

TONE AND ASPECTS OF GRAMMAR IN ÓSÓSÒ, EDO, NIGERIA

BY

Agnes Temítópé LÉGBÉTÌ
B.A. Linguistics (Benin), M.A. Linguistics (Benin)

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CERTIFICATION

I certify that this work was carried out under my supervision by Agnes TemitópéLÉGBÉTÌ, with Matric No: 202806, in the Department of Linguistics and African Languages, Faculty of Arts, University of Ibadan, Nigeria.

Supervisor

Prof. F. O. Egbokhare

B.A (Benin), M.A., Ph.D. (Ibadan)

Department of Linguistics and African languages

University of Ibadan,

Ibadan, Nigeria.

Date

DEDICATION

To

God Almighty.

My ever-present help at all times.

But for his amazing grace,
this work would never have happened.

To

All who refuse to give up, working hard towards their dreams, even when all looks bleak
and hopeless,

I testify...dreams indeed come true.

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ABSTRACT

Tone performs lexical and grammatical functions in language. Extant studies on Edoid languages confirm this in noun and verb phrases. These works have, however, not included North Central Edoid languages like Ósósò. This study was, therefore, designed to investigate the form, interaction and functional load of tone in the grammar of Ósósò with a view to situating Ósósò within the context of the Edoid tone system typology.

John Goldsmith's Autosegmental Theory and Elizabeth Selkirk's Phonology-Syntax interface model were adopted as the framework, while the ethnographic design was used. Fifty-one speakers (24 female and 27 male) between the ages of 18 and 85 were purposively selected based on community-acclaimed proficiency. Data comprised 21 hours of digital audio recording consisting 19 stories, 10 narratives, 18 Ibadan Syntactic Paradigm elicitations and two focus group discussion sessions with the elderly. Others were vocabulary elicitation using the Ibadan 400 Wordlist and the West Africa Language Data Sheet. Syntactic data were inter-linearly glossed, while tonal data were pitch – tracked. Data were subjected to acoustic and phono-syntactic analyses.

Ósósò is a discrete level tone language with two basic tones, High and Low. There is a downstep!H tone at the phonetic level. A terrace pitch melody stem from this downstep phenomenon. Contour tones are derived from underlying sequences of the basic tones. Tonal processes manifest downdrift, downglide, low tone raising, and high tone lowering. Tone has a high grammatical functional load in the Ósósò noun phrase. In the inalienable Noun+ Noun associative construction (AC), possession is marked by the high tomorph /òwè èkà / → /òwè ' èkà / → /òwØ' èkà / → [ówèkà] 'monkey's leg'. In alienable AC, the tomorph, segmentalised on the vowel of the morpheme /mi/, is set afloat following hiatus resolution, the tomorph then spreads to the head noun, delinking its low /èxà mí òdžó / → /èxà mØ' òdžó / → /èxà m ' òdžó / → [éxámòdžó] 'Ojo's monkey'. Tomorph is also significant in Noun + Descriptive but not in Noun + Demonstrative/Numeral construction. As verb complement and in recursive AC the tomorph is equally distinct:

/òtʃi àdò èxà / → /òtʃi ' àdò ' èxà / → /òtʃiádèxà / 'monkey meat market'. It is also significant in the head noun of a relative clause /ìkù ókòfò ójì mí dè / → /ìkù ' ókòfò ' ójì mí dè / → /ìkù ókòfò ójì mí dè / 'the cough medicine that I bought'. In contradistinction, within the verb phrase, tone plays mainly a lexical role on grammatical markers. Unlike established Edoid patterns, the present tense in Ósósò is marked with /i/, the future /jǎ / and the past is not overt. In polar question there is an intonational rising contour at the sentence final position.

Ósóṣò operates a two-tone terrace system with a high grammatical load in the noun phrase, but not in the verb phrase. Thus, the grammatical tonal typology of Ósóṣò is divergent from extant Edoid patterns.

