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## Aspects of Morpho-phonology in Ekwulobija Igbo

Chikelu I. Ezenwafor-Afuecheta & Chibunma A. Bright-Ajoku

### Abstract

*Studies on Igbo Morph-phonology have mostly focused on the interaction between vowel harmony and the morphological process of affixation. Less attention is given to other phonological features such as vowel copying with respect to its role in the encoding of certain grammatical categories. Although vowel copying is rarely attested in the standard Igbo, it is a common feature in many dialects of Igbo, particularly of the Aguata area. This paper investigates two morpho-phonological features (vowel harmony-VH and vowel copying-VC) as they apply to the Ekwulobia Igbo. It examines the interaction of vowel copying with the formal marking of grammatical categories such as tense and negation. It also discusses the prominence of VC in the realization of lexical categories such as the demonstratives and pronominals, as well as the evidence of vowel harmony in the realization of proximal demonstratives. Our findings show that quite a number of allomorphs in the Ekwulobia Igbo are phonologically conditioned by vowel copying and vowel harmony. The negative hV morpheme (suffix) for instance, is realized by seven allomorphs which include: -hi, -ha, -he, -ho, -hj, -hu, -hu, and -họ. Similarly, the 2SG object and possessive pronoun is a hV word realized by eight allomorphs conditioned by VC. Also, the distal demonstrative is encoded by a VhV word, realized by seven allomorphs phonologically conditioned by VC while the*

*proximal demonstrative is realized by two allomorphic variants na and ne 'this' conditioned by VH.*

**Keywords:** Igbo allomorphs, morpho-phonology, vowel harmony, vowel copying, phonological conditioning

## 1) Introduction

Morpho-phonology is a subfield of linguistics that studies the link between morphological processes and phonology. The interaction between both levels of grammar is particularly evident in the concept of allomorphy. Allomorphs are known to be variants or different phonological manifestations of a morpheme. In other words, the concept of allomorphy captures the different realizations of a single morpheme. The alternation between variants of a morpheme could be conditioned and explained by some phonological rules. In English for instance, the plural allomorphs *s*, *z* and *iz/ə* *z* are conditioned by the voicing feature. In Igbo studies on morpho-phonology, the alternations of allomorphs are mostly tied to the phonological feature of vowel harmony and rarely vowel copying. In fact, the most common, if not the only example, given of VC conditioned allomorphs in standard Igbo is the -rV tense suffix (see Udemmadu 2012, Emenanjo 2016).

This work discusses vowel copying (subsequently VC) as one of the major underlying conditions for the different phonological manifestations of allomorphs in the Ekwulobia Igbo. In addition, it also accounts for the vowel harmony (subsequently VH) induced allomorphs attested in the realization of demonstratives.

The data for this research are obtained from 3 native speakers of Ekwulobia Igbo. A descriptive approach is adopted in

the analysis of the language data. All the language data analysed are fully tone marked. Ekwulobia Igbo is spoken in Ekwulobia, in the Aguata Local Government Area of Anambra State. It shares strong linguistic similarities with neighbouring communities such as Achina, Nanka and Oko.

The rest of the paper is structured as follows: Section 2 gives an overview of the manifestations of morpho-phonology across languages with emphasis on Igbo. Section 3 identifies and describes allomorphs conditioned by vowel copying while section 4 describes allomorphs conditioned by vowel harmony in the Ekwulobia Igbo. This is followed by the summary and conclusion in section 5.

## **2) An Overview of Allomorphy**

As noted earlier, the interaction between morphology and phonology could account for the variation in the shape of words and morphemes. The variations in the shape of a single morpheme are realized as allomorphs. In the case of English allomorphy, it is observed that the past tense morpheme comes in various shapes such as /t/ as in *cooked*, /d/ as in *boiled* and /ɪ d/ or /ə d/ as in *wanted*. The allomorphs of the past tense morpheme are known as being phonologically conditioned. In the study of the morphology of Kujamaat Joola (an Atlantic language spoken in Senegal), Aronoff and Fudemann (2009) identify the stem /baj/ with two possible shapes, *baj-* and *bə j-*. The latter occurs in the presence of a morpheme with an underlying tense vowel while the former occurs elsewhere. Also in Spanish, the preposition *con* ‘with’ could be described as having varied phonetic realizations ( [kom], [koŋ], [kon]) triggered by regressive assimilation. The allomorph *kom* is found before labial consonants as in (1a), *kon* is found before

alveolars and vowels as in (1b) while *koy* is found before velars as in (1c). Consider the examples below:

