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Light or Heavy: Examining Nasality in Ẹdo CCV/CVV Structure

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Abstract

This paper examines the effect of nasalization in the Ẹdo syllable structure. It employs synchronic data from Ẹdo native speakers in its consideration of the glide formation process in the language and examines the syllable weight of the final realization, with regards to the issues brought about by the presence of nasal vowels. The paper adopts a simple descriptive method in its analysis and discussion that shows the observed realizations by the Ẹdo speakers, and these observations guide the conclusions reached in the paper. The study observes that glide formation is restricted, in Ẹdo, when a syllable ends in a nasal vowel. This gives rise to a CVV syllable structure, instead of the expected CCV structure that should result from the formation of a glide. The paper concludes, therefore, that nasality is in this case responsible for the suspension of glide formation.

Keywords: Ẹdo phonology, syllable weight, nasality, glide formation.

0. Introduction

This paper focuses on vowel nasalization in Ẹdo and its overall effect on syllabification strategies in the language. It provides evidence to show that the realization of the CVV as CCV in Ẹdo phonology does not occur in all cases, given that the synchronic evidences in the present paper demonstrates that the presence of a nasal vowel at word final position restricts the formation of glides.

Ẹdo has over one million speakers (Adigun, 2006:111). Its native speakers spread across seven (out of the eighteen) local government areas in Ẹdo state, Nigeria: Oredo, Ikpoba-Okha, Egor, Ovia South-West, Ovia North-East, Orhionmwon and Uhunmwode. Ẹdo native speakers are also found to be permanently resident in Okitipupa, Akotogbo, Idoani and Akure in Ondo State, as well as in Oza N'Ogogo in Delta State (Imasuen, 1998:40). Ẹdo is a Kwa language, and is listed as Ẹdo (Bini) under the Proto-North-Central Edoid (PNCE) of the Proto-Edoid family in Elugbe (1989), and under the New Benue Congo in Williamson & Blench (2000).

The data for the study include several lexical items which were extracted from recorded utterances of Ẹdo native speakers across different age groups. The data were selected in such a way that each item has, at least, one syllable that contains more than one vowel, and in which the final vowel is inherently nasal. This is to ensure a well-informed observation of the directionality of the nasalization process in these forms.

The remaining parts of this paper are arranged thus: section 1 presents an overview of the concept of the syllable, section 2 is on the basic types in the Ẹdo syllable analysis, section 3 discusses the glide formation rule in the language while section 4 presents our observed issues in

the Ẹdo syllable structure when a CVV pattern ends in an inherently nasal vowel. In section 5, the perceived conditional suspension on the application of the glide formation rule is brought to bear while section 6 provides a concluding remark on the generality of the thoughts presented in the paper.

1. The Syllable

The syllable is a part of the supra-segmental (prosodic) phenomena in phonological discourse. Booij (1999:53) captures its importance by stating that "a word is phonotactically well-formed if it can be divided exhaustively into one or more well-formed syllables". In a rather phonetically motivated view, Roach (2000:67, 2009:56) defines a syllable as "consisting of a centre which has little or no obstruction to airflow and which sounds comparatively loud; before and after that centre". Laver (1994:114) who gives a phonological view sees it as "a complex unit made up of nuclear and marginal elements". In this view, nuclear elements refer to vowels (which are also seen as the syllabic segments) while the marginal elements refer to the consonants (or non-syllabic segments). In Ugorji (2002:89), "the term 'syllable' may refer to an element of phonological structure which consists of segment(s) organized in permissible intrinsic sonority sequence which might constitute the basis for prosodic statement."

Several other views or explanations exist on the subject of the syllable: the prominence view where the number of peaks or prominence is believed to determine the number of syllables in a word, the chest pulse view where the number of muscular activities (i.e. chest pulse) that are accompanied by increase of air pressure are said to determine the number of syllables in a given word (Gibson, 1980:56), the functionality view where the syllable is "…the unit in terms of which phonological systems are organized" (Katamba, 1989:153) and the sonority (scale) view

where the sonority of syllable peaks are seen in correspondence to the pulse of pulmonic airstream in speech (Giegerich, 1992:132).

