

# THE PHONOLOGY OF JOOLA HULUF

Eunice Pike and Bernard Diatta

Part of the interest in the phonology of Jóola Húluf is that there is not only a difference between short versus long vowels, but there is also a difference between a long vowel and a sequence of short vowels. Also of interest is that in predictable pitch sequences in words of two syllables, the pitch differs in accordance with the make up of the word. If the word ends in a long vowel followed by a voiced consonant, there is a downglide; if the word ends in a voiceless consonant, there is no downglide. In a word with a long vowel followed by a syllable with a short vowel, there is a downstep, etc.

Un point d'intérêt dans la phonologie du joola (diola) húluf découle du fait qu'il y a non seulement une distinction entre voyelles courtes et voyelles longues mais aussi une distinction entre voyelles longues et une séquence de voyelles courtes. D'intérêt également sont les schémas prévisibles de hauteur musicale dans les mots de deux syllabes. Les schémas de hauteur musicale diffèrent selon le canon syllabique du mot. Si la dernière voyelle du mot est longue et suivie d'une consonne sonore, il y a une rechute de la hauteur musicale. Si la dernière voyelle est suivie d'une consonne sourde, il n'y a pas de rechute. Dans un mot dont le canon syllabique est voyelle longue suivie de voyelle courte, il y a un 'downstep' entre les deux syllabes.

## 0. INTRODUCTION

Jóola Húluf is a language spoken<sup>1</sup> in the Department of Oussouye, in the central western part of lower Casamance, a region of southern Senegal. This language is spoken by a group of villages which frequently meet together for fetich (*hunii*) ceremonies and which constitute the Huluf community. There are fifteen villages in all.<sup>2</sup> The total population numbers around 10,000.

The Huluf community can be broken down into three subgroups: Ayuun, Húluf, Seejek. Each of these groups can, in turn, be broken down into smaller subgroups. A number of slight variations exist between these subgroups in terms of intonation and semantics. These differences do not in any way hinder mutual understanding between the subgroups. Variation may be observed even between villages of the same subgroup.

## 1. CONSONANT PHONEMES

In Jóola Húluf the consonant phonemes are shown in (1).

(1)	Bilabial	Alveolar	Alveopalatal	Velar	Glottal
Stop Vls		t		k	ʔ
Vd	b	d	ɟ	g	
NasalVd	m	n	ɲ	ŋ	
FricativeVls	f	s	ʃ		h
LateralVls		l			
Vd		l			
Glide	w		j		

<sup>1</sup> Bernard Diatta is a native speaker of Jóola Húluf. He is responsible for the data in this article. Eunice Pike is responsible for the analysis and presentation of the data. We appreciate very much the help given by Sharon Rand. She was constantly interpreting French for Pike and English for Diatta. She also gave suggestions for the analysis.

<sup>2</sup> This language is spoken by a group of villages located in southern Senegal. They are as follows: Niambalang, Carounate, Siganiar, Edioungou, Djivent, Kahinda, Sengalene, Calobone, Oussouye, Oukout, Diakene, Diantene, Essaut, Boukitingo, and Emaye.

## 1.1 STOPS

Some voiced and voiceless stops in Jóola Húluf are contrasted in (2) though the voiced alveolar stop /d/ is rare.

## (2) /t/ versus /d/

<b>eindum</b>	drum
<b>mante?</b>	maybe

## /k/ versus /g/

<b>kakiik</b>	alcoholic drink made from honey
<b>kageet</b>	to go around

However, there is no contrast between voiced and voiceless bilabial stops. The phoneme /b/ is voiceless when it occurs prepausa as in (3a) and voiced when in initial or medial position in a word as in (3b).

- (3) a. **uusub** yams  
 b. **banak** sun  
**ebøk** mosquito

There is a contrast between voiced and voiceless velar stops occurring in the word in initial (4a), medial (4b), and final (4c) positions.

- (4) a. **gəggəg** cluttered  
**kageet** to go around  
 b. **kəgooto** weak  
**bakəət** mange  
 c. **bateg** to collect money  
**kakiik** an alcoholic drink made from honey

Two identical voiced stops may occur in sequence as in (5a) as well as two identical voiceless stops in (5b). When voiceless stops occur prepausa, they are aspirated as shown in (6).

