìlì]	[slìslík rínì]
slú'í "meat"	[slú'í dáhêŋ]	[slú'í màràkw]	[slú'í tìlì]	[slú'í rínì]
slùghúl "salt"	[slùghúl dáhêŋ]	[slùghúl màràkw]	[slùghúl tìlì]	[slùghúl rínì]
swidí "hair"	[swidí dáhêŋ]	[swidí màràkw]	[swidí tìlì]	[swidí rínì]
tèví "path"	[tèví dáhêŋ]	[tèví màràkw]	[tèví tìlì]	[tèví rínì]
tìlì "moon"	[tìlì dáhêŋ]	[tìlì màràkw]	[tìlì tìlì]	[tìlì rínì]
tsátsí "him"	[tsátsí dáhêŋ]	[tsátsí màràkw]	[tsátsí tìlì]	[tsátsí rínì]
tsétsí "lice"	[tsétsí dáhêŋ]	[tsétsí màràkw]	[tsétsí tìlì]	[tsétsí rínì]

ù'á "milk"	[ù'á dǎhêŋ]	[ù'á màràkw]	[ù'á tìlì]	[ù'á rínì]
wùták "sand"	[wùták dǎhêŋ]	[wùták màràkw]	[wùták tìlì]	[wùták rínì]
zè'ál "husband"	[zè'ál dǎhêŋ]	[zè'ál màràkw]	[zè'ál tìlì]	[zè'ál rínì]
zálá "stream"	[zálá dǎhêŋ]	[zálá màràkw]	[zálá tìlì]	[zálá rínì]
zálám "shield"	[zálám dǎhêŋ]	[zálám màràkw]	[zálám tìlì]	[zálám rínì]
zímí "provisions"	[zímí dǎhêŋ]	[zímí màràkw]	[zímí tìlì]	[zímí rínì]
zlámbák "wings"	[zlámbák dǎhêŋ]	[zlámbák màràkw]	[zlámbák tìlì]	[zlámbák rínì]
zlúzlúk "feather"	[zlúzlúk dǎhêŋ]	[zlúzlúk màràkw]	[zlúzlúk tìlì]	[zlúzlúk rínì]
zù'í "rope"	[zù'í dǎhêŋ]	[zù'í màràkw]	[zù'í tìlì]	[zù'í rínì]