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A Phonological Description of the Gusiilaay Language

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A PHONOLOGICAL DESCRIPTION OF THE GUSIILAAY LANGUAGE

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2011



*SIL SENEGAL*

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## INTRODUCTION

Gusiilaay is a language mostly spoken in the small town of Thionck-Essyl.

The closest language to Gusiilaay in the Jola group is Banjal. There is some historical evidence that the Gusiilaay people originated from the Banjal area. Despite the linguistic closeness there are many dramatic differences between the two languages on a phonological and grammatical level, which quite often prevent the speakers from understanding each other. In this work we will underline some of them.

We would like to thank W. Berndt and A. Bassène for their deep research of the Banjal language. Their works helped us enormously to understand the nature of Gusiilaay and provided the structure of our own work.

Also a big thank you to the Gusiilaay people who accepted me into their homes for several years, in particular Diatta and Diédihou families.

Thank you to Binta Diatta and Atab Djiba who helped me with language learning while it was not possible to travel to Thionck-Essyl.

Thanks to CLOA, and in particular to Mamadou Camara and Abib Sadio who spent many, many hours with me working on orthography questions in Gusiilaay. It was such a joy to see our first book produced! God knows how much you have done for your own language and He will pay you back!

# 1 VOWELS

## 1.1 Phonology chart

The terminology and symbols in this work are adopted from the works of D. Sapir, W. Berndt<sup>1</sup> and A. C. Bassène<sup>2</sup>. Traditionally the vowel system in Jola languages (those that have been described) is represented by the following chart. The letters in italic have the feature called Advanced Tongue Root (+ATR).

Close	<i>i i:</i>	<i>u u:</i>
	<i>ɪ ɪ:</i>	<i>ʊ ʊ:</i>
Close-mid	<i>ə ə:</i>	
	<i>e e:</i>	<i>o o:</i>
Open-mid	<i>ɛ ɛ:</i>	<i>ɔ ɔ:</i>
Open	<i>a a:</i> <sup>3</sup>	

We will use the same system for this phonology description of Gusiilaay. Also it helps to keep the 'same language' as the works that already have been done on Jola languages.

## 1.2 10 vowel ATR harmony

Gusiilaay like other languages of the Jola group has an ATR harmony<sup>4</sup>. In his book “ATR Harmony in African languages” Casali gives descriptions of different types of ATR harmony based on the amount of vowels in a given language<sup>5</sup>. According to his classification we can identify Gusiilaay as a language with 10 vowel ATR harmony which is divided into two sets:

-ATR: [a, ɛ, ɪ, ɔ, ʊ]

+ATR: [ə, e, i, o, u]

The general idea of ATR harmony is that the vowels from different sets cannot be found in the same word. Although it is always good to keep in mind that there could be exceptions to the general rule as the following citation of Casali indicates:

<sup>1</sup> Berndt Wolfgang, “Bandial phonologie,” 2003.

<sup>2</sup> A. C Bassène, *Description du diola-banjol (Sénégal)* (Université Lumière-Lyon II. Département Sciences du Langage. Thèse de, 2006).

<sup>3</sup> Instead of using *ɑ* for an open middle vowel, we use *a* to ease the writing.

<sup>4</sup> In his presentation at the GLIF conference Rod Casali gives the following definition of [ATR]: “[ATR] in a abstract feature whose primary phonological function is to distinguish contrasts in the (auditory) height dimensions that cannot be distinguished by means of [high] and [low] alone. It varies in its articulatory implementation, though it is very often implemented by means of pharyngeal cavity expansion” (Casali, GLIF, 2010). This definition for [ATR] would be used throughout in the given work.

<sup>5</sup> R. F. Casali, “ATR Harmony in African Languages,” *Language and Linguistics Compass* 2, no. 3 (2008): 499. Later in his works he describes 10 vowel systems as a variant of 9 vowel triangular system (Casali, GLIF, 2010). We will use term '10 vowel system' for simplicity.



## Suffixes

Possessive suffixes and some verb suffixes also undergo assimilation to the [+ATR] feature of a root. In this case the direction of the spreading is from left to right.

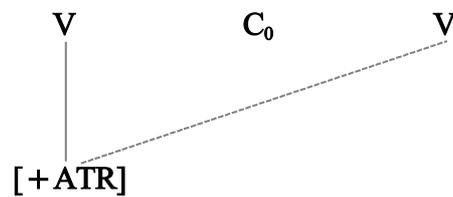


Diagram 2

The examples below show how the rules work with the range of suffixes.

### Possessive suffixes

[-ɔm]	[far]	'a belly'	[farɔm]	'my belly'
	[gaŋana]	'a cock'	[gaŋanaɔm]	'my cock'
[-om]	[gəbil]	'a pagne'	[gəbilom]	'my pagne'
	[erumbə]	'a clay pitcher'	[erumbəom]	'my clay pitcher'
[-ɪ]	[banɔk]	'collier'	[banɔgɪ]	'your (sg) collier'
	[gaɟaw]	'a name'	[gaɟa:ɪ]	'your (sg) name'
[-i]	[gəse:g]	'a room'	[gəse:gi]	'your (sg) room'
	[gəjuo]	'a top dress'	[gəjuoi]	'your (sg) top dress'
[-ɔ:l]	[ama:ɲen]	'a man'	[ama:ɲenɔ:l]	'her man'
	[fɔnda:p]	'a rope'	[fɔnda:pɔ:l]	'his rope'
[-o:l]	[ɛɟəbə:bi]	'a glass bottle'	[ɛɟəbə:bio:l]	'his glass bottle'
	[furi:ŋ]	'a front'	[furi:ŋo:l]	'his front'

