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VOWEL DELETION IN ÀBÈSÀBÈSÌ: A CASE STUDY OF EKIROMI

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Abstract

Àbèsàbèsì¹ is an endangered Nigerian language spoken in nine settlements within the Akoko North East and Akoko North West Local Government Areas (LGA) of Ondo State by an estimated total of less than 7,000 speakers. In this language, as in many other Benue-Congo languages, it is a common case that two vowels meet across a word boundary. Among different phonological processes that are triggered by the occurrence of two sounds at morphological boundary are: segment harmony, deletion/elision, assimilation, dissimilation, coalescence, velarization and palatilation. This paper investigates the phenomenon of vowel deletion in Àbèsàbèsì for an insight into the $V_1 \# V_2$ vowel deletion in the language. Data collection adopts a participatory model. The paper attempts a descriptive and rule base account of the types of vowel deletion the language attests. For a better understanding of the segment behaviour, Data collection and presentation is limited to the Èkìròmì dialect as spoken in Ìkàrà̀m. Èkìròmì attests two types of $V_1 \# V_2$ vowel deletion and certain environments where no vowel deletion takes place. This paper attempts to clarify the distributional properties of these two types of vowel deletion and to explain the cases where no deletion takes place. It shows that $V_1 \# V_2$ vowel deletion, in most cases, affects the first of two consecutive vowels (V_1) and proposes an explanation of the few cases, where the second vowel (V_2) is affected.

Keywords: Àbèsàbèsì, Èkìròmì, Benue-Congo, Vowel Deletion, Phonology

¹ Àbèsàbèsì is known as Akpes in literature and has the ISO-639-3 code ibe and the Glottolog code akpe1248.

1 Introduction

Vowel deletion is a well-attested process within the Benue-Congo language family, deletion is linguistic process languages employ to reduce the number of syllables and to maintain the rather rigid Consonant Vowel (CV) syllable structures predominant in the family. This study investigates the different types of vowel deletion in Èkìròmì, a dialect of the Àbèsàbèsì language spoken in the Akoko mountains of Ondo state, Nigeria. The researchers limit the scope to this dialect in order to be able to carry out an in-depth analysis. Apart from the typical vowel deletion triggered by two vowels meeting across a word boundary (henceforth $V_1 \# V_2$), Èkìròmì also attests word final vowel deletion if a word is located at a syntactic boundary or uttered in isolation. Data used for this research is drawn from one of the researchers' documentations corpora and a rich corpus gathered in about ten years by researchers and various undergraduate students.² The data is evaluated using a descriptive method, while the distribution of the vowel deletion types is explained using a feature phonology approach.

After introducing the language and the dialect of interest, section 2 contains a description of the phonology in Èkìròmì and a summary of existing research on the dialect. While section 3 defines vowel deletion, the different domains of vowel deletion in Èkìròmì will be introduced and illustrated with data in section 4. After that, section 5 discusses the different vowel deletion types discovered in the data and analyses their distribution.

1.1 Àbèsàbèsì

Àbèsàbèsì is spoken in eight communities in Àkókó North West and one community in Àkókó North East Local Government Areas of Ondo State, Nigeria, by an estimated number of less than 7,000 speakers³. The inhabitants of these settlements are predominantly farmers. Intergenerational transmission fails to take place (Author 2014:4) and language attitudes, especially among young speakers, reveal a preference of speaking the dominant language in the area, Yorùbá (Author 2008:2–4). These factors cause high endangerment of the

² The examples are transcriptions from audio data submitted by thy students on field trips.

³ Taking the inhabitant numbers of five communities given by a paper produced within the Millennium Villages Project (Chovwen et al. 2009:10), adding an estimated 800 inhabitants for Akunnu and a third of the population of Ajowa for the three Àbèsàbèsì-speaking communities of the nine communities within Ajowa, results in a total of 10664 people. Assuming a general percentage of 60% speakers across all communities, 6398 speakers are estimated.

language. Yorùbá and English are used as languages of instruction in schools and for official engagements. Adults use Àbèsàbèsì to communicate at home and in all informal occasions while Yorùbá or Nigerian Pidgin English is used to communicate with youths and children. The Àbèsàbèsì communities are in direct vicinity of communities speaking the Akokoid languages, Àhàn, Ayere, Ukaan and the Owé dialect of Yorùbá.