Keywords: Ósóṣò, Tomorph, Tone-Grammar interface, Noun-noun associative constructions, Edoid,

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LIST OF ABBREVIATIONS AND CONVENTIONS

`	Low tone
´	High tone
˘	Rising tone
ˆ	Falling tone
˜	Nasalization
μ	Morpheme node symbol
σ	syllable symbol
ω	prosodic word symbol
!	Downstep
#	Morpheme boundary
##	Word boundary
AM	Associative morphem
Adj	Adjective
Adv	Adverb
Asp	Aspect
AT	Autosegmental Theory
C	Consonant
Conj	Conjunction
CONT	Continuos Morpheme
CPA	Completive Past
CPA	Completive Present
Dem	Demonstrative
Det	Determininers
Ⓜ	Floating H tone
Ⓛ	Floating L tone
GF	Glide formation
FOC	Focus
FUT	Future tense

H	High tone	
HAB	Habitual	
INTERROG	Interrogative	
INTJ	Interjection	
IPA	International Phonetic Alphabet	
L	Low tone	
N	Noun	
NP	Noun Phrase	
NEG	Negation	
NOM	Nominal	
NWE	North Western Edoid	
NCE	North Central Edoid	
Ø	Null or deleted	
OCP	Obligatory contour Principle	
PERF.	Perfective	
PL	Plural	
PR	-Present	
PROG	Progressive	
PST	Past	
Poss M	Possesive marker	
QM	Question Marker	
REDUPL	Reduplication	
SCM	Subject Concord Marker	
Singl	Singular	
TBU	Tone Bearing Unit	
V	Vowel	
V1	First Vowel in a sequence	
V2	Second vowel n a sequence	
V	Verb	
VP	Verb	Phrase

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Presenting a conspicuous gap in African tonal studies, Odden (1995:444) says “while it is true that African tone systems are better understood today than they were twenty years ago, it is also true that the vast majority of the more than one thousand languages spoken in Africa are tonal, and are for all intents and purposes undescribed”. This study is the first in-depth description of the tone system of Ósósò, an under-described small group Edoid language. It is therefore, a contribution to tonal studies of African languages as it provides a detailed description of the form, behaviour and functions of tone in Ósósò.

Beyond the description of tone in Ósósò however, the work particularly examines the phrase level tonology of Ósósò and investigates the functional load of tone in some aspects of the grammar of the language against the background of the works done on tone and grammar in other Edoid languages by various scholars which reports high functional load of tone (without segment) in the Noun Phrase (NP) and Verb Phrase (VP) of these Edoid languages. In Emai for instance, Egbokhare (1990:314) says: “in certain constructions, but for their tonal structures, they are undifferentiated ‘segmentally’”. This relationship Elimelech (1976:89) also finds in Etsako: “In many cases, only tonal alternations of the pronominal prefix, the verb stem, and the noun object reveals the tense and aspect”. Aziza (1997:272) revealed that in Urhobo: “tone bears a great syntactic functional load particularly in the verb phrase” and in Ghòtùò, Ilorisa (2020:146) “most of the functional operators are tonal”.

As a result of linguistic proximity to Ọkó (also known as Ogori –Magongo), a language reported by Atoyebi (2010:54) to lack grammatical tones seemingly common with the Edoid family, atleast “not in the true sense of grammatical tones, namely distinctive pitch levels which mark contrasts in grammatical categories or constructions, without any traces of segmental marking”, this study investigates the possibility of divergence in aspects of Ósósò tone-grammar interface contrary to Edoid tone-grammar typology.

Apart from the foregoing, tone and intonation both manifest as pitch and both equally perform grammatical functions in tone languages but even as the status of intonation in tone languages is becoming highly engaging, much of the interest in prosody in Edoid languages have focused only on tone. With the exception of Donwa (1982) and Egbokhare (1990), studies on intonation in the Edoid languages are virtually non-existent. The status of intonation in this tone language is therefore determined in this study. Interrogatives showing intonation contour of polar question in Ósósò is examined and instrumental evidence provided to back up claims.

