

## Labialization in Jukun: A Generative Approach

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### Abstract

Jukun has been classified as a branch of Benue-Congo, under the Niger-Congo family of the Niger-Kordofanian phylum which is made up of Platoid, Cross River, and Bantoid languages. This paper attempts to analyze the phonological behaviour of labialization in Jukun language. Labialization in Jukun occurs in bilabial stops, alveolar fricatives, velar stops, and glottal fricatives. The paper consists of two parts, the first part which is a general introduction discusses labialization in general terms distinguishing between automatic and non-automatic labialization in Jukun. Automatic labialization is internally conditioned, while non-automatic labialization applies only under certain conditions. The paper also stated the methodology employed in conducting the research. The second part of the paper analyzes the environments in which labialization takes place in Jukun. The theoretical framework underpinning this study is that of the transformational generative phonology. The general observation is that there is sharp difference between automatic and non-automatic labialization in Jukun. The main aim of the paper is to unearth the behaviours of labialization in Jukun language.

**Keywords:** *Labialization, automatic, and non-automatic, Generative Phonology, Niger-Congo Languages*

### Introduction

This paper attempts to portray the characteristics of labialization as it operates in Jukun language. The paper begins with introduction which encompasses the definitions of phonology and labialization. Phonology has been defined by Abiodun (2006:43) as that branch of linguistics that studies the organization of speech sounds in human language. Abiodun (ibid) goes further to say that phonology is the component of grammar that accounts for the general pattern of structure of sounds, and the way sounds relate with one another in normal speech. Sani (1989:1) says phonology is a branch of Linguistics that deals with the ways in which the sounds of a language work in that particular language. Labialization is one of the phonological processes and is a phenomenon that operates in world languages. The term labialization has been variously defined as the addition of lip-rounding or the super-imposition of lip-rounding quality of a round vowel on a segment, or when lip-rounding and protrusion occur with contoid articulation, (Gussenhoven and Jacobs, 2011, Omachonu 2011, Lodge, 2007, and Ladefoged and Johnson, 1994). It is pertinent to observe here that all sounds that are [+ round] are redundantly [+ labial], but [+ labial] sounds are not necessarily [+ round]. The /b/ in *bead* /bid/ for instance, though labial, is produced with no rounding, (Akmajian et al 2008: 117). Ladefoged and Johnson, (1994:236) opined that “all kinds of consonants can have added lip-rounding including those that already have one of the other secondary articulations. In a sense, even sounds in which the primary articulators are the lips – for example [p, b, m] can be said to be labialized if they are made with added rounding and protrusion of the lips”. Labialization is represented and symbolized by a raised [ʷ]. The term labialization has become productively active in the study of Jukun Phonology (cf. Surajo, 2016, Ajiduku, 2013, Dinslage and Storch 2000, and Shimizu, 1980). Two types of labialization have been identified in Jukun, namely the automatic and non-automatic labialization.

### The Jukun Language

Dinslage and Storch (2000: 22-23) in Surajo (2016:35-36) opined that the earliest classification model for Jukun stem from Koelle (1854) who classifies *Dsuku* (i.e. Jukun of Wukari or, more correctly Wapan) together with other Jukunoid varieties known to him as group C.I of the “*Atam languages*”. Westermann and Bryan (1952) provide another classification of the then known lects of Jukunoid. They grouped them under “section VIII-Isolated language groups or units (non-class languages) of Nigeria and the Cameroons” and under the label JUKUN Dialect Cluster” (op. Cit.: 140-141). Greenberg (1963) classified Jukun for the first time as a branch of Benue-Congo, under the Niger-Congo family of the Niger-Kordofanian phylum which is made up of Platoid, Cross River, and Bantoid languages. Dinslage and Storch (ibid) went on to affirm that all further works on Jukunoid and Platoid focused on the genetic and genealogical relationships of the languages of these branches. Lexicostatistic investigations into the sub-classification of the Benue-Congo branches of Jukunoid and Platoid led to a unification of both branches, whereby Tarokoid is closely related to Jukunoid than to Plateau (Shimizu, 1975).