Genetically, the language has long been classified as an independent branch of the Benue-Congo family (Williamson & Blench 2000) within the Niger-Congo phylum. However, Elugbe (2012) proposes Akedoid as a branch of the Benue-Congo family, suggesting that Àbèsàbèsì and Ukaan are earlier branches of what is now as the Edoid languages. Author (2008) in the study of internal classification of Àbèsàbèsì proposes four dialects: Akpes spoken in Àkùnnù and Hùdù, Èkìròmì spoken in Ìkàrà and Àsẹ̀, Ìlueṇi spoken in Ìbàrà, Ìyàni and Gèdègédé and Oṣùgù spoken in Èsùkà and Dája.

1.2 Èkìròmì

As mentioned in the preceding section, Èkìròmì is one of the Àbèsàbèsì dialects spoken in Àsẹ̀ and Ìkàrà in the northern part of Ondo State, Nigeria. While Ìkàrà is a town with around 5000 inhabitants, Àsẹ̀ is a small farm settlement with only less than 80 inhabitants situated about three kilometres east of Ìkàrà (Chovwen et al. 2009:10). Inhabitants of Ìkàrà refer to their language as Èkìròm(i), while those of Àsẹ̀ refer to theirs as Ekiròm. This research, however, is solely based on language data recorded in Ìkàrà.

The following section gives an overview of the phonology in Èkìròmì while summarizing existing research on the dialect.

2. Èkìròmì Phonology

Èkìròmì attests a total of 36 phonemes, of which 22 are consonants and 7 oral vowels.

Table 1: Èkiròmì Consonant Chart

Plosives	p b		t d			k g	kp gb	
Nasals	m		n		ɲ	ŋ		
Fricatives		f	s	ʃ				h
Affricates				tʃ dʒ				
Trill			r					
Lateral			l					
Approximants					j		w	

Table 2: Èkiròmì Vowel Chart

	front	center	back
high	i		ʊ
mid	e		ə
open-mid	ɛ		ɐ
low		ə	

Moreover, our data reveals a number of labialized consonants. Raji (1986), the first researcher who worked on Èkiròmì, mentions labialization and lists the following labialized consonants: /b^w, t^w, d^w, k^w, g^w, f^w, ʃ^w, h^w, tʃ^w, j^w/. Author (1997) argues that labialization is caused by a deleted rounded vowel following the consonant. As this phenomenon cannot be discussed in this paper, the study will not decide on the phonemic nature of these labialized consonants.

Author's (2019) corpus attests a few cases of palatalized consonants. No research has been undertaken so far on palatalization as a productive feature remains questionable. Another phonological process, which all Àbèsàbèsì dialects attest, is vowel harmony. Author (2008, 2012) has done carried out research on the topic and mentions different vowel harmony types in the dialects. Èkiròmì features one vowel harmony type solely controlled by the Advanced Tounge Root (ATR) feature and one type controlled by the ATR and the roundedness feature.

The tone system of all Àbèsàbèsì dialects consist of three register tones (high, mid, low). ~~Author and Author~~ (in preparation) are working on the tone system; the study added a falling tone to the three register tones as suggested by ~~Author 1~~ (1997).

There has been little research on vowel deletion in Àbèsàbèsì. Elugbe (2012) suggests word final vowel deletion of /i/ and /u/ in a rather short remark to explain the coda consonants and thereby strengthen his argument of a genetic relationship between Àbèsàbèsì and the Edoid languages; a similar claim he had posited before in Elugbe (1989). ~~Author~~ (2015) proposes an optimality account of the syllable structure in Àbèsàbèsì and likewise explains the phonetic coda consonants by assuming an underlying vowel that has been deleted. This process will be referred to as word-final vowel deletion. The current research has not come across any study on the rules that govern $V_1 \# V_2$ vowel deletion in morphological boundaries in Àbèsàbèsì phonology.