1.1.1 The Ósósò people

It is difficult to date the arrival of the early settlers but the Ósósò people, presently under the Akoko Edo Local Government in the North Western Edo region, belong to the group of the people first described as “the Edo-speaking people” by Thomas (1910:1). In his investigation of the migration history of the Edo people, Bradbury (1957:112) reported that the Ósósò and Akuku peoples were said to have come from Idah, a claim he acknowledged to be doubtful because the then Ọlósósò of Ósósò told him his ancestors came from Benin but they had once claimed Idah origin for fear of being placed under the tyrannical Benin rulership. Bradbury (1957:113) reported that when the Nupes arrived, some villages submitted, accepting the Nupe rule totally. Representatives known as ‘Ajele’ were appointed for them to collect tributes and teach them the Islamic religion, accounting for the Islamic ties in some of these regions to date. Furthermore, he said in 1892, following the forced departure of the Nupe, the Royal Niger Company controlled

the area. When it drew up its charter, the greater part of the area was attached to Kabba province.

Until 1918, all the people in the area were regarded as subjects of the Attah of Idah and were required to attend court at Okene. The year the Kukuruku division was formed with headquarter first at Fuga and later at Auchi, Ósósò became part of the Kukuruku people; but there seems to be more agreement on the oral account of Benin ancestry evidenced by the narratives of the aged consultants used for this study. According to them, the Ósósò people, led by a hunter named Ọshiosọ, migrated from ogbe quarters in the present Benin Kingdom around the 17th century due to the high handedness of the monarch. They had their first stop-over when they got to Órùgbè but had to leave due to marauder attacks. Their next stop was Ósùnò, but they had to move again until they finally settled at the present hilly location, by the rocky enclaves, safe from marauders. The people, however, still consider Ósùnò as their ancestral home.

Ósósò people operate a confederation of quarters and each quarter is headed by an Òtárú. These quarters are further divided into kindreds headed by Ivies. Órùgbè remained a farmland shared by these four quarters. Although predominantly Christians, the socio-religious life of the people is dynamic. They still faithfully observe some festivals and practices such as the Itakpoage grade ceremony conducted every seven years for the males and Óvbíkò initiation rite into womanhood for maidens. There is also the masquerade festival of Ùnéhè and Ècháné as well as the Ósùmè conducted yearly for men only. Traditionally, men in the community are farmers while the women are traders and avid weavers of cloth. Ósósò people are not known to have any facial marks of note.

1.1.2 The geographical location

The Ósósò people occupy a rocky scenic town located in Akoko Edo Local Government Area (LGA) of Edo State. The town is about 200 kilometres away from Benin City and 40 kilometers from Igarra, the administrative headquarters of the Local Government Area. It is the boundary town between today's Kogi and Edo States with Okhene to the North, Ojah to the South, Okpella to the East and Makeke to the West. Ósósò is between

1,200 to 1,400 feet above sea level, on longitude 6⁰ to the east and latitude 7⁰ to the north. The people, the town and the language are referred to by the same name “Ósòsò”.