- 1a) con Maria ‘with Maria’  
[kom]
- b) con Diego ‘with Diego’  
[kon]
- c) con Gabriela ‘with Gabriela’  
[koŋ]

(culled from Aronoff and Fudemann 2009:71)

The Igbo language is characterized by a large number of allomorphs most of which are constrained by phonological rules and are in complementary distribution. Udemmadu (2012) attempts to give an optimality account of a number of Igbo allomorphs. She discusses the allomorphic variants of the past tense morpheme, the participle, the infinitive, the gerund, the agent noun and instrument amongst others. On the infinitive morpheme, two allomorphs are realized: the /i/ and /i/ prefix. Both allomorphs of the infinitive morpheme are conditioned by the VH rule.

Igbo is an eight vowel language. The eight vowels are divided into two harmony sets: the +ATR vowels /e, i, o, u/ (advanced tongue root) and the -ATR vowels /a, ɨ, ɔ, ʊ/ (retracted tongue root/non advanced tongue root). The existence of the VH sets has an implication for emergence of many Igbo allomorphs. Many bound morphemes in Igbo have two variants conditioned by the VH feature. For the infinitive allomorphs, the prefix *i-* occurs with verb roots that comprise vowels of the +ATR set as in (2a) while the *i-* variant occurs with verb roots comprising vowels from the -ATR set as in (2b). The following examples are illustrative:

- 2a) i. í-ri □ nírí ‘to eat food’  
 ii. í-zo □ nírí ‘to hide food’
- b) i. í-sù □ ákwà ‘to wash clothes’  
 ii. í-zà ụlọ́ ‘to sweep house’

The Igbo participle morpheme is realized by two allomorphs (prefixes): *e-* and *a-*. Just like the infinitive, the participle allomorphs are phonologically conditioned by the VH rule. The *e-* variant occurs with verb roots comprising vowels of the +ATR set as in (3a), while the *a-* variant occurs with verb roots comprising vowels of the -ATR set as in (3b). Consider the following examples:

- 3a) i. Ó nà-èjé ákwùkwó ‘She is going to school’  
 ii. Ó nà-èsí nírí □ ‘She is cooking food’
- b) i. Ó nà-àsù ákwà ‘He is washing clothes’  
 ii. Ó nà-ágwò ụra □ ‘He is snoring’

Allomorphs conditioned by vowel copying are relatively less studied. In what is commonly known as the standard Igbo, only one case of allomorphs conditioned by the VC rule is attested. The Igbo tense morpheme has about eight phonetic realizations which correspond to the eight vowels of Igbo. The past tense rV suffix copies the vowel of the verb root to which it is attached and consequently realizes eight allomorphs: *-ru*, *-rụ*, *-re*, *-ra*, *-rì*, *-rị*, *-ro*, *-rọ*. The following examples are illustrative:

- 4 a) Èméká zù-rù óhí □ ‘Emeka stole’  
 b) Àdá kwù-rụ̀ m ụgwọ́ □ ‘Ada paid me’  
 c) Ó bè-rè ákwá ‘She cried’  
 d) Àdá gbà-rà égwú ‘Ada danced’  
 e) Ó sì-rì nírí ‘She cooked food’  
 f) Há sì-rị̀ àsị́ ‘They lied’

- |    |               |                 |
|----|---------------|-----------------|
| g) | Àdá kpò-rò ḿ | ‘Ada called me’ |
| h) | Àdá zò-rò ḿ  | ‘Ada hid me’    |

In summary, the subfield of morpho-phonology is rooted in such concepts as allomorphy; the existence of morph variants which are phonologically conditioned. All the examples of allomorphs given above in different languages are anchored on some phonological considerations. In English, the variants of the plural and past tense morphemes are conditioned by the voiced/voiceless dichotomy. In Kujamaat Joola, the variants of the stem -baj are conditioned by the presence of a tense vowel. In Spanish, the different phonetic realizations of the preposition, *con* is conditioned by regressive assimilation. In Igbo, the identified allomorphs are constrained by vowel harmony and vowel copying. In the following section, we shall discuss the cases of allomorphs in Ekwulobia Igbo and emphasize on how they differ from what obtains in some other dialects of Igbo.