3. Deletion as a Phonological Process

Studies show that deletion is “another common process in the languages of the word that involves the loss of a segment under specifically imposed conditions” (Oyebade 2008:69). Deletion process can affect any segment: consonants, vowels or suprasegmental phonemes in a given language (Oyebade 2001; Oyelaran 1972). In phonological study, the deletion of vowels specifically is called elision. In the following sections, this paper investigates $V_1 \# V_2$ vowel deletion in Èkìròmì. The study will start by presenting the different domains in which vowel deletion occurs in the language before distinguish the different types of vowel deletion as perceived in the data collected. Finally, it will propose derived rules determining the vowel deletion type in Èkìròmì as perceived in the data collected.

4. Vowel Deletion Across the Grammatical Domains

Vowel deletion in Èkìròmì can generally occur wherever two vowels meet across morpheme boundaries. As Èkìròmì shows a general distinction between verbs and nouns – with verbs starting with a consonant and nouns starting with a vowel, typical $V \# V$ occurrences can be found in the following grammatical domains:

Noun Phrase

- Noun + Nominal⁴

Verb Phrase

- Verb + Nominal
- Pronoun + Nominal (in ditransitive constructions)

Others

- Relativizer + Nominal
- Focus Particle + Nominal
- Interrogative Pronoun + Nominal

Additionally, Èkìròmì attests word-final vowel deletion. This phenomenon has already been described and analysed by Author (2015).

4.1 Noun Phrases

Vowel deletion in noun phrases occurs when a noun is followed by another noun, a pronominal, numeral or adjective. Nouns can follow nouns to function as an attribute or to form a compound with the other noun. Data set 1) shows several noun + noun constructions, with all possible vowel qualities for V₁ except /u/. It can be seen that it is always the first of two colliding vowels that is deleted. The last column shows the quality of the first vowel respectively.

					V ₁
1					
a)	afa book	+	opó-no wife-my	→ afopóno my wife's book	/a/
b)	ègè door	+	ijfo house	→ ègiɟfo door of the house	/ɛ/
c)	áje mother	+	ɛna cow	→ ájɛna mother of the cow	/e/

⁴ Nominal is used here to encompass all kinds of noun-like words that start with a vowel. These include categories that are traditionally referred to as nouns, pronouns, numerals, adjectives

d)	òli cloth	+	òsé-na father-my	→	òlòséna my father's cloth	/i/
e)	atò floor	+	ìfo house	→	atífo flor of the house	/o/
f)	ajo eye	+	áj-no mother-my	→	~~A~~ ájno my mother's eye	/o/

Other nominals modifying a noun behave exactly like nouns modifying nouns. The same kind of V₁ deletion can be observed. These nominals can be numerals (2a-b), demonstratives (2c-f) or adjectives (2g-h).

2

a)	onĩ person	+	ekĩ one/INDF	→	onēkĩ one/a person
b)	ìfo house	+	ífon five	→	íṣífon five houses
c)	òwò hoe	+	èèni this	→	~~È~~ wèèni this hoe
d)	òli cloth	+	èdén that	→	òlèdén that cloth
e)	anĩ people	+	ìdín these	→	~~A~~ nìdín these people
f)	anĩ people	+	ìdén those	→	anìdén those people
g)	onĩ person	+	en̩a new	→	on̩en̩a ~~S~~ tranger

h)	ɔhune tree	+	idug PL\big	→	ɔhunídug big trees
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Noun + nominal constructions with /u/ as the first vowel, however, display a minor deviation from that pattern. Data set 3 shows constructions with /u/ as V₁ and changing V₂ values that are noted in the last column.⁵ The mentioned deviation can be found in 3d) where the second of the two vowels is deleted instead of the first one. This occurs in a construction, where V₂ has the value /i/. Other constructions with /u/ as V₁ and /i/ as V₂ are given in data set 4. In all the data, in context, the V₂ deletion is observed. This V₂ deletion seems to only be triggered by /u/ as V₁. Other vowels as V₁ in combination with /i/ as V₂ do not result in a V₂ deletion as shown in 1b), 1e), 2b), 2e), 2f), 2h) above. This weakens possible claims of /i/ generally being a ‘weak’ vowel that tends to be deleted – as it is attested in Yorùbá (Abiodun 2004).