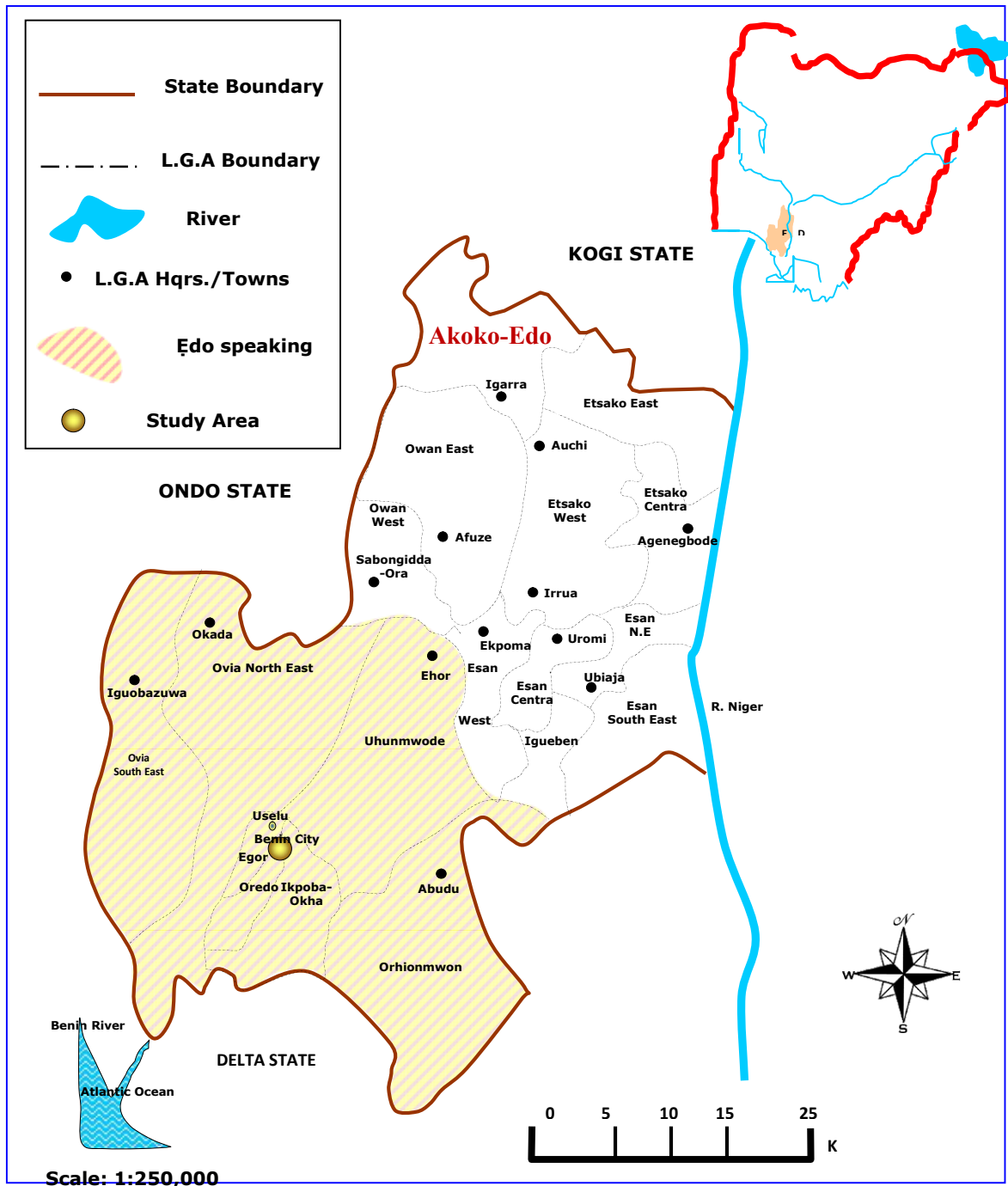


Fig 1.1. Map of Edo State, Ósòsò is under Akoko Edo (Akoko Edo highlighted by author)
Source: Ministry of Lands and Survey, Benin City, Edo State (2016)

1.1.3 The language

Ósósò (ISO 639-3 oso, Glottologosos 1238) called 'Ósósò' (or 'Ósósò' as a variant used by many non indigenes, based on the king's title 'Ólósósò of Ósósò', is the mother tongue of over 19,000 indigenous speakers (Ethnologue 2021), a figure Micheal (2011:12) claimsto be dated as the 2006 national population census gave an estimated population figure of forty thousand (40, 000) Ósósò indigenes. The village is divided into four quarters (Únùkhuènè): Òkhè, Ìkpèná, Ànní and Égbétuà. The quarters are further divided into kindred such as Údùlòkò, Údùrèbhò, among others. Some say Ósósò has two dialects.