Generally, syllables are classified as light (i.e. CV), heavy (i.e. CVV or CVC) or super heavy (i.e. CVVC or CVCC). This syllable weight depends on the number of segments that make up their peaks and codas. Onsets are not considered, given what Gordon (2002:54) refers to as a "universal fact": onsets do not affect syllable weight (Hyman 1985, Hyes 1989, Broselow Chen & Huffman 1997, Kamran, Maqbool & Umar 2020). Given the above, therefore, a language with syllable structure such as V, CV or CCV is said to manifest light syllable weight while languages with complex rhymes such as CVV, VC, CVC, and CVCC are said to manifest heavy syllable weight. Ẹdo is over the years believed to manifest a light syllable weight, as discussed in section 2 below.

2. Ẹdo Syllable Structure

Two syllable structural types have been identified to occur inherently in the language:

1. V

   a) I /ì/ 'I'

   b) u /ù/ 'You'

   c) ọ /ɔ̀/ 'Him/She'

   d) i /í/ 'not'

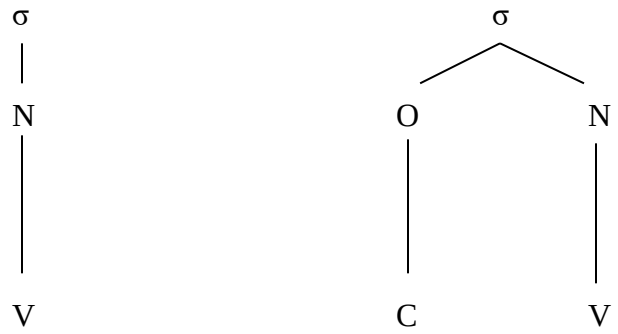
and;

2. CV

a) lo /lò/ ‘use’	i) le /lè/ ‘cook’
b) ka /kà/ ‘count’	j) ban /bə̀/ ‘rip off’
c) so /sò/ ‘sing’	k) si /sì/ ‘creep’
d) ma /mə̀/ ‘mold’	l) mu /mʉ̀/ ‘carry’
e) do /dò/ ‘trade/weave’	m) re /ɹè/ ‘eat’
f) tan /tə̀/ ‘spread (to dry)’	n) rre /rè/ ‘arrive’
g) se /sè/ ‘sew’	o) wu /wù/ ‘die’
h) kọ /kɔ̀/ ‘plant’	p) go /gò/ ‘shout/wail’

The V syllable structure is made up of one segment, that is, a vowel, which constitutes its syllable nucleus. The CV syllable structure, on the other hand, though has no coda, has an onset (i.e. a consonant) that is followed by the nucleus (i.e. the vowel). These are represented in the trees below.

3. a) V Syllable b) CV Syllable



Omozuwa (1992, 1997, 2010) observe that these two structural forms can occur in di-syllabic and tri-syllabic words in Ẹdo to give what he calls the VCV(CV) pattern as in the following.

V – CV

4. a) ọmọ /ɔ̀.mɔ̋́/ ‘child’

b) okọ /ò.kɔ́/ ‘canue’

c) ulẹ /ù.lɛ́/ ‘race’

d) ise /ì.sé/ ‘nail’

e) uwu /ù.wú/ ‘death’

f) anyọ /à.ɲɔ̋́/ ‘drink (N)’

V – CV – CV

5. a) edede /è.dè.dé/ ‘old woman’

b) inwina /ì.ŋ͡wɪ̀̃.nã̀/ ‘work (N)’