3

					V ₂	
a)	onu mouth	+	áj-no mother-my	→	Onújno my mother's mouth	/a/
b)	onu mouth	+	ɛna cow	→	Onúna the cow's mouth	/ɛ/
c)	onu mouth	+	ebo dog	→	Onébo dog's mouth	/e/
d)	onu mouth	+	iji water	→	onúji water side	/i/
g)	onu mouth	+	òsé-na father-my	→	onòséna my father's mouth	/ɔ/
f)	onu mouth	+	onó-no wife-my	→	onónóno my wife's mouth	/o/

⁵ Note that V₂ can never be /u/, as Èkiròm does not allow words to start with a /u/. Moreover, a deleted /u/ in V₁ position often results in the labialization of the preceding vowel, unless the second vowel is rounded.

4

a)	òkú all	+	iniŋ thing	→	Òkúniŋ Everything	/i/
b)	òkú all	+	ig ^{wi} material	→	òkúg ^{wi} all materials	/i/
c)	ìtù heap	+	ilibó cassava	→	ìtùlibó cassava heap	/i/

Out of the eight possessive pronouns in Èkìròm, five start with a vowel, which means they could theoretically also trigger vowel deletion. These are: 3SG.HUM ‘u’, 3SG.NHUM ‘ε’, 1PL ‘ès’, 2PL ‘èn’, and 3PL.NHUM ‘i’. Examples for noun + pronoun constructions are displayed in dataset 5.

5

a)	òdè stool	+	U her/his	→	Òdèu her/his stool
b)	òli cloth	+	U her/his	→	Òlúu her/his cloth
c)	ifo house	+	ε It	→	ifɛ̃ / ifɛ̃ε ⁶ its house
d)	ifomo farm	+	Ès our	→	ifomes our farm
e)	atfi egg	+	Èn your (PL)	→	atfèn your eggs
f)	ifo house	+	I their (NHUM)	→	ifĩ / ifĩi their house

⁶ In careful speech, speakers actually produce a version that attests no deletion but a full assimilation of the first vowel. The same holds for 5f)

Data set 5 reveals small differences to other noun + nominal constructions. The 3SG.HUM pronoun (5a-b) does not show any vowel deletion. Either, it is just concatenated to the noun, or an assimilation of V_1 takes place. The 3SG.NHUM and 3PL.NHUM pronouns (5c and 5f) trigger a deletion of V_1 or merely a full assimilation. The 1PL and 2PL pronouns (5d-e), on the other hand cause a regular V_1 deletion.

Regarding the V_2 deletion, the paper discovered in data sets 3 and 4, the only pronoun to trigger a collision of /u/ and /i/ would be the 3PL.NHUM pronoun 'i'. Data set 6 shows, neither assimilation nor a vowel deletion occurs when nouns ending in /u/ combine with the 3PL.NHUM pronoun. The expected V_2 deletion that has been shown to occur between /u/ and /i/ would result in the deletion of /i/. This would in fact delete the entire segmental material of the pronoun and in most cases leave no traces. The lack of deletion is thus necessary to protect the pronoun altogether.