### Verb suffixes:

#### *Derivational*

[-ɛt]	[garɔs]	'sand'	[garɔset]	'to be sandy'
	[ɛfɛmb]	'type of sauvage fruit'	[gafɛmbɛt]	'to go look for the sauvage fruit'
[-ɛt]	[bulu:k]	'mud'	[gəlu:gɛt]	'to be covered in mud'
	[guruto]	'mangoes'	[gərutoɛt]	'to go look for mangoes'
[-ɛn]	[fɔnɔ:m]	'to buy'	[fɔnɔ:mɛn]	'to sell'
	[ɛca:k]	'to borrow'	[gaca:gɛn]	'to lend'
[-ɛn]	[ɛsup]	'to be hot'	[gəsɛpɛn]	'to heat'
	[ɟibom]	'to dance'	[gəbomɛn]	'to make (someone) dance'
[-ɔ]	[gata:s]	'to wash'	[gata:sɔ]	'to wash oneself'
	[gabɔŋ]	'to braid (someone)'	[gabɔŋɔ]	'to be braided'
[-o]	[ɛci:k]	'to shave'	[gəci:go]	'to be shaved'
	[ɛjuh]	'to pour'	[gəjuxo]	'to be flipped over'

[-a] <sup>8</sup>	[gaʃa:ɔ:r]	'to voyage'	[aʃa:ɔ:ra]	'a stranger'
	[galɪ:r]	'to weave'	[galɪ:ra]	'a spider'
[-ə]	[esup]	'to be hot'	[gəsupə]	'heat'
	[enif]	'to be cold'	[gənifə]	'cold'
[-aj]	[ɛsɪ:l]	'Thionk-Essyl'	[gʊsɪ:la:j]	'Gusiilaay (language)'
	[apa:l]	'a friend'	[bapa:la:j]	'friendship'
[-əj]	[esu:m]	'to be good'	[gəsʊ:mə:j]	'peace, goodness'

### *Inflectional*

[-ɛr]	[ɛpm]	'to count'	[bapɪnɛr]	'counted'
	[ɛlɔb]	'to talk'	[balɔbɛr]	'told'
[-er]	[fucəxo]	'to eat'	[bəcəxoɛr]	'eaten'
	[eti:ŋ]	'to arrive'	[bəti:ŋɛr]	'arrived'
[-ut]	[gawajʔ]	'to swim'	[awajʔt]	'he didn't swim'
	[ɛnɔw]	'to see'	[ənɔt]	'he didn't see'
[-ut]	[gəjjjʔ]	'to draw the water'	[əjjjʔt]	'he didn't draw the water'
	[emir]	'to know'	[əmirut]	'he didn't know'
[a:l]	[ɛjɔw]	'to go'	[ʊja:l]	'let's us all (incl) go'
	[ɛjɔ:k]	'to start'	[ʊjɔ:ka:l]	'let's us all (incl) start'
[ə:l]	[fucəxo]	'to eat'	[ucəxoə:l]	'let's us all (incl) eat'
	[ɛʃuh]	'to be able to'	[nuʃuxə:lɛ]	'we (incl) were able to'
[-ɛ]	[ɛlɔb]	'to say'	[nalɔbɛ]	'she has said'
	[ɛjɔw]	'to go'	[naʃa:ɛ]	'she has gone'
[-e]	[fucəxo]	'to eat'	[nəcəxoɛ]	'he has eaten'
	[emir]	'to know'	[numirɛ]	'you have known'

Sometimes the suffix [-a:l] can be pronounced 'light' even in a [+ATR] word by some speakers. So we might have some individual variations. We will talk about this phenomenon later on.

<sup>8</sup> In Bandial if a [+ATR] word finishes with an *a* (if there are suffixes like *a* and *ay*) the *a* is always [-ATR].

1.2.2 Dominance of [+ATR] vowels: assimilation to [+ATR] derivational suffixes

However, there are certain suffixes, which do not undergo the rules described above. In particular derivational suffixes [ə:li] and [ul]. In the following diagram the V on the right represents the vowel of the suffix with the [+ATR] value, and V on the left the vowel of the root (vowels of the root and the prefix).

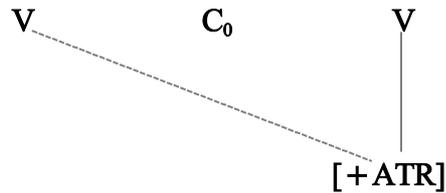


Diagram 3

The following examples illustrate this rule.

Suffix [-ə:li] 'early':

[ɛna:f]	'to cultivate'	[gənə:fə:li]	'to cultivate early'
[ɛʃɔw]	'to go'	[gəʃə:li]	'to go early'
[ɛʃo:l]	'to come'	[gəʃə:li]	'to come early'

Suffix [-ul] inersive:

[ɛpɛ:k]	'to close'	[gəpɛ:gul]	'to open'
[ɛbɔ:ɲ]	'to fold'	[gəbɔ:ɲul]	'to unfold'
[gafɔk]	'to bury'	[gəfɔgul]	'to dig out'
[ɛtɔʃ <sup>1</sup> ]	'to cork'	[gətɔʃul]	'to uncork'
[gəpul]	'to thatch'	[gəpulul]	'to de-thatch'

However, if there are other suffixes added after these derivational suffixes, the [+ATR] value spreads right-to-left as well. This is the same as what we have seen happening with the roots. The only difference is that V on the left represents the vowel of a derivational [+ATR] suffix.