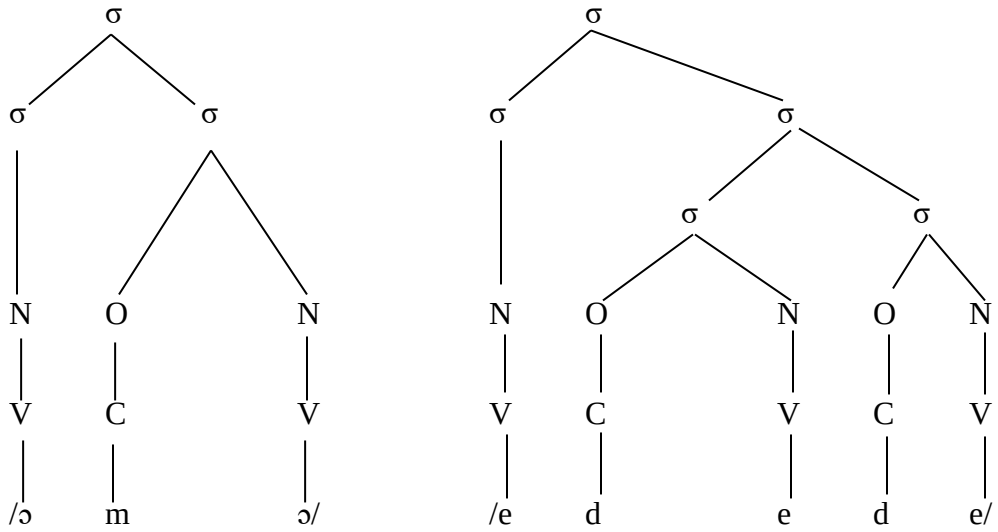
c) isanrẹn /í.sã́.ɹɛ̃̀/ ‘key’

d) urhukpa /ù.ɽù.k͡pà/ ‘lamp/light’

e) erhunmwu /è.ɽũ̀.mʉ̃̀/ ‘prayer’

These combinations may be represented in syllable trees below, which show examples 4a and 5a presented as 6a and b.

6.a) Syllable tree for /ɔ̀.mɔ́/ b) Syllable tree for /è.dè.dé/



These reveal the open syllable structure of the language, in which syllable codas are not allowed. What this open syllabicity means is that all syllables in Ẹdo must end in pronounceable vowels. This no-coda rule, as well as the fact that there is no complex or branching nucleus, defines the light syllable weight of this language.

3. Glide Formation

A derived (non-inherent) syllable structure is identified in Ẹdo as the CCV (or CGV), which is as a result of the reduction in the features/quality of a vowel, giving rise to a glide consonant. This process is termed glide formation. In this process;

7. CVV ⟶ CCV.

Glide formation is defined in Omozuwa (2010:221) as "the process whereby a high vowel is desyllabified to form a corresponding glide". A glide is a speech sound made while moving from one position to another. The change is accounted for in Ẹdo by phonological rule such as 8, below, adapted from Omozuwa (2010:221) and Edionhon (2016:50).

8. $\begin{bmatrix} +\text{syll} \\ +\text{high} \end{bmatrix} \longrightarrow \begin{bmatrix} -\text{syll} \end{bmatrix} / \_\_ \begin{bmatrix} +\text{syll} \end{bmatrix}$

A phonological rule such as 8, above, states that a high vowel is desyllabified before other vowels, and accounts for the following derivations.

9. a) sua /sùà/ ⟶ [swà] 'push'

   b) tue /tùè/ ⟶ [twè] 'bleed/pour'

   c) kue /kùè/ ⟶ [kwè] 'agree'

   d) lue /lùè/ ⟶ [lwè] 'chew'

   e) ogui /ó.gúí/ ⟶ [ógwí] 'bush mango'

   f) iguẹ /ì.gùɛ̀/ ⟶ [ìgwɛ̀] 'kneeling'

   g) ọduẹki /ɔ̀.dùɛ̀.kì/ ⟶ [ɔ̀dwɛ̀kì] 'trader'

10. a) tie /tiè/ ⟶ [tjè] 'call/read'

    b) wia /wià/ ⟶ [wjà] 'to smell'

    c) ekia /é.kíá/ ⟶ [ékjá] 'penis'

d) maimia /mià.mià/ ⟶ [mjə̃mjə̃] ‘forget’