6

- | | | | | | |
|----|--------------|---|-------------------|---|----------------------|
| a) | onu
mouth | + | I
their (NHUM) | → | Onúi
their mouths |
| b) | òkú
cloth | + | I
their (NHUM) | → | Òkúi
all of them |

4.2 Verb Phrases

Vowel deletion in verb phrases can be observed when a noun follows a transitive verb. As most verbs end in a vowel and all nouns except for a few loan words start with a noun, this process occurs frequently. The verb + noun constructions in the following data set 7 show the same pattern of vowel deletion within noun phrases: The study encounters solely V_1 deletion if V_1 is one of the vowels /a, ε, e, i, ɔ, o/.

7

- | | | | | | |
|----|-------------------|---|---------------|---|-------------------------------|
| | | | | | V_1 |
| a) | sà
know | + | okpo
way | → | Sòkpo
know the way |
| | | | | | /a/ |
| b) | tʃɛ̀rɛ̀
repair | + | ɔnĩ
person | → | tʃɛ̀rɔnĩ
door of the house |
| | | | | | /ε/ |

c)	de buy	+	ɛnam meat	→	dɛnam buy meat	/e/
d)	tʃi have	+	oɲo wife	→	tʃoɲo have a wife	/i/
e)	lɔ throw	+	ísaj stone	→	lɔ́saj throw stone	/ɔ/
f)	logìnɔ̃ destroy	+	ɛmũ money	→	lògìnẽmũ waste money	/o/

Verb + noun constructions also attest V₂ deletion at the collision of /u/ and /i/. Data set 8 displays verbs ending in /u/ followed by nouns starting with vowels of different qualities. V₂ can be seen in the last column. The V₂ deletion occurs in 8d). Other examples of /u/#/i/ collision in verb + noun constructions can be seen in data set 9.

						V ₂
8						
a)	ju bury	+	áj-no mother-my	→	lájno bury my mother	/a/
b)	hu hurt	+	ɛb ^w ij goat	→	h ^w ɛbij hurt the goat	/ɛ/
c)	nu go	+	èkìròm Ìkàrà̀m	→	n ^w ekirom go to Ìkàrà̀m	/e/
d)	du fetch	+	ĩ̀ni water	→	dũ̀ni fetch water	/i/
e)	su annoy	+	òsése-na father-my	→	sɔsena annoy my father	/ɔ/

9	f)	ku choose	+	òlí-so fabric-your	→	~~K~~ oliso choose your fabric	/o/
	a)	ku choose	+	iniŋ-so thing-your	→	~~K~~ uniŋso choose your thing	/i/
	b)	ju bury	+	ikpàr children	→	~~J~~ ùkpàr bury children	/i/
	c)	nu go	+	idʒɔ farm	→	nudʒɔ go to the farm	/i/
10	a)	sù	+	èni	→	sùèné /i/	
	b)	weary su weary	+	you (pl) su-àba weary them	→	you are weary ~~S~~ ùba they are weary	
	c)	mi do	+	èsì us	→	mèsì (do something bad to us)	
	d)	ye see	+	èsì us	→	yèsì see us	
	e)	ʃɛɛ mend	+	èsì us	→	ʃɛɛrèsì mend us	

f) mi + àbà +ɛni → Mabeni
do them+case Do bad things to them

11

a) kù + èsì umang → k^wuèsì umang
Authorgh us Authorghter Authorgh at us
b) ku + àba umang → k^wuaba umang
Authorgh them Authorghter Authorgh at them

4.3 Other Constructions

There are a couple of other constructions that trigger vowel deletion. These are all words with a grammatical function, such as the complementizer *mí*, the relativizer *mi*, the focus particle *gí* and different interrogative pronouns. All of these words can appear before the subject of a clause. This means that their final vowels get in contact with the initial vowel of a noun or subject pronoun and therefore face vowel deletion. None of these function verbs end with a /u/, which means that the combination /u/ # /i/ is impossible in this domain. The following data therefore lacks V₂ deletion.