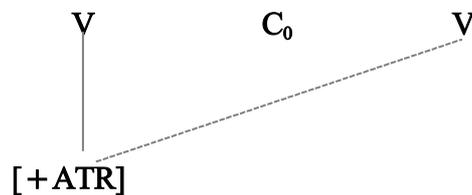


Diagram 4

Some examples:

[ɛna:f]	'to cultivate'	[gənə:fə:li]	'to cultivate early'
		[ɛnə:fə:liuti]	'it (field) wasn't cultivated early'
[ɛʃɔw]	'to go'	[gəʃə:li]	'to go early'
		[əʃə:liut]	'he didn't come early'
[ɛpɛ:k]	'to close'	[gəpɛ:gul]	'to open'
		[əpɛ:gule]	'he closed'
[gafɔk]	'to bury'	[gəfɔgul]	'to dig out'
		[əfɔgulut]	'he didn't dig out'

We can see that the Diagrams 1 and 3 are identical, and so are 2 and 4. So, probably, we can phrase the general rule like: a marked [+ATR] value of a root or a derivational suffix spreads both directions.

### 1.2.3 Inflectional suffixes

The situation with the [+ATR] inflectional suffixes is more complicated. We will take a closer look at each of them separately.

#### Suffix [-ul] approaching:

[ɛwɔ:k]	'to call'	[ɛwo:gul]	'to call (toward speaker)'
		[ɔwɔ:gulɔm]	'call me'
		[awɔ:gulɔtɔm]	'he did not call me'
[gawalɔ]	'to descend'	[gəwəloul]	'to descend (toward speaker)'
		[ɔwalɔsɔ]	'you descended (toward speaker)'
		[ɔwalɔsɔwalɔ]	'you descended (toward speaker)'
[ɛŋar]	'to take'	[ɛŋərul]	'to bring'
		[ɔŋarɔlɔm]	'bring me'
		[aŋarɔlɔ:t]	'he did not bring'
		[aŋarɔlɔ:ta:l]	'he did not bring us (incl)'

At first glance, the suffix seems to be identical to the derivational [-ul] and, in fact, it could be described by means of the Diagram 3. The marked [+ATR] value of this inflectional suffix spread from right to the left. However, it loses its marked value, when it is followed by other suffixes or reduplication (note that the suffix itself doesn't reduplicate unlike derivational [-ul]).



#### 1.2.4 Interesting case: suffix [-um] nominalisator (instrumental)

Derivative suffix -um in many cases has [+ATR] value and spreads it to the words with the [-ATR]:

[ɛlob]	'to speak'	[gulobum]	'language'
[ɛpɛ:k]	'to close'	[gəpɛ:gum]	'a door'
[gəʃom]	'tomorrow'	[gəʃumenum]	'day after tomorrow'
[fʊgɛn]	'yesterday'	[fʊgenum]	'day before yesterday'
[tɔ:n]	'next year'	[tɔ:nenum]	'year after the next'
[gase:s]	'to harvest rice'	[ese:sum]	'an instrument for harvesting rice'

But there are also some cases where it has [-ATR] value:

[buʃɪŋ]	'to climb'	[ɛʃɪŋum]	'a traditional ladder'
[ɛkuh]	'to close by key'	[ɛkuxum]	'a key'
[gajɪʃ <sup>ɪ</sup> ]	'to sculpt'	[ɛjɪʃum]	'a sculpting instrument'
[gəʃɪt]	'to mow'	[ɛʃɪxum]	'sickle'
[gəʃɔxɔ]	'to get up'	[fʊʃɔxɔum]	'a shape'
[gacumbɛn]	'to make holes in the ground'	[fʊcumbɛnum]	'a stick for making holes in the ground'

However, it never keeps the [-ATR] feature with the [+ATR] root, which would be logical in a [+ATR] dominant system:

[emer]	'to swallow'	[gəmerum]	'a throat'
[ɛʃul]	'to leak'	[gəʃulum]	'a fish trap (the water comes through it)'
[esi:l]	'to cook'	[fusi:lum]	'a spatula'
[gətun]	'to bring compost'	[gətunum]	'a dustpan'
[gəkuro:r]	'to swing'	[fukuro:rum]	'a swinger'
[fuli:m]	'last year'	[fuli:menum]	'the year before last'

However, if we take a closer look at the first two sets of the examples, we will notice that [-um] loses its [+ATR] value only when there are high vowels in the root [-ɪ-] and [-ʊ-]. In the case of [gəʃɔxɔ] 'to get up' and [gacumbɛn] 'to make holes in the ground' the [-ɔ] and [-ɛn] are inflectional suffixes.

### 1.2.5 [+ATR] value spreading to the other words

There are also some separate words which also undergo the vowel harmony:

In quick speech the words [ɛ:ni] and [bɛ/bu] take the [+ATR] feature of the following word. [ɛ:ni] is usually contracted to [ɛn].

[ɛn ucamen]	'if you want'
[ɛn uɟuh]	'if you can'
[bɛ ɛɟɔw]	'will go'
[bɛ emic]	'will know'
[bu gata:sɔ]	'will wash myself'
[bu guɟe:k]	'will work'

The same thing happens with the word [umu] – the auxiliary for human class (for the non-human class it takes the consonant of the class).

[umu neɟɔw]	'I'm going'
[umu nejo:l]	'I'm coming'
[umu ŋgahaŋken]	'I'm making an effort'
[umu ŋgəjelo]	'I'm resting'
[wa:f uwu do]	'there is a thing inside'

However, the underlying form of all these words is perceived by language speaker as [-ATR]: [ɛ:ni], [bɛ], [bu], [umu].

So again this rules can be described by the following diagram (which is identical to diagram 3), the only difference that here we are not taking about morpheme boundaries, but rather the word ones.