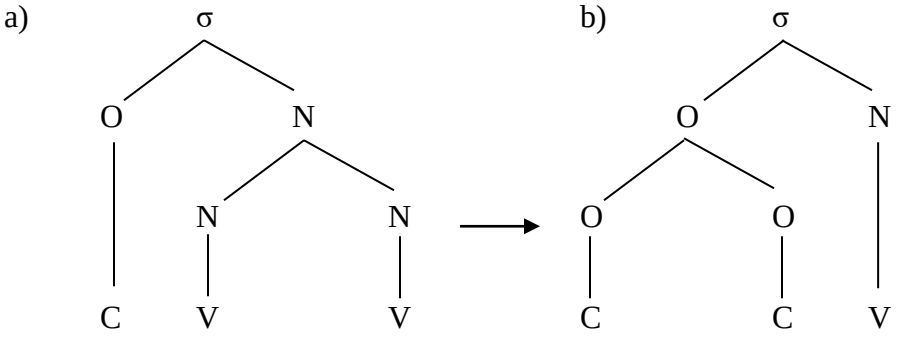
e) erriarria /è.rià.ría/ ⟶ [èrjárjà] ‘sand fly’

f) ọkiẹkiẹ /ɔ̀kíɛ́kíɛ́/ ⟶ [ɔ̀kjɛ́kjɛ́] ‘jest’

g) khiakhia /xià.xíá/ ⟶ [xjàxjá] ‘scrape’

In the light of the glide formation rule in (8) above, the language seems to make preference for light syllable weight, given that the CVV, which bears a heavy (branching) nucleus, is modified to a CCV, with a light nucleus, as shown in 11, below.

11. Syllable tree showing the realization of CVV as CCV



4. Nasalization Issues in Ẹdo Syllable Derivation

A careful observation of data in the language suggests that this derivation raises several issues in the Ẹdo phonological analysis. Consider, for example, the nasal realizations in the following.

12. a) rruan /rùə̃/ ⟶ [rə̃̀ə̃] ‘tie (a cloth)’

b) tian /tìə̃/ ⟶ [tə̃̀ə̃] ‘sing praise of’

c) suan /sùã̀/ ⟶ [sũ̀ã̀] ‘aspire’

d) ihuan /ì.húã́/ ⟶ [ìhṹã́] ‘song’

e) ladian /là.dìã̀/ ⟶ [làdĩ̀ã̀] ‘step out’

f) ihuẹn /ì.húɛ̃́/ ⟶ [ìhṹɛ̃́] ‘dirt’

g) ohuẹn /ó.húɛ̃́/ ⟶ [óhṹɛ̃́] ‘cough’

h) iroẹn /ì.ɹɔɛ̃̀/ ⟶ [ìɹɔ̃̀ɛ̃̀] ‘himself/herself’

i) ọkhaẹn /ɔ̀.xáɛ̃́/ ⟶ [ɔ̀xã́ɛ̃́] ‘porcupine’

j) uviẹn /ú.víɛ̃́/ ⟶ [úvíɛ̃́] ‘line’

k) aviẹn /à.víɛ̃́/ ⟶ [àví̋ɛ̃́] ‘lining’

l) siẹn /sìɛ̃̀/ ⟶ [sĩ̀ɛ̃̀] ‘deny’

m) esagiẹn /è.sá.giɛ̃̀/ ⟶ [èságĩ̀ɛ̃̀] ‘blood’

n) suẹn /sùɛ̃̀/ ⟶ [sũ̀ɛ̃̀] ‘start/begin’

o) ihiẹnhiẹn /í.híɛ̃́.hìɛ̃̀/ ⟶ [íhĩ́ɛ̃́hĩ̀ɛ̃̀] ‘great grandchild’

The data suggest a case of the spread of the nasal feature from V_2 to V_1 when an oral vowel immediately precedes a nasal vowel in the same syllable. The V_1 that is now nasalized is expected to have been realized as a glide, following the rule in 6, above. This leads to one of the following:

13. a) CVṼ ⟶ CC̃Ṽ

b) CVṼ ⟶ CṼṼ

Given the actual realization by the native speakers of the language, 13b is a more plausible and favourable realization over 13a, which shows that there is no glide formation in this case, but a simple case of regressive nasalization of V_1 by the inherent nasal V_2 in this syllable environment.