12

a) iwé mi ǎ de étǵe → iwé mò déǵe
book REL 2SG buy market\LOC the book you bought at the market
b) ɔmɪná-u gí ǎ gba tǵá-u → ɔmɪnáú gá gbà tǵáú
knife 3SG REL you gave him his
2PL give him knife
c) mǎdí ǎn é mǐ → mǎdán jé mǐ
What youPI ASP do What are you doing?
d) iné ò dò mí ò gbà ná → inó dò mó gbà ná

how_much 2SG want COMP 2SG give
to_me

how much do you want to give
me?

5. Discussion

The data presented reveals the existence of two vowel deletion types in a $V_1 \# V_2$ environment and cases where vowel deletion does not occur. The two vowel deletion types are V_1 deletion and V_2 deletion. In order to differentiate the three possible cases, their distribution rules will be formalized.

5.2 No Deletion

No deletion has been shown to occur only in the domains involving the three monosegmental object/possessive pronouns *u*, *i* and *ε*. The argument is that ~~argue~~ lack of deletion is not affected by the domain but rather by the fact that these morphemes consist of only one morpheme. Datasets 5 and 10 have shown that vowel deletion is not possible for those cases where the morpheme is at risk of being lost altogether. This is due to the combination of /u/ and /i/, which would otherwise affect V_2 deletion. A linguistic sign in the sense of Saussure has both a form (significant) and a meaning (signifié). If the form part consisting of only one vowel was lost entirely due to vowel deletion, it could not carry the meaning any more.

5.2 V_1 Deletion

V_1 deletion could be confirmed in all grammatical domains. It will be easier to formalize rules for V_2 deletion and no deletion, because they occur in more specific cases. Therefore, V_1 deletion will be posited as the default case in this analysis. Hence, V_1 deletion will occur, where the distribution rules for V_2 deletion and no deletion do not apply.

5.3 V_2 Deletion

V_2 deletion has only been confirmed in the grammatical domains of noun phrases and verb phrases. This is not a restriction on the grammatical domains per se but rather due to the fact that the other domains either do not permit the combination of /u/ and /i/ (section 4.3) or only provide monosegmental morphemes as the V_2 and therefore avoid V_2 (data set 6).

V₂ deletion only occurs, if a high back vowel (/u/) follows a high front vowel (/i/). These two vowels generally play an important role in the phonology of Èkìròmì. They are the two final vowels that can be deleted at the end of a syntactic boundary (Author 2015). Moreover, the ATR+u vowel harmony type is only attested in the Èkìròmì dialect. This type causes vowels to harmonise based on the ATR feature, but has a specific vowel value to harmonize with /u/⁷.

All possible grammatical domains where V₁ # V₂ vowel deletion is possible have been listed. Having looked at the different vowel deletion types across the different domains, we posit the hypothesis that the distribution of the vowel deletion types is not affected by the grammatical domains. Both vowel deletion types occur in all grammatical domains, where they do not have to be avoided due to monosegmental morphemes and V₂ occurs in all grammatical domains, where the combination of /u/ and /i/ is possible. The factor affecting the distribution of the vowel deletion types is the vowel quality (V₂ deletion) and the avoidance of vowel deletion is caused by monosegmental morphemes being the second vowel.

6. Conclusion

This paper has provided a description of vowel deletion in the Èkìròmì dialect of Àbèsàbèsì in a V₁ # V₂ environment. It has shown that Èkìròmì attests two types of V₁ # V₂ vowel deletion and cases, where no deletion occurs at all. While V₁ deletion has been shown to be the default case for most of the V₁ # V₂ combinations, V₂ deletion only occurs in specific cases. V₂ deletion is triggered by [+high] feature in construction where two [+high] vowels occur in morphological boundary. That is in environment where [+high, +round vowel /u/ is V₁ (occurs as a morphological final vowel position) and front high vowel /i/ feature as V₂, at word initial position. This rule is valid for all domains where this combination can occur except for monosegmental morphemes being V₂, where vowel deletion does not take place when the morpheme is at risk of being deleted all together. Moreover, grammatical domains have been shown to have no influence on vowel deletion.