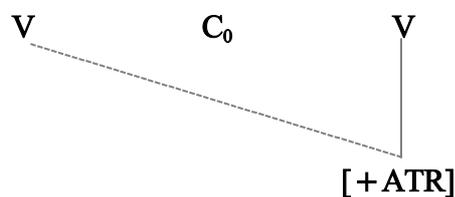


Diagram 6

### 1.2.6 [+ATR] 'intensity' of spreading

The following examples show that in the class for human beings with the prefix a- for singular the initial 'a' could be pronounced as [a] even if a root of a given word has [+ATR]:

[aʃur] ~ [əʃur]	'a daughter'
[aɲum] ~ [əɲum]	'a daughter/grand daughter'
[ali:nom] ~ [əli:nom]	'a thief'
[fategir] ~ [fəteɡir]	'the substance inside of a palmyre palm nut'

We see the same tendency with the prefix ga-:

[galej <sup>ɿ</sup> ] ~ [gəlej <sup>ɿ</sup> ]	'a tail'
[gasupə] ~ [gəsupə]	'a heat'
[ganifə] ~ [gənifə]	'coolness'

And sometimes this 'transparency' of 'a' can be spread to several syllables if the following vowels in the root are also 'a'.

[gasabado:r] ~ [gəsəbədo:r]	'a caftan'
[bucabulo:r] ~ [bucəbulo:r]	'a hiding game'
[bunampo:r] ~ [bunəmpo:r]	'to unite'
But! [ʊnampɔ:ra:l]	'let us (incl) all be united'

There are important things to notice:

1. The 'intensity' of the [+ATR] value diminishes with the spreading right-to-left. Therefore the very first syllable of the word which underwent the assimilation is not as tense as the last one.
2. It also should be taken into account that [a] does have some kind of transparency feature in it. That is noticeable with the suffix [-a:l] which sometimes could be pronounced 'light' even in a [+ATR] word.

### 1.3 Contrast between vowels

#### 1.3.1 ATR contrast

[a] and [ə]	[gajɨʔ] [gəjɨʔ]	'to cut out' 'to draw the water out of a well'
	[garɨbʔ] [gəɨbʔ]	'to cut' 'right'
[ɛ] and [e]	[gajɨlɛn] [gəjɨlɛn]	'an irrigation canal' 'a young bird that just learnt to fly'
	[ɛsɨ:l] [esɨ:l]	'Thionck-Essyl' 'to cook'
[ɪ] and [i]	[ɛtɨh] [etɨh]	'to be shell' 'to wipe'
[ɪ:] and [i:]	[ɛtɨ:t] [etɨ:t]	'an ant' 'a forth fruit of rônier'
[ɔ] and [o]	[busɔl] [busol]	'cloths' 'a back'
[ɔ:] and [o:]	[garɨbɔ:r] [gəɨbɔ:r]	'to cut oneself' 'to adorn'
[ʊ] and [u]	[bʊbʊk] [bubuk]	'to yield' 'to be soft'
	[ɛrus] [erus]	'to disperse' 'wind'

### 1.3.2 Length contrast

[a] and [a:]	[ɛcam] – 'to be acide' [ɛca:m] – 'to pay'  [ɛgab̩] – 'to serve cooked rice' [ɛga:b̩] – 'to give a side hug'
[ɛ] and [ɛ:]	[ɛləf] – 'type of a bird' [ɛlə:f] – 'to put underneath'  [ʊbɛbɛn] – 'be still' [ʊbɛ:bɛn] – 'medications'
[ɪ] and [ɪ:]	[fʊtɪk] – 'a leave of kenkeliba' [fʊtɪ:k] – 'a war'
[i] and [i:]	[gəsɪmɛn] – 'to bleed' [gəsi:mɛn] – 'to sink'
[ɔ] and [ɔ:]	[ɪfɔɾ] – 'to sort out' [ɪfɔ:r] – 'to loose one's voice'  [gawɔk] – 'to dig' [gawɔ:k] – 'a call'
[ʊ] and [ʊ:]	[ɛrʊk] – 'to sow' [ɛrʊ:k] – 'to be big'
[u] and [u:]	[ɛɟuh] – 'to be able to' [ɛɟu:h] – 'to blow one's nose'

In spoken language with the common expressions and where the context is not ambiguous long vowels can be pronounced short:

[ɪka:nut wa:f] ~ [kant waf] 'I did not do anything'

Sometimes vowel lengthening is a result of 'loosing' a syllable:

[guɟegek] ~ [guɟe:k] 'to work'

### 1.3.3 Contrast between close vowels

[ɪ – ɛ]	[fʊɪm]	'a voice'
	[fʊɛm]	'a puddle'
	[gafɪn]	'a white hair'
	[gafɛn]	'to eat grass'
[i – e]	[emɪɾ]	'to know'
	[emer]	'to swallow'
[ʊ – ɔ]	[ɛlʊb]	'to rain'
	[ɛlɔb]	'to speak'
	[ɛɾʊk]	'to sow rice'
	[ɛɾɔk]	'a cry of an animal'

There is also a certain confusion between certain vowels like [e] / [ɛ], [e:] / [ɛ:] and [o:] / [ɔ:]. The following words are pronounced differently by different speakers:

[butɛɟ] ~ [butəɟ]	'a wrestling'
[gələɟ] ~ [gəlɛɟ]	'a tail'
[esɛ:ɟə] ~ [esə:ɟə]	'a sheep'
[sɪfo:ɟɪ:r] ~ [sɪfə:ɟɪ:r]	'three'

### 1.4 Vowel loss

In the following examples the first transcription is how a given word is pronounced in 'quick' speech and the second one is how some speakers pronounce it when asked to say it carefully.