### 3) Allomorphs in Ekwulobia Igbo

In this section, we discuss allomorphs conditioned by two phonological features, namely: vowel copying and vowel harmony. Our focus is on the realization of allomorphs peculiar to the Ekwulobia Igbo. Unlike the standard Igbo, which has just one instance of allomorphs conditioned by VC as is the case with the past tense morpheme, the Ekwulobia Igbo is characterized by many VC conditioned allomorphs.

#### 3.1 VC conditioned allomorphs

Vowel copying is a morpho-phonological process that involves replicating or copying the vowel of a root morpheme onto the

nearest morph. The nearest morph could be bound as in the case of affixes or free as in the case of pronouns and demonstratives. This morpho-phonological process underlies the various phonological realizations of many allomorphs in the Ekwulobia Igbo. The VC feature constrains the phonetic manifestations of the allomorphs of the negative morpheme, the 2<sup>nd</sup> person singular object pronoun and the distal demonstrative.

### **3.1.1 Allomorphs of the negative morpheme**

Negation is a language universal category. According to Crystal (2003:310) negation is a process or construction in grammatical and semantic analysis which typically expresses the contradiction of some or all of a sentence meaning. In the Ekwulobia Igbo, negation is marked by a hV suffix. This negative morpheme is realized by eight allomorphs phonologically conditioned by vowel copying as shown in the following examples:

- 5 a) Chíómá éje□-he□ áphía  
PN go-hV:NEG market  
'Chioma did not go to the market'
- b) Ò kwú-hu□ ókwú  
3SG talk-hV:NEG talk  
'He did not talk'
- c) Àyí ásụ□-hụ□ jí ta□dùnù  
1PL pound-hV:NEG yam today  
'We did not pound yam today'
- d) Ò gbá-hà ákà  
3SG wear-hV:NEG bracelet  
'She did not wear bracelet'

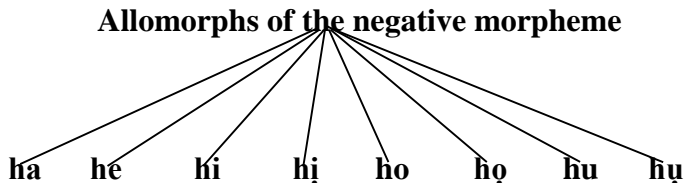
- e) Ò sí-hi□ óphé  
3SG cook-hV:NEG soup  
'He did not cook soup'
- f) Phá ási□-hì□ àsí  
3PL lie-hV:NEG lie  
'They did not lie'
- g) Ánígá nà ékpò-hò ósè  
aniga this be spicy-hV:NEG pepper  
'This aniga is not spicy'
- h) Ò kpó-họ□ m□  
3SG call-hV:NEG 1SG:OBJ  
'She did not call me'

In examples 5a-h, the vowel of the verb root is replicated in the negative suffix attached to the root, resulting in eight allomorphs expressing negation. The tone of the negative suffix is also conditioned by the inherent tone of the verb root to which it attaches. For inherently high tone verb roots, the hV suffix bears a step tone (see 5a-c), while for low tone verbs, the negative suffix bears a low tone (see 5d and 5g). In other words, the negative morpheme is inherently toneless; its tone is rather derived from its host. For complex or compound verb forms such as *mégbú* 'maltreat', and *gbáfù* 'run away', the negative suffix copies the vowel of the V<sub>2</sub> (second verb) resulting in structures such as *mégbu□-hu□* and *gbáfù-hù*. It is also the tone of the V<sub>2</sub> that determines the tone of the negative suffix.

