

RECONSTRUCTING NOMINAL TONE IN EDOID

INTRODUCTION

- [1] **Long term goals: (1) reconstruction of the Proto-Edoid tone system and (2) comparison to tonal systems within Benue-Congo (e.g. Igboid, Defoid, etc.)**
- [2] **Immediate goal:** establishing tonal correspondence sets within the four major branches of the Edoid family for nouns

[3] **Example of tonal correspondence**

Branch Language	Delta		South West		North Central		North West		Proto Edoid
	Degema	Engenni	Urhobo	Okpe	Edo	Emai	Ibilo	Uhami	
Word	òbù LH	òbù LL	òbò LL	òbó LH	òbó LH	òbò HL	òbù HL	òbù LL	*O-bù 'native doctor'
Reconstructed value	*L	*L	*L	*L	*HL	*HL	*HL	*HL	*HL

- [4] There are a number of issues which complicate establishing such tonal correspondence sets
- [5] **Issue 1:** There is a **lack of centralized data** to facilitate tonal comparison
 - a. Lexical material which is fully tone marked for many Edoid languages is difficult to find, non-existent, or of limited usefulness
 - b. E.g. Urhobo dictionary (Ukere 2005 [1986]): collapses HL and HM
- [6] **Issue 2:** There is a **great deal of “irregularity”** within the tonal correspondences across the different branches
 - a. E.g. /HL/ within Esan (North Central branch) corresponds to cognates of /LL, LHL, HHM, LHM, LH/ within Degema (Delta branch)
- [7] **Theoretical importance**
 - a. Violation of the **Regularity of Sound Change principle** – a cornerstone of the **Neogrammarian Hypothesis**
 - b. An original formulation goes back to Osthoff & Brugmann (1878)
 - i. “every sound change, inasmuch as it occurs mechanically, takes place according to laws that admit no exception” (Labov 1981:268, quoting translation of original by Lehmann 1967:204)
 - c. I.e. the null hypothesis is that a tone pattern in one Edoid language should correspond uniformly to another tone pattern in some other Edoid language **across the entire (nominal) lexicon**

- d. If this does not hold, then we must look for an environment which has conditioned (1) a merger of two tonal patterns, or (2) a split of one tonal pattern into two;
 - e. Otherwise (3) borrowings, (4) morphosyntactic leveling/contamination, or (5) **change only within specific lexical items i.e. sporadic sound change (irregular and non-mechanic)**
- [8] As it stands, **segmental sound change** has been established as largely following the regularity of sound change principle
- a. **However, the extent to which suprasegmental sound change follows the regularity of sound change principle has not clearly been established empirically at this point**

SUMMARY OF FINDINGS (AT THIS STAGE)

- [9] **Limited number of correspondence sets are established**
 - a. Highlights limited role of tone in Edoid for lexical contrast
- [10] Can reconstruct them into **specific tonal groups** (whose exact phonetic and phonological representation up for debate)
 - a. **Delta:** *H and *L
 - b. **South West (SW):** *H and *L (possible: *L-2)
 - c. **North Central (NC):** *HL and *L (possible: *H)
 - d. **North West (NW):** *HL and *L

[11] Doing a cross-branch comparison of correlation of these intermediate reconstructions, we can **reconstruct 3 Proto-Edoid tonal groups: *L, *HL, *H**

Tonal group	Delta	South West	North Central	North West	Proto Edoid	# of reconstructed forms
1	*L	*L	*L	*L	*L	21
2	*L	*L	*HL	*HL	*HL	40
3	*H	*H	*HL	*HL	*H	31
(4)			(*H)		(*H-2)?	
(5)		(*L-2)			(*L-2)?	