['gərsə] ~ ['gərusə]	'an evening'
[b'la:gɔ] ~ [bʊ'la:gɔ]	'a way'
[m'lo:sɔ:r] ~ [mʊ'lo:sɔ:r]	'myrrh'
[ʊ'ɟa:ɔ:rlɔ] ~ [ʊ'ɟa:ɔ:rʊlɔ]	'you have walked (towards speaker)'
[nupurlo] ~ [nupurulo]	'you have gone out (towards speaker)'

As the examples show the vowel loss happens in the syllables which are not stressed, which is not uncommon for many languages. In the suffix [-ul] the vowel [u] is not pronounced if it is followed by 'ɔ'. If it is a final syllable [u] is always present:

[unogenul]	'enter (towards speaker)'
But [unogel:ɔ]	'he entered'

## 2 CONSONANTS

### 2.1 *Phonetic chart (to mark suspicious segments<sup>9</sup>)*

MANNERS OF ARTICULATION		Place of articulation					
		Labial		Coronal	Dorsal		Glottal
		Bilabial	Labio-dental	Alveolar Dental	Palatal	Velar	
PLOSIVES		p b b <sup>ˀ</sup>		t d	c ɟ ɟ <sup>ˀ</sup>	k g g <sup>ˀ</sup>	ʔ
CENTRAL FRICATIVES	flat		f			x	h
	grooved			s			
NASALS		m		n n:	ɲ	ŋ	
FLAPS				r r <sup>ˀ</sup>			
LATERAL APPROXIMANTS				l l:			
CENTRAL APPROXIMANTS		w			j		

### 2.2 *Consonant distribution*

All voiced plosives are unreleased at the end of a word, therefore the consonants [ɟ] and [ɟ<sup>ˀ</sup>], [b] and [b<sup>ˀ</sup>] are in complementary distribution.

With the consonants [r] and [r<sup>ˀ</sup>] situation is more complicated. In one syllable words [r] is almost always released, but when it comes to multisyllabic words it can become [r<sup>ˀ</sup>] in the final position.

[emir]            'to know'                      [umimir<sup>ˀ</sup>]                      'you know'

The consonants [x] and [h] are in complementary distribution – [h] never occurs inter-vocally. In the final position it seems like [h] most of the time is not pronounced if a word is used on its own.

<sup>9</sup> Terminology of Keneth L. Pike. Phonemics. A Technique for Reducing Languages to Writing. Ann Arbor. The University of Michigan Press. 1976.

In order to check if a word finishes with [h] it is enough to use it with an article or conjugate it:

[alɛ:] ~ [alɛ:h]	'a child'	[alɛɛx a:xu]	'the child'
[ɛrɛ] ~ [ɛrɛh]	'to stop'	[ʊrɛxa:l]	'let us all (incl) stop'

However, it is quite obvious that pronunciation of final [ʊ] in words [ɛnarʊ] 'type of monkey' and [ɛku] 'to close with a key' is different. Our suspicion is that final short consonants which are not followed by [h] end with a glottal stop and if a word finishes with [h] there is not glottal stop even if [h] is not pronounced.

[ɛnarʊʔ] [ɛnarʊɔm] 'a type of monkey'      [ɛku] [ɛkuh] – [ɛkuhut] 'to close with a key'  
(it's necessary to show suffixes)

[ɛnunduʔ]	'a nose'	[ɛju] [ɛjuh]	'to be able to'
[ɛjaxaʔ]	'a cow'	[ɛja] [ɛjah]	'to dig out'
[bareʔ]	'but'	[fʊrɛ] [fʊrɛh]	'dry season'
[bugɔʔ]	'they'	[gagɔ] [gagɔh]	'a traditional'

Consonants [k], [g], [x] and [l] become palatalised when followed by [i] or [ɛ]. It also means that the consonants [k] and [g] become very close to the [ç] and [ʝ]. Sometimes in quick speech in place of [k] and [g] we can hear [ç] and [ʝ]:

[nikɪn] ~ [nɪçɪn]	'one fraction of a rice field'
[ɛgɪs] ~ [ɛʝɪs]	'to cut'

The consonants [d], [r], [x] are separate morphemes, but in certain cases they can be in free variation:

[d ~ r]	[do] ~ [ro]	'inside'
	[ɛdɛnɔ] ~ [ɛrɛnɔ]	'a sculpting tool'
[r ~ x]	[karɪ] ~ [kaxɪ]	'a person in question'
	[kurɪkurɪ] ~ [kuxɪkuxɪ]	'to be far'

In certain words the consonants [r] and [x] are not in free variation, but they show the difference in dialects:

Daaga vs Bâtiin	[gafuxa] - [gafura]	'scolopendra'
(Gáringdien)	[ɛxuma:j] – [ɛrʊma:j]	'type of a plante'
	[gɔna:ram] – [gɔna:xam]	'type of a frog'
	[mʊru:] - [mʊxu:]	'a river'

Glottal stop [ʔ] occurs inter-vocally only in a word [ʔaʔaʔ] 'no'. In all other cases it appears at the end of a word finishing with a vowel.

[akɔʔnaʔ]	'a woman'
[gaʔanaʔ]	'a cock'
[gaʔanduʔ]	'a shovel'
[ɛʔaruʔ]	'a type of a monkey'

However, even though the glottal stop appears quite often in Gusiilaay there are several reasons not to consider this sound as a separate phoneme:

- the glottal stop disappears when different affixes interact with a word,
- the same word can be pronounced with the glottal stop or without it.