In comparison with the standard Igbo, the allomorphs of the negative morpheme are constrained differently. In standard Igbo, the negative morpheme is realized by only two allomorphs (*ghi/ghì*) constrained by vowel harmony while in the Ekwulobia Igbo, the



negative morpheme is realized by eight allomorphs conditioned by vowel copying. The eight allomorphs are further represented in the sketch below:



### 3.1.2 Allomorphs of the distal demonstrative *that*

Distal demonstratives make reference to entities or objects that are further removed from the speaker in space and time. In standard Igbo, the distal demonstrative is encoded by the free post nominal morpheme *áhu* which neither has allomorphs nor is subject to the VH rule<sup>1</sup>. In the Ekwulobia lect, the distal demonstrative is encoded by a free post-nominal VhV morpheme. This morpheme is realized by eight allomorphs conditioned by vowel copying. Consider the following examples:

- 6    a)    **Ádá wèèrè ázụ □ ùhù**  
           PN   took   fish   that  
           ‘Ada took that fish’
- b)    **Ó   gòrò ákwa □ àhá**  
           3SG   bought   cloth   that  
           ‘He bought that cloth’

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<sup>1</sup> i.    **ógwù áhù** ‘that medicine’

ii.    **ùdé áhù** ‘that cream/pomade’

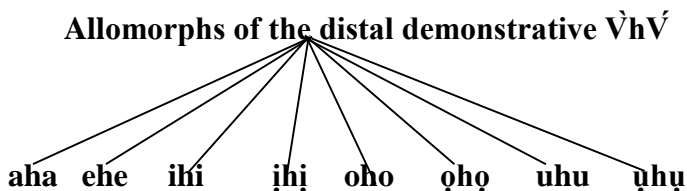
- c) **Óphé èhé** íne□ tère àtúóká  
soup that mother cooked be tasty  
'That soup that mother cooked is tasty'
- d) **Kèé òkpú ùhú?**  
where cap that  
'Where is that cap?'
- e) **Únu□o□ òhó** àmáká  
house that be very beautiful  
'That house is very beautiful'
- f) **Ụtárí ìhí** èpéká  
cane that be very small  
'That cane is very small'
- g) **Ó** gbu□tùrù **ósísí ìhí**  
3SG cut-down tree that  
'He cut down that tree'
- h) **Àdá nyèrè m` ázu□ òkpó òhó**  
PN gave me fish specie that  
'Ada gave me that òkpọ fish'

Examples (6a)-(6h) show NPs comprising the noun and the demonstrative determiner that modifies it. The distal demonstrative encoded as a *VhV* morpheme is realized by eight different forms. The word final vowel of modified noun is replicated in the word initial and word final positions of the demonstrative form. In (6a) for instance, the word final vowel of the modified noun *azu* (/u/) is copied onto the first and final vowel positions of the demonstrative allomorph *uhú*. Note that for NPs that comprise other constituents alongside the distal demonstrative, it is the vowel of the constituent

closest to the distal demonstrative that is copied (see 6h). Also compare examples 7a and b below:

- 7 a) **Ụ̀tàrí ìhì** pèrè m̀pé  
cane that be small  
'That cane is small'
- b) **Ụ̀tàrì gù ùhù** pèrè m̀pé  
cane your that be small  
'That cane is small'

In examples 7a and b, the form of the demonstrative allomorph changes depending on the word final vowel of the constituent that directly precedes it. The eight allomorphs of the distal demonstrative are known to correspond with the eight vowels of Igbo. They are further shown in the sketch below:



### **3.1.3 Allomorphs of the 2<sup>nd</sup> person singular object pronoun**

The 2<sup>nd</sup> person singular object pronoun is realized by two morphemes; each morpheme with its set of allomorphs. There is the gu/gù allomorphs conditioned by vowel harmony, much like what is

obtained in standard Igbo<sup>2</sup>. In this section however, we focus on the alternative 2<sup>nd</sup> person singular pronominal encoded by a hV morpheme. This morpheme is realized by eight free allomorphs which are constrained by vowel copying. Consider the following examples:

- 8 a) Ò jéhe□ ékwé **he**□ òmúmé  
3SG AUX-NEG agree 2SG:OBJ act of doing  
‘You cannot do it’
- b) Phá kpòrò **họ**, sú **hụ**□ biá  
3PL called 2SG:OBJ told 2SG:OBJ come  
‘They called you and told you to come’
- c) Ònyé kpòìlì **hị** ínwá nà?  
who gave 2SG:OBJ child this  
‘Who gave you this child?’
- d) Í jè èbé ákwa□ mà m’ kpàtá **ha**□ áká  
2SG:SUBJ will cry cry if I hold 2SG:OBJ hand  
‘You will cry if I get hold of you’

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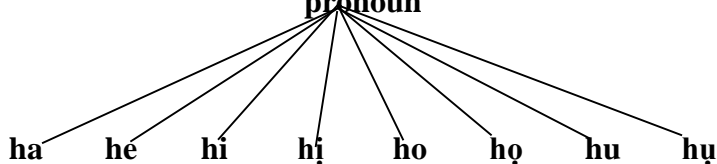
<sup>2</sup> The gu/gụ forms and the hV morpheme may be used interchangeably in object and possessive functions (see examples i -iv). However, the hV allomorphs have a more restricted distribution.

- i. Égó gu□ phùrù ii. Égó ho□ phùrù  
money 2SG:POSS be lost money 2SG:POSS be lost  
‘Your money got lost’ ‘Your money got lost’
- iii. Àdá pìàrà gù ùtàrì iv. Àdá pìàrà hà ùtàrì  
PN flogged 2SG:OBJ cane PN flogged 2SG:OBJ cane  
‘Ada flogged you’ ‘Ada flogged you’

- e) Ó zu□o□fùné he□  
3SG hide-away 2SG:OBJ  
‘He has hidden you away’
- f) Ó gòìlì hì mótò  
3SG buy 2SG:OBJ car  
‘He bought you a car’

In the above examples, it is evident that the pronominal hV allomorphs copy the word final vowel of the preceding word. Note that although the hV pronoun shares the same form with the negative morpheme, it has a clearly distinct meaning and function. As a pronominal, the hV form occurs as a free morpheme, while as a negator, the hV form occurs as a bound morpheme (suffix). The allomorphs of the 2SG object/possessive pronoun are further represented in the sketch below:

**Allomorphs of the 2<sup>nd</sup> person singular object/possessive pronoun**



### 3.2 VH conditioned allomorphs

Some of the VH conditioned allomorphs attested in standard Igbo are also found in the Ekwulobia Igbo; such as the infinitive prefix i-/ì-, the participle prefix a-/e- and the agentive prefix amongst others. We shall not dwell on these. Our focus is rather on VH conditioned allomorphs of the proximal demonstrative and the perfective

morpheme that are peculiar to the Ekwulobia Igbo and other related dialects.

The proximal demonstrative makes reference to objects or entities that are closer to the speaker. It is encoded by the two free post-nominal allomorphs *nà/nè* ‘this’ which are phonologically conditioned by vowel harmony<sup>3</sup>. The following examples are illustrative:

- 9 a) **ákwúkwó nà**  
book this  
‘This book’
- b) **ákwúkwó ójíí nè**  
book black this  
‘This black book’
- 10 a) **únu o nè**  
house this  
‘This house’
- b) **únùò óchá nà**  
house white this  
‘This house’

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<sup>3</sup> In contrast, the proximal demonstrative is encoded in the standard Igbo by the free post-nominal morpheme *a* ‘this’, which is not subject to the VH rule and has no allomorphic variants. In other words, it co-occurs with both +ATR (e, i, o, u) and -ATR (a, ɪ, ɔ, ʊ) vowels. Examples:

- i) **ákwúkwó à**  
book this  
‘This book’
- ii) **ósísí à**  
tree this  
‘This tree’

- 11 a) **èphé nè**  
cloth this  
'This cloth'
- b) **èphè gú nè**  
cloth 2SG:POSS this  
'This your cloth'

In examples 9-11 it is observed that the allomorph *nà*, co-occurs with immediate preceding words comprising vowels of the -ATR set (a ɪ, ɔ ʊ) while its counterpart *nè*, co-occurs with vowels of immediate preceding words comprising vowels of the +ATR set (e, i, o, u).