- (5) a. **lababba** he sat down  
**lagəggəjə?** he touched it  
 b. **kakutten** to explain  
**lakukkɨ** he wrote

- (6) **kaat** [t<sup>h</sup>] foot  
**ebøk** [k<sup>h</sup>] mosquito  
**bakəət** [t<sup>h</sup>] mange  
**banak** [k<sup>h</sup>] sun

There is also a voiced alveopalatal affricate /j/ shown in (7).

- (7) **jikil** eye  
**ejəw** to go  
**hətəj** a cork

## 1.2 NASALS

The voiced nasals /m n ɲ ŋ/ each occur in the initial, medial, and final positions in a word as shown in (8). Also, two identical nasals may occur in sequence as demonstrated in (9).

- |     |         |               |             |                |          |              |                     |
|-----|---------|---------------|-------------|----------------|----------|--------------|---------------------|
| (8) | Initial |               | Medial      |                | Final    |              |                     |
|     | /m/     | <b>mal</b>    | water       | <b>emeelaʔ</b> | arrow    | <b>balam</b> | to pull out         |
|     | /n/     | <b>ninnil</b> | it's greasy | <b>banak</b>   | sun      | <b>igun</b>  | I stir up the water |
|     | /p/     | <b>pulom</b>  | pain        | <b>apul</b>    | a child  | <b>elaap</b> | to return           |
|     | /y/     | <b>gəʔ</b>    | much        | <b>egyet</b>   | to smile | <b>egɛɛ</b>  | a lion              |
- (9)
- |                 |           |
|-----------------|-----------|
| <b>ammal</b>    | devil     |
| <b>kannen</b>   | to keep   |
| <b>pəpəŋɔŋ</b>  | crowded   |
| <b>kaŋgɔtɛn</b> | to shiver |

## 1.3 FRICATIVES

The voiceless fricatives /f s ʃ h/ are given in (10) in initial, medial, and final positions in the word. The fricatives /s/ and /ʃ/ may also occur in sequences of identical phonemes as in (11).

- |      |         |               |                       |                  |            |              |                   |
|------|---------|---------------|-----------------------|------------------|------------|--------------|-------------------|
| (10) | Initial |               | Medial                |                  | Final      |              |                   |
|      | /f/     | <b>faafa</b>  | father                | <b>həfalajaɟ</b> | thunder    | <b>ɛlaf</b>  | a basket for rice |
|      | /s/     | <b>səwɔ</b>   | oysters               | <b>kasaab</b>    | to counsel | <b>kahas</b> | shrimp            |
|      | /ʃ/     | <b>ʃaʃʃab</b> | It is a little salty. | <b>bəʃaaʔ</b>    | hunger     | <b>bətəʃ</b> | ceiling           |
|      | /h/     | <b>hətaɟ</b>  | a wrestling arena     | <b>kaheʃ</b>     | to weave   | <b>katah</b> | a stinger         |
- (11)
- |               |                     |
|---------------|---------------------|
| <b>sɛsɛs</b>  | It has been salted. |
| <b>ʃaʃʃaʃ</b> | It is cut.          |

## 1.4 LATERALS

The voiced and voiceless laterals /l ɮ/ are used in initial, medial, and final positions in a word in (12). Two identical laterals may also occur in sequence as in (13).

- |      |         |                    |              |              |        |                |                                |
|------|---------|--------------------|--------------|--------------|--------|----------------|--------------------------------|
| (12) | Initial |                    | Medial       |              | Final  |                |                                |
|      | /l/     | <b>leeli-leeli</b> | insipid      | <b>asala</b> | a lamb | <b>batəwɔl</b> | to pick something not yet ripe |
|      | /ɮ/     | <b>lɔwɔlɔt</b>     | disorganized | <b>kaɮaw</b> | to beg | <b>maɮaaɮ</b>  | hardness                       |
- (13)
- |                 |             |
|-----------------|-------------|
| <b>lablɔb</b>   | he talked   |
| <b>laɮeɮeɮt</b> | he is angry |

## 1.5 GLIDES

The glides are represented in Jóola Húluf by the labial glide /w/ and the palatal glide /j/ with examples given in (14).