RELEVANT BACKGROUND ON EDOID AND EDOID LINGUISTICS

- [12] **The Edoid family** - subgroup within Benue-Congo (Niger-Congo phylum)
 - a. Located around Edo and Delta states, southern Nigeria

[13] The Edoïd family constitute approximately 25 “languages” (with substantial dialect diversity), which group into 4 separate groups: North-West, North-Central, South-West, and Delta (the furthest south)

[14] Grouping based on shared sound changes and lexical innovations (established in Ehugbe 1989)

- a. Provides segmental reconstruction of approximately 200 Proto-Edoïd words
- b. 4 Edoïd sub-groups do not further subgroup together and form a “rake”

[15] No tonal reconstruction at this point within Edoïd (to my knowledge)

- a. “It seems clear, however, that PE may not have classified its verbs tonally, though its nouns did fall into different tone groups.” (Ehugbe 1989:100)

[16] Small background on Edoïd nouns and tone

- a. Nouns in Edoïd are typically 2-4 syllables.
- b. First syllable is almost always a syllable containing only a vowel, which is synchronically or diachronically a noun-class prefix

[17] Noun class markers (both synchronically and diachronically) do not appear to bear their own tone (i.e. not fixed across the class of nouns)

- a. E.g. See Class 8 prefix /a-/ in North Ibie (Masagbor 1989:79) below
- b. Bears L, H, or LH (rising) tone, depending on the lexical root

2.8 CLASS VIII			
/a-/	precedes	consonant	initial stems. Examples:
13. à-káchí		à-tsét̩s̩è	‘hedgehog’
á-f̩éé		á-guì	‘fish’
á-kábú		á-kòkì	‘chimpanzee’
à-nyáká		à-wè	‘fox’
			‘partridge’

[18] In general, Edoïd has limited (lexical) tonal contrast

- a. Widely known that verbs do not lexically contrast for tone
- b. Tone on verbs determined by morpho-syntactico-semantic contexts, i.e. only grammatical tone

[19] Often skewed tone patterns – E.g. Emai (North Central)

- a. Egbokhare (n.d.; p.c.) reports “Nouns appear to show a preference for HL(L) and LL(L) patterns. These account for almost 70% of the non-complex Emai noun vocabulary. Other patterns such as (L)LH, HLH, LHL, HHL and LH(H) account for the remaining 30%” (bolding mine)

[20] Edoïd languages often have restrictions against specific lexical tone patterns

- a. Degema – none: *LL; marginal: *HL, *HH
- b. Esan – none: *HH, *HHH; marginal: *LHH, *H/H
- c. North-West and North Central in general: *HH/*HHH; a low number of words with rising contours (e.g. LH, LLH, etc.)

Edoïd languages which appear to have the most contrasts and least amount of lexical restrictions:

Edo (Bini), Urhobo, North Ibie – conservatism or innovation?

ESTABLISHING CORRESPONDENCE SETS

[21] The established correspondence sets are based on proposed cognates in different Edoïd languages (based on segmental reconstruction and semantic meaning)

[22] I look at 358 cognate nouns in Edoïd – each branch displays only a subset of this full set of cognates

[23] Data Sources – see References at end

- a. Ehugbe (1989) [Many languages] g. Kari (2007) [Degema]
- b. Aghevysi (1986) [Edo] h. Masagbor (1989) [North Ibie]
- c. Schaefer & Egbokhare (2007) [Emai] i. Thomas & Williamson (1967) [Delta Edoïd]
- d. Donwa-Ifole (1986) [Isoko] j. Ukere (2005) [Urhobo]
- e. Elimelech (1976) [Etsako] k. Evarista Osiruemu - Field notes on Esan
- f. Ehugbe & Schubert (1976) [Oloma] l. Personal field notes on Urhobo, Okpe (SW), Edo, and Esan

DELTA EDOÏD

[24] Delta Edoïd: Degema, Epie-Atisa, and Engenni

- a. Establish 102 cognate nouns in Delta Edoïd
- b. Reconstruct two tone groups: *L and *H
- c. Account for nearly 90% of the cognate nouns found in Delta

[25] The first reconstruction set I call Proto Delta Edoïd *L shown in [26] below

- a. Within this table, I reconstruct this as *L due to the lack of /LL/ in Degema
- b. Suggests that the /H/ tone in Degema was an innovation due a restriction against an all L lexical word

- [26] The second reconstruction set I call **Proto Delta Edooid *H, shown in [27]**
a. Here, a H tone occurs somewhere in the word in all three branches

[27] **Delta Reconstruction set 1 – Proto Delta Edooid *L**

Examples	Proto-Edooid (Elugbe 1989)	Degema (L) LH	Epie-Atisa (L) LL	Engenni (L) LL	Proto Delta Edooid
animal/meat	E-nhamhi	ɛ̀námí LH	ànámò LLL	ànámò LLL	*L
native doctor	O-fo	òfó LH	òfò LL	òfò LL	61/102 (60%)
head	U-chiámhi	ùtóm LH	ùtómù LLL	ùtóm LL	