Meek (1931:33-34) is of the opinion that “the Jukun-speaking peoples occupy in scattered groups that part of the Benue basin which is bounded by Abinsi to the West and Kona to the East, Pindiga to the North, and Donga to the South, a stretch of country which roughly represents the confines of the Jukun kingdom of Kororofa as it existed at the end of eighteenth century”. This view was corroborated by Fakuade (1995: 28-29) when he pointed out that “the Jukun speaking people are located mainly in the middle Benue region between Jen (town) in the North and Abinsi in the South, and from the low lands of plateau/Nasarawa States in the West to the piedmont of the Mambila in the East”. Jukun are ethno-linguistic group or ethnic nation in West Africa. They are descendants of the people of the Kwararrafa kingdom. Those considered as the immediate neighbours of the Jukun include; Paati, Jidu, Tikari, Bafum, Pyeri, Chamba, Nama, Tiv and Abakwariga etc (Fakuade, *ibid*)

### Research Methodology

The use of the principle of triangulation was employed for the analysis of the data collected from the three different sources i.e. questionnaire, participant observation and library source. The transformational generative phonology was used to analyze data for the study. Library sources were analyzed and synthesized to support data collected using the primary and secondary (interview) sources.

### Automatic Labialization

This involves plain velar consonants /k/ and /g/. These are said to be labialized when they are followed by the back vowel /u/ or /o/. Consider the examples as in:

(1) (a) /k/ before vowels /u/ and /o/

UR	SR	Gloss
Kúnú	[k <sup>w</sup> únú]	joint
Kù	[k <sup>w</sup> ù]	chief
akun	[ak <sup>w</sup> uŋ]	termite
kundè	[k <sup>w</sup> undè]	cry
koshè	[k <sup>w</sup> oʃè]	to fall short
kokani	[k <sup>w</sup> okani]	everyone
kojàn	[k <sup>w</sup> odʒàn]	to swim
riko	[rik <sup>w</sup> o]	old

(1b) /g/ before vowels /u/ and /o/

gùngù	[g <sup>w</sup> ùŋg <sup>w</sup> ùŋ]	tall/long
beregu	[bereg <sup>w</sup> u]	chimpanzee
ageregu	[agiereg <sup>w</sup> u]	he-goat
agò	[ag <sup>w</sup> ò]	stone
gondo	[g <sup>w</sup> ondo]	neighbourhood
angò	[aŋg <sup>w</sup> ò]	anger

What we observe from the above two sets of examples is that the underlying plain velar consonants are phonetically realized as labialized velars before the vowel /u/ or /o/. We therefore, formulate a general labialization rule to account for the changes as follows:

$$\left( \begin{array}{l} + \text{ cons} \\ + \text{ back} \\ - \text{ round} \\ - \text{ pal} \\ - \text{ lab} \end{array} \right) \rightarrow \left[ + \text{ lab} \right] \text{ -----} \left( \begin{array}{l} + \text{ syll} \\ + \text{ round} \end{array} \right)$$

The above rule states that plain velar consonants /k/ and /g/ are realized as labialized in the environment before round vowel such as /u/ and /o/, as earlier exemplified.

### Non-Automatic Labialization

The second type of labialization applies to elements other than the plain velars /k, g/. The segments which undergo this type of labialization are the non-sonorant coronals /s/, /z/, /s'/, /dz/, glottal consonant /h/ and the labio-velar sounds, /b/, /p/, /f/, /m/ /k/, /g/, and /ŋ/. – sort out accurately.

### Non-Sonorant Coronals

Most of Jukun non-sonorant coronals labialization occurs at word initial position. It is very rare to realize a word with labialization in other positions (medial or final). Consider the following examples:

(3) UR	SR	Gloss
atswi	[as <sup>w</sup> i]	star
atswen	[as <sup>w</sup> ɛ̃n]	city/town
aswe	[as <sup>w</sup> e]	guinea fowl
swa	[s <sup>w</sup> a]	to taste
azwi	[az <sup>w</sup> i]	grass cutter
adzwe	[adz <sup>w</sup> e]	ten
adzwin	[adz <sup>w</sup> ɪ̃n]	frog

From these we could schematize the following rule:

$$\left( \begin{array}{l} - \text{son} \\ + \text{cor} \\ - \text{glot} \\ \{ < [- \text{cont} -] \} \\ \{ [+ \text{voice}] \} \end{array} \right) \rightarrow \left( \begin{array}{l} + \text{Lab} \\ < [+ \text{del. rel}] \end{array} \right) / \left( \begin{array}{l} + \text{Syll} \\ + \text{Lab} \end{array} \right) \#$$

The rule says that /s<sup>ʰ</sup>/, /s/, /z/, or /dz/ changes to [w<sup>ʰ</sup>], /sw/, /zw/ and /dzw/ respectively at word initial position before the front vowels /i/ or /e/ and central vowel /a/.