- |      |         |              |        |               |             |              |        |
|------|---------|--------------|--------|---------------|-------------|--------------|--------|
| (14) | Initial |              | Medial |               | Final       |              |        |
|      | /w/     | <b>want</b>  | manioc | <b>ɟwɔl</b>   | little fish | <b>kaɮaw</b> | to beg |
|      | /j/     | <b>janəʔ</b> | one    | <b>bajaas</b> | trip        | <b>əhɔɟ</b>  | refuse |

## 2. VOWEL PHONEMES

## 2.1 VOWEL HARMONY

There are ten vowels in Jóola Hóluuf which are divided into two sets of five each in (15).

(15)	t	ε	ə	ə	i	e	o	u
		a				ə		
		Set 1				Set 2		
		(lax)				(tense)		

Within a word there is vowel harmony, i.e., the vowels of only one set are used. No word is composed of vowels from both sets.<sup>3</sup> Example (16) gives words from Set 1 and (17) gives words from Set 2.

- |      |               |               |
|------|---------------|---------------|
| (16) | <b>kakul</b>  | vein          |
|      | <b>elal</b>   | bed           |
|      | <b>kannen</b> | to keep       |
|      | <b>bəlak</b>  | to work       |
|      | <b>bakət</b>  | mange         |
| (17) | <b>jikil</b>  | eye           |
|      | <b>esuk</b>   | a village     |
|      | <b>kələk</b>  | elastic       |
|      | <b>ekosum</b> | carion-eater  |
|      | <b>bəgot</b>  | a weak person |

## 2.2 SHORT VERSUS LONG VOWELS

In Jóola Hóluuf there is contrast between short vowels and long vowels as shown in (18). Occasionally two long vowels may occur in the same word as in (19).

- |      |                  |                                  |                |                                      |
|------|------------------|----------------------------------|----------------|--------------------------------------|
| (18) | <b>kətim</b>     | a funeral ceremony               | <b>kətiim</b>  | evening                              |
|      | <b>kakul</b>     | vein                             | <b>kakul</b>   | palm tree fiber                      |
|      | <b>eleli</b>     | your (wild) fruit                | <b>eleeli</b>  | insipid                              |
|      | <b>kəbet</b>     | to knock down                    | <b>kəbeet</b>  | to dilute                            |
|      | <b>elal</b>      | bed                              | <b>elaal</b>   | a small river                        |
|      | <b>kələk</b>     | a beam that supports the ceiling | <b>kələək</b>  | elastic                              |
|      | <b>kəkə]</b>     | to lock                          | <b>kəkəw]</b>  | to exceed                            |
|      | <b>kəbət</b>     | to pull out                      | <b>kəbət</b>   | to weave a rope                      |
|      | <b>kəgol</b>     | peanut plant                     | <b>kəgool]</b> | dark corner in a house or a big tree |
|      | <b>kəmul</b>     | ripe                             | <b>kəmuul</b>  | to make bricks                       |
| (19) | <b>əjaameen</b>  | a goat                           |                |                                      |
|      | <b>kətiimeel</b> | dinner, evening meal             |                |                                      |

## 2.3 VOWEL SEQUENCES

A sequence of like vowels has a different effect on the stress than a long vowel does. In §6 we will see that stress occurs on the last syllable of the word if that

<sup>3</sup> J. David Sapir described vowel harmony as occurring in Diola-Fogny. The vowel harmony of Jóola Hóluuf is very similar to that described by Sapir (1965). (Diola and Jóola are different spellings of the same word. Diola is the French spelling; Jóola is the spelling in the orthography used by the people themselves.)

syllable ends with a consonant. Stress occurs on the penultimate syllable when the word ends in a vowel.

The final syllable of **hø'leən** 'a flock of birds' has a long vowel and ends in a consonant. Therefore stress occurs on that syllable.

In **kale'en** 'to make place', there is a sequence of three syllables with short vowels. Stress occurs on the last syllable.

In **kale'eən** 'never ever', the last syllable with a long vowel is preceded by a syllable with a short vowel of the same quality.

In addition to sequences of like vowels, vowels of different quality may occur in sequence as in (20).