[28] **Delta Reconstruction set 2 – Proto Delta Edooid *H**

Examples	Degema	Epie-Atisa	Engenni	Proto Delta Edooid
	...H...	...H...	...H...	*H
bone	úḍḍò HMM	úḍwò HL	ìḍiē LHM	13
song(2)	ívi HM	ívièi HLL	ívéim/íviē HMM	4
paddle	ùvùñ LHL	ùvî LHL	ùvîñ LHM	4
	Other – these show irregularities			9
	Total			30/102 (29%)

- [29] We reconstruct this latter set as *H, and note that the biggest sub-set corresponds to HL/HM in Degema and Epie-Atisa, but to LH in Engenni
a. Suggests left-edge H tone which moved one TBU to the right in Engenni (**historical consequence of pitch delay** – also discussed for Edo below)
b. Distribution of HL vs. HM in Degema not clearly understood at this point

- [30] **Buyer Beware:** we see that this group actually corresponds to a number of sub-correspondence sets – e.g. HLL and LHL in Epie-Atisa conflated together
a. Conflated to get enough numbers to compare to other Edooid groups
b. We should accept that this likely corresponds to more than one reconstructed value, though for the moment I collapse them into only tone group – *H

- [31] The remaining 11/102 (11%) are very few tokens and represent “irregular” correspondence sets with two few members to make any statements

SOUTH-WEST EDOOID

- [32] SW – 5 languages: Eruwa, Isoko, Okpe, Urhobo, and Uvbie
a. Urhobo and Isoko have dialect diversity not been taken into account here
- [33] **Establish 132 cognate nouns in SW Edooid**
a. **Reconstruct two tone groups: *L and *H (accounts for over 90%)**
b. Another potential proto-SW tone group: *L-2 (discussed at end of this talk)
- [34] SW marked by a lack of clear tonal correspondence sets for many of their cognates
a. Highly complex sets of correspondence sets, especially when comparing Urhobo to the rest of the family

[35] **SW Reconstruction set 1 – Proto SW Edooid *L**

Translation	Proto-Edooid	Eruwa LH	Isoko LL	Okpe LH	Urhobo LL	Uvbie LL	Proto SW Edooid
night	A-coNa	àsó LH	àsò LL	àsò LH	àsò LL	àsò LL	*L
tongue	U-dhamhi	òròṣó LLH	èròṣò LLL	òrémò LHL	èlẹ̀vẹ̀ LLL	0	29
corpse	O-dhimhi	òrìtòf LLH	òrì LL	ònimì LHH	òlìtì LLL	ònimì LLL	
	Proto-Edooid	LH	LL	HL	LL	LL	*L
king(1)	O-vie	òvíé LHH	òviè LLL	úviè HL {3} (kingdom)	òviè LLL	òviè LLL	21
louse	A-du	ùzú LH	òtù LL	ìrñù HL {3}	òfù LL	òrñù LL	
		Other – these show irregularities					13
		Total					63/132 (48%)

- [36] We reconstruct this as *L and interpret the lack H tones in Eruwa and Okpe as innovations (compare Degema above)
a. Those languages have developed a restriction against all L words

[37] The distribution of /HL/ vs. /LH/ in Okpe has not been clearly established, and they do not appear to co-vary uniquely with other tone groups in other branches

[38] **SW Reconstruction set 2 – Proto SW Edooid *H**

- a. **Very messy** – not very clear, esp. with regard to Urhobo (highlighted below)
- b. What they have in common is the presence of a High tone in all SW language reflexes

Translation	Proto-Edoid	Eruwa	Isoko	Okpe	Urhobo	Uvbie	Proto SW Edooid
child(1)	O-mo	HL/HL ámó LH	HH/HL ámó HH	HH/LH/HL ámó LH {3}	HH ámó HH	LH/HH ámó LH	*H
ear	ghU-choGi	0	óẏó HH	òrɔ̄ LH {e89;3}	òrɔ̄/òrthó LH/HH	èṣṣ̄ LH	13
rope(2)		HL úfí	HL úfí	HL/LH úfí	HL úfí	HL úfí	*H
cotton/thread	O-dhudhu	...H... 0	...H... òlúfí LHH	LH òrúná LHH; LHH {3}	LH òlúfí LHH	...H... òrúná LHH	9 *H
		...H... Other – these show irregularities	...H... Other – these show irregularities	...H... Other – these show irregularities	HM	...H... Other – these show irregularities	*H 9
				Total			59/132 (44%)