[gaʔanduʔ]	'a shovel'	[gaʔanduɔm]	'my shovel'
[akɔʔnaʔ]	'a woman'	[akɔʔnaɔm]	'my woman'

### 2.3 *Contrasts (and analogous environment)*

Minimal pairs between close consonants:

[p – b]	[gapan]	'a side'	[gabaŋ]	'skin'
[p – bʰ]	[ɛlap]	'a type of basket'	[ɛlabʰ]	'to boil'
[p – f]	[ɛpɔɾ]	'flour'	[ɛfɔɾ]	'to look though (rice, sorghum)'
	[ɛsap]	'to shine'	[ɛsa:f]	'to great'
[p – w]	[ɛpɛj]	'to shake off'	[ɛwɛj]	'to sift (rice)'
	[ɛkap]	'banko'	[ɛkaw]	'a hippo'
[b – f]	[ɛba:k]	'to grow'	[ɛfa:k]	'to finish'
[bʰ – f]	[ɛna:bʰ]	'a snake'	[ɛna:f]	'to cultivate'
[b – m]	[bare]	'but'	[mare]	'now'
	[gabɔ:bʰ]	'a leave of palm'	[gamɔ:bʰ]	'to suck breast'
[b – w]	[gabuŋ]	'to plait hair'	[gawuŋ]	'a hole'
[t – d]	[do]	'inside'	[tɔ]	'here'
	[dej]	'where?'	[tej]	'where exactly?'

[k – g]	[ɛka:n] [ɛkʊb˧]	'to do' 'a crab'	[ɛga:n] [ɛgʊb˧]	'to tell' 'to overturn'
[k – x]	[ɛkaw]	'a hippo'	[ɛhaw]	'to pasture'
[k – h]	[ka:nɪ] [ɛka:j]	'do (it) for him' 'to go'	[ha:nɪ] [ɛhaj]	'no' 'to be dry'
[f – w]	[fal] [ɛfɔk]	'ocean' 'to put out'	[wal] [ɛwɔk]	'hair' 'to dig'
[c – ʃ]	[bucal] [ɛcam]	'to plant rice' 'to be acid'	[buʃal] [ɛʃam]	'a rice field' 'to listen'
[c – ʃ˧]	[gawac]	'a stripe'	[gawaʃ˧]	'to swim'
[m – w]	[mal] [gaʃɔm]	'water' 'tomorrow'	[wal] [gaʃɔw]	'hair' 'a name'
[m – n]	[ɛkam] [maj]	'to send off' 'too'	[ɛka:n] [naj]	'to make' 'in the past'
[m – ŋ]	[gamɔj] [ɛfɛ:m]	'an eyelash' 'a calabas'	[gaŋɔj] [ɛfɛ:ŋ]	'to doze' 'a type of seashell'
[m – l]	[ɛnʊm] [ɛʃam]	'to adore' 'to listen'	[ɛnʊl] [ɛʃal]	'to boil' 'to detach'
[n – ŋ]	[etun]	'a cloud'	[etun]	'to pound'
[n – ɲ]	[ganɔw] [ɛma:nɔ]	'to be sharp' 'rice'	[gaɲɔw] [ɛma:ɲɔ]	'a roof' 'a marriage'
[n – l]	[gaɲɛn] [gəʃinen]	'a hand' 'to believe'	[gaɲɛl] [gəʃilen]	'a type of smell' 'bird just learned to fly'
[ɲ – l]	[fi:l] [ɛlab˧]	'a breast' 'to boil'	[fi:ɲ] [ɛɲab˧]	'a liver' 'an elephant'

[ŋ – ɲ]	[ɛtŋ]	'a chick-bone'	[ɛtɲ]	'to be hurting'
[l – j]	[gaŋal]	'a jaw bone'	[gaŋaj]	'a part'
[r – l]	[far]	'belly'	[fal]	'ocean'
	[gərumo]	'to get warm'	[gəlumo]	'to touch'
[j – w]	[ejuh]	'to poor'	[ewuh]	'to reincarnate'
	[ɛka:j]	'to go'	[ɛka:w]	'to cry'

#### 2.4 Prenasalised consonants

Prenasalised consonants [mb], [nd], [ɲʃ], [ŋg], [nt], [ŋk] are quite common.

[mb]	[gəbə <b>mb</b> əfa]	'diaphragm'
[mbʷ]	[gand <b>mb</b> ʷ]	'a belt for climbing a palm tree'
[nd]	[ɛkə <b>nd</b> o:r]	'a neck'
	[gab <b>nd</b> ]	'a shoulder'
[ɲʃ]	[fulele <b>ɲʃ</b> a]	'an orange'
[ɲʃʷ]	[bata <b>ɲʃ</b> ʷ]	'a type of plant'
[ŋg]	[fug <b>ŋg</b> ]	'a wheel'
	[gare <b>ŋg</b> ɛʃ]	'a little pot for cooking fish'
[mp]	[ek <b>ump</b> o]	'a type of mask'
	[babə <b>mp</b> a]	'a type of insect'
[nt]	[gaŋ <b>nt</b> iŋ]	'a big metal colander'
	[ɛfa <b>nt</b> iŋo]	'a hoe'
[ɲc]	[ama <b>ɲc</b> a]	'non-initiated'
	[fulu <b>ɲc</b> ɛn]	'a type of fish'
[ŋk]	[ɛle <b>ŋk</b> iŋ]	'a stone'
	[eku <b>ŋk</b> o]	'a field'

Prenasalised consonants never occur word initially and after long vowels. That explains why a long vowel can become short when a verb is reduplicated. For example:

[ɛka:n] 'to do' [akaŋka:n] 'he did'

V - [-long] / \_\_\_ [+prenasalised]

[ +syllabic] - [-long] / \_\_\_ [+prenasalised]

Exception is a preposition [mbɪ] and a particle [ɲɔ].