1.1.3.1 The 'dialects' of Ósósò

Ósósò language is monolithic. Claims of two dialects:the Òkhè/Ìkpèná/Ànní on one and Égbétuà on another, may be misleading. Available dataand affirmations from indigenes show both are variants, mutually intelligible with very few phonological differences. This studyshall therefore mean both variants whenever it uses "Ósósò". The few words found to be different in the two variants during investigation and interactions are:

1.

<i>S/No</i>	<i>Egbetua</i>	<i>Okhe/Ikpena/Anni</i>	<i>Gloss</i>
a.	/abúà/ [ábwà]	/áwà/ [áwà]	'dog'
b.	/èsè/ [èsè]	/etsè/ [etse/	'fish'
c.	/òkhi/ [òkhi]	/otfi/ [òtfi]	'market'
d.	/òkià/ [òkjâ]	/otfia/ [otfâ]	'hunger'
e.	/kià/ [kjâ]	/fia/ [fja]	'walk'

1.1.3.2 Ósósò tonesand the Yoruba language

The Ósósò people encountered Yoruba languagethrough trade expeditions, migrations and the advent of the missionaries who used Yoruba pedagogic and religious materials when teaching or preaching to the Ósósò indigenes at several instances. The influence it has on the Ósósò people can still be seen in their preference for the borrowed Yoruba words over the Ósósò equivalent and the widespreadadoption of Yoruba names by indigenes either as first, middle or surname. Some items that have retained their Yoruba lexicon over the indigenous equivalent are:

2.	Phonetic form	Orthography (Yoruba)	gloss
a.	[òkúta]	okuta	‘rock’
b.	[ara]	ara	‘body’
c.	[agogo]	agogo	‘bell’
d.	[àdžònú]	anjònu	‘angel’

The two tone system of Ósósò (see 4.1.1) has however remained uninfluenced by Yoruba three-tone system. The tonal patterns on all borrowed words with three tones or H- tone in sequence are simply modified to conform to Ósósò tone system. Even names with three tones or H Htone pattern adopted from Yoruba get modified. Meaning remain unaffected however. This point is illustrated with the following examples:

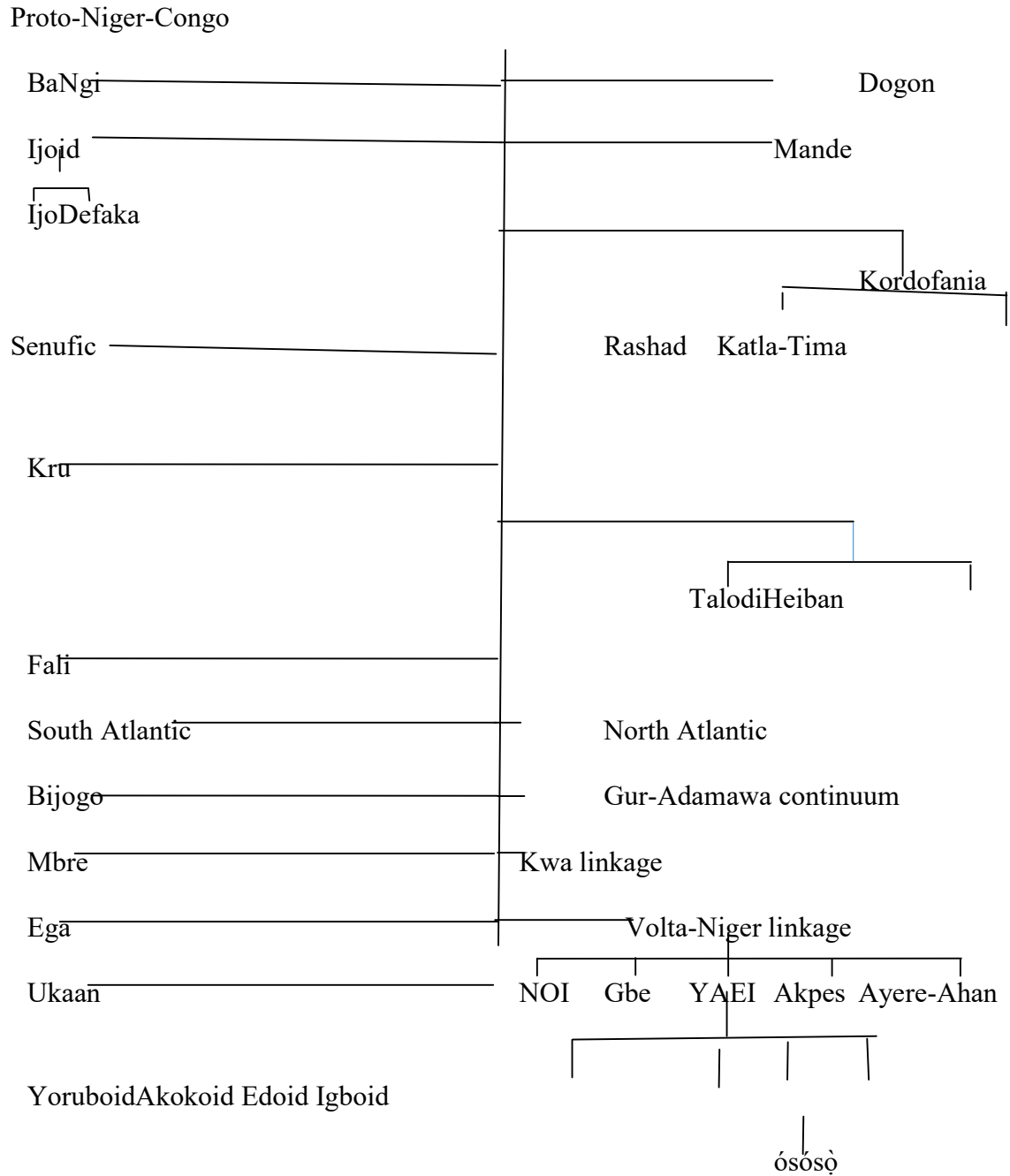
3.	<i>S/no</i>	<i>Yoruba</i>	<i>Ósósò</i>	<i>Gloss</i>
a.		[ārá] M M	[ára] H L	‘body’
b.		[āgōgō] M M M	[àgògò] L L L	‘bell’
c.		[ōmō] M M	[òmó] L H	‘child’
d.		[tèmítópé] L H H H	[tèmítòpé] L H L	‘grateful’
			H	
e.		[ōmōlérè] M M H L	[òmólèrè] L H L	‘achild is the ultimate gain’
			L	

In addition, metadata and a few Etunò words found in data used for this study reveals a sizeable number of Ósósò indigenes speak Etunò, traced to their Igarraneighbours whom they encounter at Okhene market. Regardless of these however, the linguistic status of Ósósò, based on sound correspondence and grammatical structure, is undoubtedly Edoid.

1.1.4 The Edoid Linguistic Classification and Ósósò

Edoid languages are part of ‘Kwa’ languages under the Niger-congo family and this submission dates back to Westerman and Bryan (1952). Greenberg (1963a) also classified the Edoid languages as a sub-branch of the ‘Kwa’ group. Blench (1989,

2013) in a major re-grouping however, put Greenberg's 'Kwa' under 'West Benue-Congo'. Following Williamson and Blench(2000)currentclassification,Ósósò belongs to the Edoid family alongsideYoruboid, Akokoid, Igboidbranch, under West Benue-Congo sub-family.