- [39] The numbers of the individual sub-correspondence sets are too small to show any reliable co-variation with any other Edooid branch
 - a. Therefore I group them all together under a tone group called *H
 - b. **Further work will be able to differentiate this *H reconstruction into different groups**

[40] Other types which do not fit these patterns at all constitute 10/132 (8%)

NORTH-CENTRAL EDOID

[41] I present data from 9 varieties/languages of North-Central Edooid: Edo, Esan, Emai, Aoma, Auchi Etsako, Aviele Etsako, Avbianwu Etsako, Uneme, and Ghotuo

[42] **Establish 173 cognate nouns in NC Edooid**

- a. **Reconstruct two tone groups: *HL and *L**
- b. Another potential proto-NC tone group: *H – found only in Edo (needs additional data)

[43] **The first reconstruction set is *HL – 99/173 (57%)**

- a. Split up into two main types – One corresponding to Edo LH, and the other corresponding to Edo HL
- b. **This is shown in the table in [48] on page 9**

[44] The /LH/ pattern in Edo appears to be an innovation due to a H tone shift one TBU to the right – historical consequence of Pitch Delay

[45] It is not currently understood the distribution of these two sub-correspondence sets

- a. I group them together under a single reconstructed tone group for NC *HL

[46] **A second reconstruction set is *L - 47/173 (27%)**

- a. This corresponds to all L tone in all varieties *with the exception* of Edo, in which a subset correspond to HL pattern
- b. We group this together under a single proto-NC tone group *L
- c. **This is shown in the table [49] on page 10**

[47] Finally, there is a **third potential correspondence set - *H (11 examples)**

- a. The only defining feature is that it corresponds to an all H word in Edo
 - i. This type of tone pattern not found in other NC Edooid varieties
- b. There is too little data on this pattern as of right now
- c. **This is shown in the table [50] on page 10**

Proto NC Edoïd		Total											
Translation	Proto-Edoïd	Edo	Esan	Emai	Aoma	Auchi	Aviele	Avbianwu	Uname	Ghotuo			
		HH	LH			LH/HL/LL	LH/HL/LL	LH/HL/LL	LH/HL/LL	LH/HL/LL	HL	HL	
wing/shoulder	0	ffwè	0	0	0	ffwà	ffwà	ffwà	ffwà	0	HL {1}	HL {1}	
proverb	0	ffan	0	0	0	ffan	ffan	ffan	ffan	0	LL {1}	LL {1}	
Total												11/173	(6%)

[50] POTENTIAL NC Reconstruction set 3 – Proto NC Edoïd *H(?)

Proto NC Edoïd		Total											
Translation	Proto-Edoïd	Edo	Esan	Emai	Aoma	Auchi	Aviele	Avbianwu	Uname	Ghotuo			
		L	L	L	L	L	L	L	L	L	L	L	
life/world	A-gbɔN	àgbɔ̀	àgbɔ̀	àgbɔ̀	àgbɔ̀	àgbɔ̀	àgbɔ̀	àgbɔ̀	àgbɔ̀	àgbɔ̀	LL	LL	
faces(1)	I-caN(e)	isq̄	0	isq̄	isq̄	isq̄	isq̄	isq̄	isq̄	isq̄	LL {1}	LL {1}	
fish(1)	E-ch(t)anhi	ehè	ehè	ehè	ehè	ehè	ehè	ehè	ehè	ehè	LL	LL	
		HHL	L	L	L	L	L	L	L	L	LL	LL	
chain/prison	0	èghan	èghan	èghan	èghan	èghan	èghan	èghan	èghan	0	LL {1}	LL {1}	
Other – these show irregularities												1	(27%)
Total												47/173	(27%)