### Labial-velar

The exact phonetic quality of the labial off-glide is described in this paper as ‘labial-velar’ which resembles closely that of approximant ‘w’. Thus after a labial consonant, the velar element of the off-glide becomes more prominent than the labial element, and it often becomes a velar plosive and nasal due to extreme velarization. Thus:

(4) UR	SR	Gloss
bwan	[b <sup>w</sup> an]	‘to kill’
abwi	[ab <sup>w</sup> i]	‘emesis’
gwa	[g <sup>w</sup> a]	‘to strike’
agwinzo	[ag <sup>w</sup> ɪ̃ŋzo]	‘eyebrow’
akwin	[ak <sup>w</sup> ɪ̃ŋ]	‘knife’
fwen	[f <sup>w</sup> ɛ̃n]	‘inside’
fwan	[f <sup>w</sup> an]	‘be complete’
pwa	[p <sup>w</sup> à]	piece
pwe	[p <sup>w</sup> è]	knot
mwa	[m <sup>w</sup> a]	be quick
mwi	[m <sup>w</sup> i]	mosquito
nwa	[ŋ <sup>w</sup> a]	pass by
nwe	[ŋ <sup>w</sup> e]	dry coldness

$$\left( \begin{array}{l} - \text{lab} \\ + \text{bil/vel} \\ + \text{front/central} \\ \{ < [- \text{cont} -] \} \\ \{ [+ \text{voice}] \} \end{array} \right) \rightarrow \left( \begin{array}{l} + \text{lab} \\ < [+ \text{del. rel}] \end{array} \right) / \left( \begin{array}{l} + \text{syll} \\ + \text{lab} \end{array} \right) \#$$

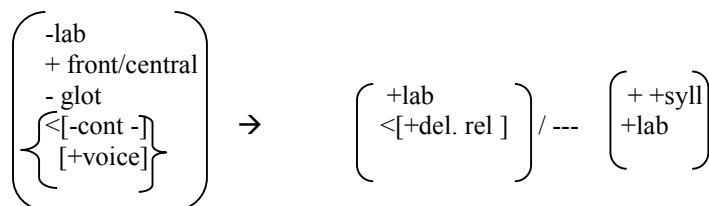
The rule states that bilabial consonants /b/, /f/, (this is labio-dental) /p/, /m/, and velar consonants /g/, /k/, /ŋ/ are labialized when preceded by the approximant /w/ in the environment before the front and central vowels /e/, /i/ and /a/ (as exemplified before).

### Labialized Glottal

A voiceless labialized glottal approximant [h<sup>w</sup>] is recorded in Jukun language which can be exemplified as follows:

(5) UR	SR	Gloss
hwa	[h <sup>w</sup> a]	pay

hwe-hwe	[h <sup>w</sup> eh <sup>w</sup> e]	many
hwen	[h <sup>w</sup> en]	buy
hwan	[h <sup>w</sup> an]	scratch



The rule states that glottal consonant /h/ is labialized when preceded by the approximant /w/ in the environment before the front and central vowels /e/ and /a/ as exemplified before.

### Conclusion

From the above analyses, we can understand that the automatic labialization in Jukun is realized when plain velars /k/ and /g/ come before round vowels. And the non-automatic labialization is realized in twelve (12) labialized consonants of Jukun /pw/, /bw/, /fw/, and /mw/ (labialized bilabial), /tsw/, /dzw/, /sw/ and /zw/ (alveolar consonants), /gw/ and /kw/ /ŋw/ (velar consonants) and /hw/ (glottal consonant) in the environment before front and central vowels /i/, /e/ and /a/. This work has really unearthed the behaviours of labialization in Jukun language, and to the best of our knowledge this is one of the elaborate work carried out on this topic.

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