Some contrasts:

[m – mb]	[ɛfɛ:m]	'calabas'	[ɛfɛmbɿ]	'type of fruit'
	[ɛkam]	'to chase'	[ɛkamb]	'a part of a sugar cane'
[n – nd]	[ɛsɛn]	'to give'	[ɛsɛnd]	'a skulk'
	[ɛjɔn]	'to be slim'	[ɛjɔnd]	'to evaporate'
[g – ŋg]	[ɛcag]	'to hang'	[ɛcaŋg]	'type de poisson'
[n – nt]	[gajɔnɛn]	'to come back late'	[gajɔntɛn]	'dry wood'

## 2.5 Long consonants

Long consonants are not common in Gusiilaay:

[l:]	[buɟɛl:a]	'a type of tree'
[n:]	[fuɟɛn:a]	'the moon'
[m:]	[gam:ɔ]	'a muslim festival'

The word [gəfəl:um] 'a very old man' is an interesting case. Some people say that it is in fact [gəfənlum]. The clusters like [nl] exist in Fogny as well. It might be that [nl] is transforming into [ll].

Sometimes a long consonant is formed during reduplication.

## 2.6 Consonant loss

As it was discussed above the consonants [h] and [r] can be dropped (or be unreleased) in final position:

[busafe] ~ [busafeɾ]	'writing'
[banaafe] ~ [banaafeɾ]	'cultivating'
[ale:] [ale:h]	'a child'

The consonant [l] is dropped in the suffixes [a:l] and [ɔ:l] when followed by other affixes or a reduplicated stem:

[ɛɾeh] 'to stop'	[urexa:ɾe tɔ]	'welcome (in response to thank you)' (litt. we (incl.) stop here)
------------------	---------------	--

The full form [urexa:lɾeh tɔ] is never pronounced.

Consonant [k] in a word [nak] 'usually' disappears if the word is used before a verb starting with a consonant:

[nak guɫɔb] [na guɫɔb]

## 2.7 Phonological chart

Based on the data gathered to so far we propose the following phonological chart for Gusiilaay.

MANNERS OF ARTICULATION		Place of articulation					
		Labial		Coronal	Dorsal		Glottal
		Bilabial	Labio-dental	Alveolar	Palatal	Velar	
PLOSIVES		p b		t d	c ɟ	k g	
CENTRAL FRICATIVES	flat		f				h
	grooved			s			
NASALS		m		n n:	ɲ	ŋ	
PRENASALIED PLOSIVES		mb mp		nd nt	ɲɟ ɲc	ŋg ŋk	
FLAPS				r			
LATERAL APPROXIMANTS				l l:			
CENTRAL APPROXIMANTS		w			ɟ̃		

This phonological chart can be used for representing Gusiilaay alphabet.

## 2.8 Inversion, metathesis

Sometime in the spoken chain the phonemes change places, this is what is called metathesis<sup>10</sup>.

There are some examples of metathesis in Gusiilaay. Quite often, like in the following example, it can be considered as childish or wrong speech (even though even adults use it):

[bugɔ] ~ [gubɔ]                      'they'  
[ɛfatalak] ~ [ɛtafalak]              'to be naked'

But there is an example of such a change in two different dialects in Gusiilaay (Bátiin vr Ñaganaan):

[ekələbə] ~ [eləkətə]              'crocodile'

<sup>10</sup> Malmberg, B. Phonetics, 1963:63

### 3 MORPHOPHONOLOGY

#### 3.1 Suffixation

Certain consonants can undergo some changes when suffixes are added to them:

##### 1) Final [t] systematically becomes [x]:

[gɔ:t]	'feet'	>	[gɔ:xəm]	'my feet'
[bujit]	'to fly'	>	[əjixe]	'he flew'
[bətu:t]	'to create'	>	[ətu:xə]	'Creator'
[fʊmʊŋkʊt]	'ditakh'	>	[fʊmʊŋkʊxəm]	'my ditakh'

Although if final t is a part of the suffix of negation -ut then it does not change:

[ʊsɑ:fʊt]	'you (sg) did not greet'	>	[ʊsɑ:fʊtəm]	'you (sg) did not greet me'
[ʊŋɔwʊt]	'you (sg) did not see'	>	[ʊŋɔwʊtəm]	'you (sg) did not see me'
[sʊŋsum]	'to be good'	>	[ʊsumʊtəm]	'I do not like you' (lit. you do not please me)

When a verb finishes with [-ut] (when [-ut] is not a part of negation) then we observe the same morphophonological change: [t] becomes [x]:

[gəsomut]	'to be sick'	>	[isomuxut]	'I am not sick'
			[gəsomuxi]	'your sickness'
[sijəut]	'to dream'	>	[ijəuxut]	'I did not dream'

Occasionally it is possible to hear [t] with an added suffix, but local speakers say that it is only Fogny influence.

##### 2) final [k] systematically becomes [g]:

[gərik]	'a woven basket'	>	[gərigom]	'my wooven basket'
[ɛlɪ:k]	'to show'	>	[ʊlɪ:gəm]	'show me'
[esuk]	'a village'	>	[esugolə:l]	'our (incl) village'
[guʝe:k]	'to work'	>	[aʝe:ge]	'he worked'

Exeptions:

[ɛnɑ:k]	'to wait'	>	[ʊnɑ:kəm]	'wait for me!' or
		>	[ʊnɑ:xəm]	'wait for me!'
[ɛʝɔ:k]	'to start'		[ʊʝɔ:kɑ:l]	'let's start!'