[49] NC Reconstruction set 2 – Proto NC Edoïd *L

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Proto NC Edoïd		Total											
Translation	Proto-Edoïd	Edo	Esan	Emai	Aoma	Auchi	Aviele	Avbianwu	Uname	Ghotuo			
		LH	HL	HL	HL	HL	HL	HL	HL	HL	HL	HL	
alcoholic_drink(1)	A-yaN	ájɔ̀	ájɔ̀	ájɔ̀	ájɔ̀	ájɔ̀	ájɔ̀	ájɔ̀	ájɔ̀	ájɔ̀	HL	HL	
fly/housefly	A-kiNa	ikà	ikà	ikà	ikà	ikà	ikà	ikà	ikà	ikà	HL	HL	
corpse	O-dhimhi	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	HL	HL	
		òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	òjɔ̀	HL	HL
stone(1)	U-dog/U-dio	údo	údo	údo	údo	údo	údo	údo	údo	údo	HL	HL	
		údo	údo	údo	údo	údo	údo	údo	údo	údo	údo	HL	HL
termite	0	édòN	édòN	édòN	édòN	édòN	édòN	édòN	édòN	0	HL	HL	
today	0	éjè	éjè	éjè	éjè	éjè	éjè	éjè	éjè	éjè	HL	HL	
Other – these show irregularities												*HL	
Total												99/173	(57%)

[48] NC Reconstruction set 1 – Proto NC Edoïd *HL

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NORTH-WEST EDOID

“North West Edoïd keeps us in business” – Francis Egbohcare (p.c.)

[51] I present data from 7 varieties/languages of North-West Edoïd: Oloma, Emhalhe, Ibilò (Okpamheri), Uhami, Ehueun, Ukue, and North Ibie

a. Relation of North Ibie to North West (or North Central) not clearly established at this point

[52] **Establish 68 cognate nouns in NC Edoïd – Lowest number of all branches studied**

a. **Reconstruct two tone groups: *HL and *L**

b. **Shown in the tables in [55] and [56] on page 12**

[53] We should note one caveat for NW Edoïd – the surface tones and the phonological tones are not necessarily the same – and can be quite different

[54] Elugbe (1989:93, citing Laniran 1981) notes that in Emhalhe e.g. /LL/ is realized as [FL] in “nouns as lexical items”, and citing the following changes

a. **/LL/ [FL]**

b. **/LH/ [LF]**

c. **/HL/ [HL^o]**

d. **/HM/ [HL]** (falling to low part of pitch range)

[55] This speaks to the necessity to understand both the surface phonetics patterns and the underlying tonal system (as it operates to create lexical contrast) present in each Edoïd language

[57] NW reconstruction set 2 *L – 22/68 (32%)

Translation	Proto-Edoid	N Ibie	Oloma	Emhalhe	Ibilò (Okpamheri)	Uhami	Ehueun	Ukue	NW Edoïd
sunshine/sun(1)	U-vuNa	0	òvɔ̀ LL (sun)	òvɔ̀ LL	òvɔ̀ LL	òvɔ̀ LL	òvɔ̀ LL	òvɔ̀ LL	
faeces(1)	I-cɔ̀N(e)	0	ìsɔ̀ LL	ìsɔ̀ LL	ìsɔ̀ LL	ìsɔ̀ LL	ìsɔ̀ LL	ìsɔ̀ LL	16
		L	L	L	L	L	L	L	*L
Total									
Other – these show irregularities									
6									
22/68 (32%)									

[56] NW reconstruction set 1 *HL – 37/68 (54%)

Translation	Proto-Edoid	N Ibie	Oloma	Emhalhe	Ibilò (Okpamheri)	Uhami	Ehueun	Ukue	NW Edoïd
head	U-chiamhi	ùkòmhì HL	ghkà HL	ùkèmhì HL	ìkàmhà HL	ùkèmi HL	ùhù ML	ùkòmì HL	
hand	ghUba	òbà HL	ghòbà HL	wòbà HL	òbà HL	òbà HL	òwà ML	òbà HL	20
		HL	HL	HL/ML	HL	HL	ML	HL	*HL
Total									
Other – these show irregularities									
17									
37/68 (54%)									

CROSS-BRANCH TONE COMPARISON

[58] We have established the **tone groups** for the four branches of Edooid
 a. These are not necessarily the reconstructed phonological or phonetic tone values themselves

b. I.e. *H tone group should not necessarily be interpreted as */HL/ *[HF] or something similar at this point

[59] I acknowledge that there is a large degree of irregularity in tonal correspondences within each branch, all of which requires greater data and examination

[60] **Major question now: What are the patterns that we can see through the noise?**

Cross Branch tone group correlation

- a. Establishing the degree of correlation between the different reconstructed Edooid branch tone groups – allows to propose reconstructed values
- b. For example, how often does Proto Delta Edooid *L correlate with a *L in Proto SW Edooid, Proto NC Edooid, and Proto NW Edooid?