⁷ Claimed by Author (2008). New data, however, reveals that /u/ and /i/ can have an inherent [+ATR] or [-ATR] value that does not reflect in the pronunciation, but only in vowel harmony. This is indicative of a convergence of /u/ and /ʊ/ as well as /i/ and /ɪ/. The specific vowel value to harmonize with /u/ only holds true for /u/ with an inherent [+ATR] value.

This research adds another view on the various types of V₁ # V₂ deletion within the Benue-Congo language family and their distribution. This research could be expanded by investigating suprasegmental features that are affected or caused by vowel deletion. Nasalization, tones and labialization have been deliberately excluded from this work but could give further insight into the phonological system of Àbèsàbèsì.

References

- Abiodun, Michael Ajibola. 2004. A morpho-phonetic account of vowel deletion in Yoruba. *Journal of Yorùbá Studies Association of Nigeria*, 3(1). 59–71.
- Author 1, 1997, Ìsòrí Òrò Nínú Èkíròmì (Èkíròmì Lexical Category). MA Thesis, University of Ilorin, Nigeria
- Author 1, 2008. The phonology of Àbèsàbèsì vowel harmony. PhD dissertation. Adekunle Ajasin University Akungba- Akoko, Ondo State, Nigeria .
- Author 1, 2012. ATR + Roundedness harmony in Àbèsàbèsì: the case study of Òṣùgù. *International Journal of Business and Social Science* 3(23). 243–256.
- Author 1, 2014. Àbèsàbèsì Language Documentation and Maintenance. *The International Journal Of Engineering And Science* 3(7). 1–7.
- Author 1, 2015. Àbèsàbèsì Syllable and Syllabification: A Generative Phonological Approach. *Ago-Iwoye Journal of Languages and Literary Studies* 6 Septembe. 246–270.
- Author 1, and Author 3, 2019, "Àbèsàbèsì Tone System: An Acoustic Account": A paper presented at the SyWAL 2019 held in the University of Warsaw Poland; 22nd to 26th September 2019.
- Chovwen, Anthony, Olabisi Orebiyi, Savadogo Abdou-Salam, Taye Afere & Afolayan 2009. Achieving the Millennium Development Goals: An Assessment of Water and Sanitation Intervention of the Ikaram Millennium Village, Nigeria. *Researcher* 1(2). 6–13.
- Elugbe, Ben Ohiomamhe. 1989. *Comparative Edoid: phonology and lexicon*. Port Harcourt: University of Port Harcourt Press.
- Elugbe, Ben Ohiomamhe. 2012. Comparative Akedoid and West Benue-Congo. *Paper presented at the International Congress "Towards Proto-Niger-Congo: Comparison and Reconstruction", 18-21 September 2012*. Paris: LLACAN. doi:10.1017/CBO9781107415324.004.

- ~~Author 2~~, "Documenting Àbèsàbèsì". *SOAS, Endangered Languages Archive*.
<https://elar.soas.ac.uk/Collection/MPI1207813> (19 September, 2019).
- Oyebade, Francis Olugbenga. 2001. Ìgbésè àti Ìlànà Fonólójì Èdè Yorùbá. In Bade Ajayi (ed.), *Èkó Ìmò Èdà Èdè ati Litírésò*, 71–106. Ilorin: University of Ilorin Press.
- Oyebade, Francis Olugbenga. 2008. *A Course in Phonology*. Ijebu-Ode: Shebiotimo Publication.
- Oyelaran, Olasope 1972. Some Hackneyed Aspects of the Phonology of the Yoruba Verb Phrase. In Bamgbose; Ayo (ed.), *The Yoruba Verb Phrase*, 153–195. Ibadan: University of Ibadan Press.
- Raji, B. T, 1986. Ikaramu phonology. Undergraduate Research Project. University of Ilorin⁸.
- Williamson, Kay & Blench, Roger. 2000. Niger-Congo. In Bernd Heine & Derek Nurse (eds.), *African Languages. An Introduction*, 11–42. Cambridge: Cambridge University Press.

⁸ Only the Authors initial can be accessed.