- (20)
- |           |                 |                          |
|-----------|-----------------|--------------------------|
| <b>aɪ</b> | <b>aitə</b>     | let him stand up         |
| <b>æ</b>  | <b>ælen</b>     | a little stream          |
|           | <b>æen</b>      | let him row              |
| <b>aə</b> | <b>aə</b>       | you                      |
| <b>ɛɪ</b> | <b>ɛɪ</b>       | flying termite           |
| <b>ɛə</b> | <b>ɛəət</b>     | a star                   |
|           | <b>ɛəjen</b>    | a sham                   |
| <b>ɪa</b> | <b>ɪaɲ</b>      | let me cultivate         |
|           | <b>ɛjagɲatʔ</b> | the dog                  |
| <b>ei</b> | <b>eitum</b>    | feather in a bird's wing |
| <b>eu</b> | <b>euu</b>      | a fly                    |
| <b>əi</b> | <b>əit</b>      | let him fly              |
|           | <b>ənəine</b>   | a man                    |
| <b>ɔɛ</b> | <b>ɔɛen</b>     | it was him               |
| <b>əa</b> | <b>əajen</b>    | stir up (IMPERATIVE)     |
| <b>ət</b> | <b>ətlaat</b>   | you can't                |
| <b>əɔ</b> | <b>əɔl</b>      | tear off (IMPERATIVE)    |
| <b>ui</b> | <b>uijen</b>    | mint plants              |
|           | <b>uitum</b>    | bird feathers            |

### 3. CONSONANT CLUSTERS

All consonant clusters in Jóla Húluf, except for clusters of like consonants, begin with a nasal. They do not occur in initial position in a word, but they may occur medially (21) or finally (22), and are always in the final syllable of the stem.

- (21)
- |                    |              |
|--------------------|--------------|
| <b>esəmbaʔ</b>     | tobacco      |
| <b>tanfəm</b>      | all together |
| <b>esəntaʔ</b>     | a wound      |
| <b>ɛʃaɲsə</b>      | a mouse      |
| <b>həkəɲa</b>      | okra         |
| <b>seŋki-seŋki</b> | It is deep.  |
| <b>seŋgi-seŋgi</b> | That hurts.  |
- (22)
- |               |                    |
|---------------|--------------------|
| <b>əkamb</b>  | a handful of straw |
| <b>hətənf</b> | bamboo             |
| <b>katənf</b> | beach              |
| <b>kələnf</b> | genealogy          |
| <b>kətənf</b> | to splatter        |
| <b>kəsəŋk</b> | zinc for a roof    |
| <b>həgəŋg</b> | wheel              |

## 4. THE GLOTTAL STOP PHONEME

The glottal stop phoneme occurs only in word-final position. In that environment it contrasts with a word-final /h/ and a word-final vowel as shown in (23). It is interesting to note that the glottal stop is lost when it is followed by another word within the phrase as in (24).

- (23) **kagɔʔ** to touch  
**ɪkɔh** I scratch  
**autɔ** Let him stand up.  
**amataʔ** a shepherd  
**katah** a stinger  
**faafa** father  
**haantʔ** no  
**kaɪh** to fill in a whole  
**ɛjɔŋɪ** a dog  
**əkəmmutiʔ** We don't trust him.  
**esih** to cook  
**eleli** your wild fruit
- (24) **taateʔ** here  
**taate lalɔbe** here he said  
**ɛjanfɔʔ** a mouse  
**ɛjanfɔ lalɔbe** a mouse he said

## 5. INTONATION

## 5.1 PREDICTABLE PITCH CONTOURS

## 5.1.1 Downglide

In Jóla Húluf, one- and two-syllable words end in a slight voiced consonant DOWNGLIDE when in prepause position, if the vowel is long as in (25). The pitch contour is [—]. If the vowel is short, or if the final consonant is voiceless as in (26), there is no downglide. The pitch contour is [—].

- (25) **ɔɪul** a child  
**hɔnɔɔm** to sell, to buy  
**sɪnaɔŋ** rice  
**kɔŋɪŋ** tooth  
**bɔleel** to look for wood  
**kəsuum** goodness
- (26) **bajaas** trip  
**kateef** to build  
**kaɪɔɪ** to waste  
**elɔɔf** house

If the final consonant is a voiced continuant /m n ɲ ŋ l/ and the vowel is long as in (27), there is a downglide: [—] and [—]. But, if the vowel is short, it does not downglide as in (28) [—].