Cross Branch comparison

- a. Light shading – Strong Correlation
- b. Dark shading – No correlation
- c. No shading – Some (limited) correlation

Edooid Branches	Delta		SW		NC		NW	
	*L	*H	*L	*H	*L	*H	*L	*H
Delta	61	30	63	59	99	47	11	37
SW	30	30	30	30	30	30	30	30
NC	47	18	0	9	6	6	6	6
NW	37	16	8	20	8	29	0	1
	22	13	1	11	6	2	16	1

[63] For example, a Proto Delta *H correlates with a Proto SW *H in 12 instances, e.g.:

Translation	Proto-Edoid	Degema	Engenni	Epie	Eruwa	Isoko	Okpe [okpɛ]	Urhobo	Uvbie	Proto-Edoid
tree	U-thaNi	itām	ɛtāi	itāā	ɔrārɛ	urɛ	òrhá	úrúhɛ	òrā	*H
		HMM	HLL	LHM	HLL	HH	LH	HH	LH	

[64] Interpretation of table above:

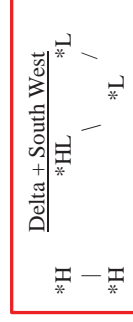
- a. **SW and DELTA**
 - i. SW and Delta *L correlate with one another
 - ii. SW and Delta *H correlate with one another
- b. **NC and NW**
 - i. NC and NW *HL correlate with one another
 - ii. NC and NW *L correlate with one another
- c. **All Branches**
 - i. Delta and SW *L correlate with both NC and NW *L and *HL
 - ii. Delta and SW *H correlates with NC and NW *HL
 - iii. Some instances of *H in SW correlate with NC/NW *L (more below – see [69] on page 15)

[65] A more full cross-branch comparison is shown below

a. Illustrates the **most common correspondence sets across the 4 branches**

Tonal group	Proto Delta	Proto South West	Proto North Central	Proto North West	Proposal for Proto Edooid	Number of reconstructed forms
1	*L	*L	*L	*L	*L	21
2	*L	*L	*HL	*HL	*HL	40
3	*H	*H	*HL	*HL	*H	31
(4)			(*H)		(*H-2)?	
(5)		(*L-2)			(*L-2)?	

[66] This shows all the symptoms of a classic **Merger** of 3 distinct phonological contrasts into only 2



[67] **This scenario accounts for both (1) why *L in Delta and SW correlate with *HL in NC and NW, and also (2) why *HL in NC and NW correlates with both *L and *H in Delta and SW**

[68] **If correct, it may act as evidence of a single phonological innovation (a tonal merger), which would support a two part division of Edoïd into SW + Delta vs. NC + NW**

[69] Finally, must note that some *H in SW correspond to *L in NC, NW, and Delta

Word Proto-Edoïd (Elugbe 1989)

a.	bag	E-kpa
b.	chin/jaw(1)	A-gbhamhri
c.	earth/soil/sand	I-ken
d.	faeces(1)	I-cəN(ə)
e.	ground/soil(1)	U-to
f.	heart/liver	U-dia
g.	saliva	A-ciaNi

[70] It is not currently established whether this is a **conservative feature** of SW – and therefore warranting an additional Proto-Tone (e.g. *L-2) – **or** if this is an **innovation** and split of *L from some currently unknown condition

OUTSTANDING QUESTIONS

- [71] How can we further support (or challenge) the tonal groups thus established?
- [72] How can we refine these tone groups to more accurately represent their original phonological or phonetic shape?
- [73] Is there evidence for splitting of tonal correspondence sets based on the segmental environment (processes akin to those established for tonogenesis)?
- [74] What is the role of grammatical tone in altering the lexical patterns which have established, if any?

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