Another instance of VH conditioned allomorphs is found with the perfective morpheme. The perfective aspect denotes events as completed but with current relevance. In the Ekwulobia Igbo, the perfective morpheme (suffix) is realized by the two allomorphs *-né* and *-ná* which are phonologically conditioned by vowel harmony. The allomorph *-ne* attaches to verbs comprising vowels of the +ATR set as in (12a) while *-na* attaches to verbs comprising vowels of the -ATR set as in (12b). Consider the examples below:

- 12 a) **Àyí èríé-né ñni** □  
1PL eat-PERF food  
'We have eaten food'
- b) **Àyí àsúq-ná ákwà**  
1PL wash-PERF cloth  
'We have washed clothes'

In contrast with the Ekwulobia lect, the standard Igbo encodes the perfective aspect with the bound suffix *-la* which has no allomorphic variants. It co-occurs with both +ATR and -ATR vowel sets<sup>4</sup>.

#### 4) Summary and conclusion

A summary of our findings on allomorphs in the Ekwulobia Igbo is further represented in table 1 below:

**Table 1. Allomorphs in the Ekwulobia Igbo**

<b>Morphemes</b>	<b>Allomorphs</b>	<b>VH conditioning</b>	<b>VC conditioning</b>
Past/present tense rV morpheme (suffix)	-ri, -rì, -ra, -re, -rò, -rọ, -ru, -rụ	—	√
Negative morpheme (hV suffix)	-hi, -hì, -ha, -he, -hò, -họ, -hu, -hụ	—	√
Proximal demonstrative	ne, na	√	—
Distal demonstrative	oho, ohò, ihi, ihì, aha, ehe, uhu, uhụ	—	√

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<sup>4</sup> Examples of the perfective construction in standard Igbo:

i) Ànyí èríé-lá níri  
1PL eat-PERF food  
'We have eaten food'

ii) Ànyí àsúq-lá ákwà  
1PL wash-PERF cloth  
'We have washed clothes'



2 <sup>nd</sup> person singular pronoun	hi, hi, ha, he, ho, ho, -hu, hu	—	√
Perfective morpheme (suffix)	-ne, -na	√	—

This table illustrates two sets of morphemes. One set of morphemes is realized by allomorphs phonologically conditioned by vowel copying. This set includes the tense rV morpheme, the negative hV morpheme, the 2<sup>nd</sup> person singular pronoun and the distal demonstrative. The second set of morphemes is realized by allomorphs phonologically conditioned by vowel harmony. This set includes the proximal demonstrative and the perfective morpheme amongst others.

Our data show that vowel copying as a conditioning criterion for the realization of allomorphs is much more common in the Ekwulobia Igbo than in the standard Igbo. We also reiterate that the hV form in the Ekwulobia Igbo is not a case of the portmanteau morph but of distinct morphemes that share the same form. As a negative morpheme, the hV form occurs as a suffix realized by allomorphs while as the 2<sup>nd</sup> person singular pronoun, it occurs as a free morpheme realized by allomorphs. A similar distinction is also observed with the na/ne forms. As the proximal demonstrative, they occur as free forms realized as allomorphs while for the perfective aspectual meaning, they occur as bound forms.

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*Chikelu I. Ezenwafor-Afuecheta*  
*Department of Linguistics,*  
*Nnamdi Azikiwe University, Awka.*  
[ci.ezenwafor@unizik.edu.ng](mailto:ci.ezenwafor@unizik.edu.ng)

&

*Chibunma A. Bright-Ajoku*  
*Department of Linguistics & Nigerian Languages,*  
*AICE, Owerri.*  
[chibunmaezenwafor@gmail.com](mailto:chibunmaezenwafor@gmail.com)