**(3) final [w] is dropped:**

[fukɔw]	'head'	>	[fukɔ]	'your head'
[ɛɲɔw]	'to see'	>	[ɪɲɔʊtɔ:l]	'I did not see him'
[ɛʃɔw]	'to go'	>	[nɔʃæ]	'he went'

**(4) final [j] sometimes is dropped and sometimes preserved:**

Most of the time the final [j] is preserved, but it can be dropped with the suffix [-ɛn] is added.

[ehaj]	'to be dry'	[gaxaɛn]	'to dry'
		But! [ɛxajɔt]	'it is not dry'

### 3.2 *Verb reduplication*

If the verb root ends with a consonant and it is not followed by any suffix then certain morpho-phonological processes take place.

#### 1) **Verbs which finish with a consonant**

General rule is that the final consonant disappears in the reduplication:

[ɛtɛb]	'to carry'	[ɪtɛtɛb]	'I carried'
[ɛmɔ:c]	'to be dark'	[mɔmɔ:c]	'it is dark'
[ɛbaʃ ` ]	'to have'	[ɪbabaʃ ` ]	'I have'
[ɛʃuh]	'to be able to'	[uʃuʃuh]	'you (sg) can'
[ɛsa:f]	'to greet'	[ɪsasa:f]	'I greeted'
[buɲɛg]	'to jump'	[ɔɲɛɲɛg]	'he jumped'
[ɛba:k]	'to be big'	[ababa:k]	'he is big'
[ɛsi:l]	'to cook'	[ɛsisi:l]	'she cooked'
[ɛɲa:p]	'to bite'	[aɲaɲa:p]	'he bit'
[ɛmir]	'to know'	[umimir]	'you know'
[fɔɲɛs]	'to look for'	[ɪɲɛɲɛs]	'I looked for'
[ɛcɛt]	'to die'	[acɛcɛt]	'he is dead'
[ɛʃɔw]	'to go'	[aʃɔʃɔw]	'he went'
[ɛtɛj]	'to run'	[ɪtɛtɛj]	'I run'

However, if there is any suffix entering between two reduplicated morphemes then there is no consonant lost and the root is reduplicated completely.

[aka:nɔka:nɔ]            'he has dressed'

Note that when there is no prenasalised consonant as a result of reduplication, the root vowel is pronounced long (given that this vowel was long in the root).

## 2) Verbs which finish with a nasal

The final nasal assimilates to the following consonant:

[ɛka:n]	'to do'	[ɪkaŋka:n]	'I did'
[gaɾɛndɛn]	'to help'	[ɪɾandɛnɾandɛn]	'I helped'
[ɛpɔ:ŋ]	'to be full'	[ɪpɔmpɔ:ŋ]	'I am full'
[ɛbəm]	'to pound'	[ɪbəmbəm]	'I pounded'
[buʃɪŋ]	'to clime'	[ɪʃɪʃɪŋ]	'I climed'

The exception will be words where the stem starts with [j]:

[ɛjɪm]	'to harvest'	[ajɪjɪm]	'she harvested'
[ɛjɔ:n]	'to loose weight'	[ajɔjɔ:n]	'she has lost weight'

With the [f] sound the nasal does not assimilate to the place of articulation:

[ɛfn]	'to have white hair'	[afɪŋfn]	'he has white hair'
[gafɛn]	'to eat grass'	[ɛfɛŋfɛn]	'it ate grass'
[ɛfɔ:ŋ]	'to sing'	[afɔŋfɔ:ŋ]	'he sang'

There are certain words which have different changes when reduplicated:

[burɔŋ]	'to live'	[ɪrɔndɔŋ]	'I live'
[marɛm]	'to drink'	[ɪrɛndɛm]	'I drank'

## 3) Verbs which finish with a vowel

Generally a root which finished with a vowel is reduplicated completely:

[galakɔ]	'to seat'	[alakɔlakɔ]	'she sat down'
[uxu:]	'to cry'	[uxuxu:]	'you cried'
[mukɔlɔfi]	'to be a coward'	[akɔlɔfikɔlɔfi]	'he is a coward'

## 4) Reduplication of derivational suffixes

The derivational suffixes [-ɛt], [-ɛn], [-ɔl], [-ɔ:r], [-ɔ] and [-ə:li] are reduplicated with the verb.

The suffixes which end with a consonant follow the same rule as the verb roots: all final consonants apart from [n] are dropped before another consonant. The final [t] becomes [h]:

[gakɔ:rɛt]	'to be smoked'	[waŋ ɛkɔ:rɛkɔ:rɛt]	'my clothes are smoked'
[gɛluget]	'to be covered in mud'	[gɔ:xɔm gulugelugɛt]	'my foot are covered in mud'
[garɪbɔ:r]	'to cut oneself'	[arɪbɔ:rɪbɔ:r]	'he cut himself'
[gəburet]	'to look for a type of fruit'	[ɪburehenburet]	'I had looked for...'

However, when other suffixes are added the consonants are back and undergo the described above morphophonological procedures.

The final [n] of the causative suffix [-en] assimilates to a following consonant as was described above.

The rest of the suffixes do not undergo any changes.

Sometimes the 'touching' of two morphemes can result into a long vowel (in pronunciation):

[u:rək]	[gaurek]	[gawurek]	[uwurek]	urek	uwurek
[ɟr:tɔ:r]	[mɔitɔ:r]	[mɔjɪtɔ:r]	[ɟjɪtɔ:r]	jiitor	jiyitor
[wa:f u: tɔ]	[waaf uwu tɔ]			waf	uwu to