- (27) **bɔɔl** face  
**ɛjaameen** goat  
**sɪnaɔŋ** rice  
**kəsuum** goodness

- (28) **mal** water  
**elal** bed

Two-syllable words, such as in (29), end in a long vowel downglide: [— —].

- (29) **susoo** birds  
**akuu** thief

### 5.1.2 Downstep

If the last two syllables are long as in (30), there is a DOWNSTEP between the next to the last and the last syllable: [— —].

- (30) **teetaam** on the ground  
**ejaameen** the goat  
**kakeejaam** a grain of rice

When the last syllable is short, following a long vowel or a vowel cluster, there is also downstep: [— —].

- (31) **haantʔ** no  
**echeʔ** yes

### 5.1.3 Upstep

There is UPSTEP on the last syllable of the penultimate word in a sequence of two words: [— — — —].

- (32) **jikil lalobe** eye he said  
**ehutom lalobe** lamp he said  
**ebok lalobe** mosquito he said  
**elooƿ lalobe** house he said

### 5.1.4 Multiple syllables

For three syllable words, the pitch in (33) is: [— — —]. However, when it is a case of the stem being followed by a suffix, it is the last syllable of the stem which is raised. In **bolutkenabøʔ** 'the training', **-abøʔ** is a suffix meaning 'DEFINITE ARTICLE' and has a pitch: [— — — —].

- (33) **enaah** cat  
**elabba** dress  
**kakiimeel** dinner  
**ejaameen** goat  
**lalob** he fell  
**lakkkuf** he wrote

In four syllable words in which the last syllable is part of the stem, the penultimate syllable is raised in pitch as in (34): [— — — —].

- (34) **hosalbet** towel  
**sutunasø** the trunks  
**lölöbalob** we two spoke  
**sulooƿasøʔ** the houses  
**holooƿahøʔ** the big house

## 5.2 CONTRASTIVE CONTOURS.

Two contrastive intonation contours which are easy to hear are the question contour requesting affirmation and the negation versus a statement contour.

In a question, the whole sentence is raised in pitch. In the answering statement, the voice is low pitch and relaxed as in (35).

- (35) **enaalɔt etetɛt** (high pitch) Did the cat run?  
**enaalɔt etetɛt** (low pitch) The cat ran.  
**laalɔ ɛnaalɔ** (high pitch) Is that a cat?  
**laalɔ ɛnaalɔ** (low pitch) That is a cat.

## 6. STRESS

Stress must be considered to be extra emphasis or loudness and not length. For the most part, stress occurs on the last syllable of the word including those ending with a glottal stop as in (36). If, however, the word ends in a vowel, stress occurs on the penultimate syllable in (37).

- (36) **hɔbɛ'kɛl** palm nut  
**kasɔɔ'hɛn** to give a gift  
**ɛkɪ'kɔm** a needle  
**majɛ'gɛn** the truth  
**ka'tah** a sting  
**e'sih to** cook  
**hɔbɔ'bɔʔ** a lake  
**ɛbɛg'kaʔ** a duck  
**kabɔ'kɔʔ** to give birth
- (37) **ka'sala** to sacrifice  
**e'fɛngu** to sting  
**ɛgɛ'letɛ** peanut  
**ka'ʃɔkɔ** to be hurt  
**e'leli** your fruit

## 7. SUMMARY

In Jóola Húluf there is vowel harmony with two sets of vowels such that each word has vowels from only one set.

There is not only a contrast between long versus short vowels, but there is also contrast between a long vowel versus a sequence of two identical short vowels.

The glottal stop has a restricted distribution, occurring only in the final position in a phrase. A word which ends in glottal stop at the end of a phrase, occurs without a glottal stop when in a different environment.

In an unemotional statement, the pitch contours are predictable. There is a contrast in pitch between a question and a statement.

## REFERENCES

- Sapir, J. David. 1965. *A grammar of Diola-Fogny*. London: Cambridge University Press.  
 Sambou, Pierre-Marie. 1977. *Phonologie du nom en Diola Kasa Esulaalu*. Dakar: CLAD no. 68.  
 ———. 1983. *Lexique Diola Fogny-Français Dakar*: CLAD no. D.2.