5. Glide Formation Suspension Rule for Ẹdo

As already presented in subsequent discussion, 13b is the more plausible realization as against 13a. This paper, hereby, makes a case for a special nasality rule in Ẹdo that places restriction on the formation of glide in the language. This restriction rule is proposed as follows:

14. When a syllable ends in a series of vowels and the final vowel is inherently nasal, glide formation is suspended.

The rule in 14 suspends glide formation and accounts for the derivations of CṼṼ from CVṼ patterns such as those in 12, above, and those below.

15. Where [ã] restricts glide formation

a) ohuan /ó.húã́/ ⟶ [óhṹã́] ‘sheep’

b) khuan /xùã̀/ ⟶ [xṳ̃ã̀] ‘earn money’

c) khian /xìã̀/ ⟶ [xḭ̃ã̀] ‘walk/become’

d) fian /fiã̀/ ⟶ [fḭ̃ã̀] ‘cut’

e) vian /viã̀/ ⟶ [vḭ̃ã̀] ‘nag’

f) ebian /è.bíã́/ ⟶ [èbḭ́ã́] ‘extract(N)’

g) eghian /é.ɣìə̃/ ⟶ [éɣi̋ə̃] ‘enemy’

h) ikian /ì.kía̋/ ⟶ [ìkía̋] ‘house fly’

i) udian /ù.día̋/ ⟶ [ùdía̋] ‘tsetse fly’

j) okhian /ò.xìə̃/ ⟶ [òxi̋ə̃] ‘soldier ants’

16. Where [ɛ̃] restricts glide formation

a) ẹhiẹn /è.híɛ̋/ ⟶ [èhía̋ɛ̋] ‘pepper’

b) ọviẹn /ɔ̀.víɛ̋/ ⟶ [ɔ̀vía̋ɛ̋] ‘slave’

c) eghọẹn /è.ɣɔ́ɛ̋/ ⟶ [èɣɔ́a̋ɛ̋] ‘stranger’

d) giẹn /gìɛ̃/ ⟶ [gi̋ɛ̃] ‘to burn’

e) biẹn /bìɛ̃/ ⟶ [bi̋ɛ̃] ‘slice’

f) khiẹn /xìɛ̃/ ⟶ [xi̋ɛ̃] ‘sell’

g) diẹn /dìɛ̃/ ⟶ [di̋ɛ̃] ‘be older than’

h) ziẹn /zìɛ̃/ ⟶ [zi̋ɛ̃] ‘get stuck’ (i.e. a vehicle in mud)

i) rriẹnrriẹn /rìɛ̃.ríɛ̋/ ⟶ [ri̋ɛ̃ría̋ɛ̋] ‘sweet’

j) akhaẹn /à.xàɛ̃/ ⟶ [àxə̀a̋ɛ̃] ‘evil’

17. Where [ɔ̃] restricts glide formation

a) ediọn /è.díɔ̋/ ⟶ [èdía̋ɔ̃] ‘elders’

b) vuọn /vùɔ̃/ ⟶ [vu̍ɔ̃] ‘be full’

c) orriọn /ò.ríɔ́/ ⟶ [òrí́ɔ́] ‘mind’

The suspension of glide formation is necessary, here, in order to allow for the occurrence of a restricted form of regressive nasal assimilation in the language. This regressive nasality is observed to occur when only selected nasal vowels in the language: [ã], [ɛ̃] and [ɔ̃] are involved. While nasalization from [ã] and [ɛ̃] are very productive, that from [ɔ̃] is not. Besides the occurrence of regressive form of nasalization, our glide formation suspension phenomenon also paves way for the understanding that the heavy syllable weight (i.e. CVV) occurs in the syllable structure of the language.

6. Conclusion

This paper has brought the Ẹdo syllable structure under focus, with particular reference to the effect of nasal vowels on preceding vowels. The paper examined synchronic Ẹdo data in which words with CVV syllable structures end in inherently nasal vowels and accounted for the observed restriction on the formation of glides in that environment. The study revealed that the language manifests heavy syllable weight, as much as it manifests light syllable weight. This paper suggests an invitation to scholars to examine the phenomenon of nasalization in Ẹdo in a new light.

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