Key:

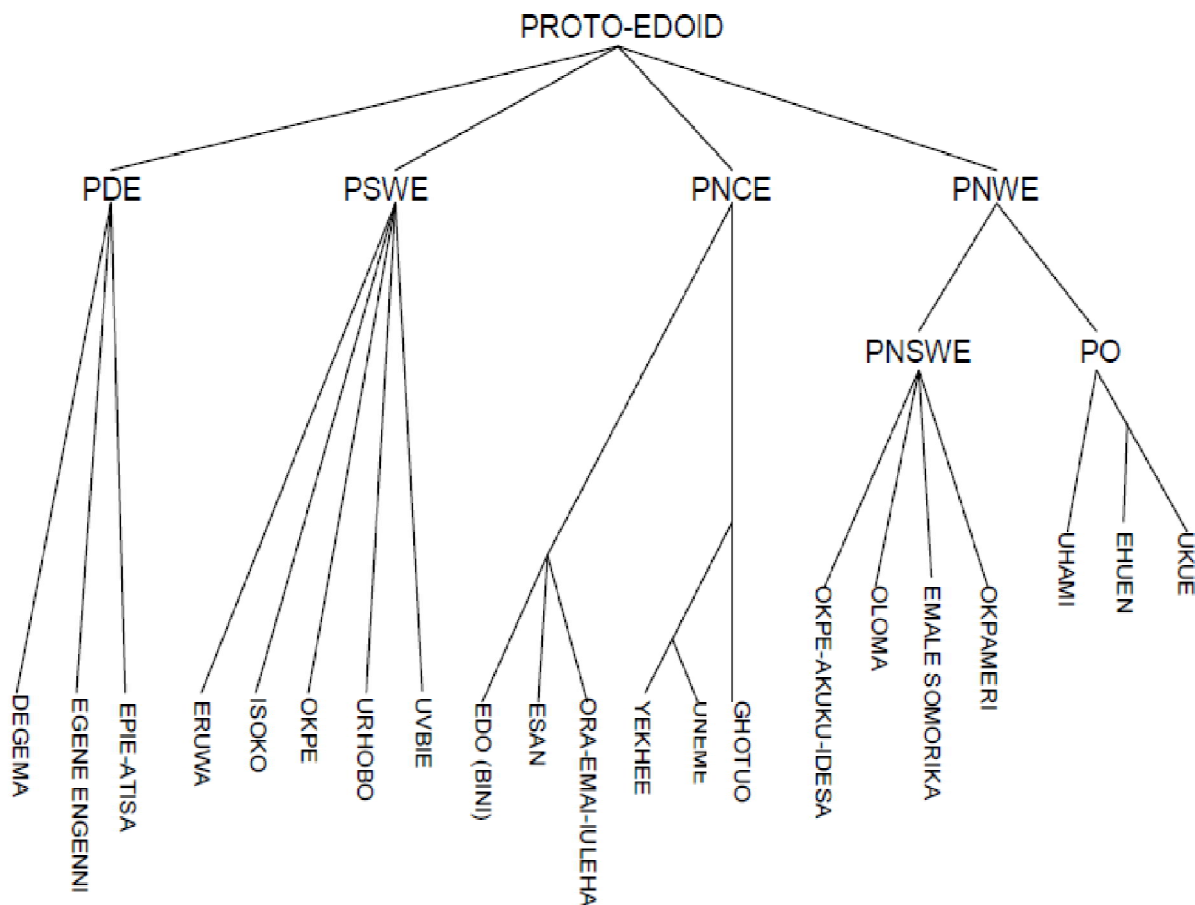
YAEI: Yoruboid, Akokoid, Edoid and Igboid

NOI: Nupoid, Okoid, Idomoid

Fig 1.2. Re-classification of Niger-Congo Languages(Ósósò is reflected by author)

Source: Williamson and Blench (2000)

Elugbe (1989:10, 22) mentioned the Ósósò language as ‘most likely’ belonging to the North- Central Edoid people but he was unable to classify it because he could not determine their exact relationship due to data limitation and so it was not situated in his tree diagram, Lewis’ (2013:160) modification however accounts for this gap situating Ósósò under North Central Edoid alongside Ghotuo, Sasaru and Igwe, spoken around the western fringes of Afenmai Hills. Presented below are both tree diagrams:



Key:

PE - Proto Edoid

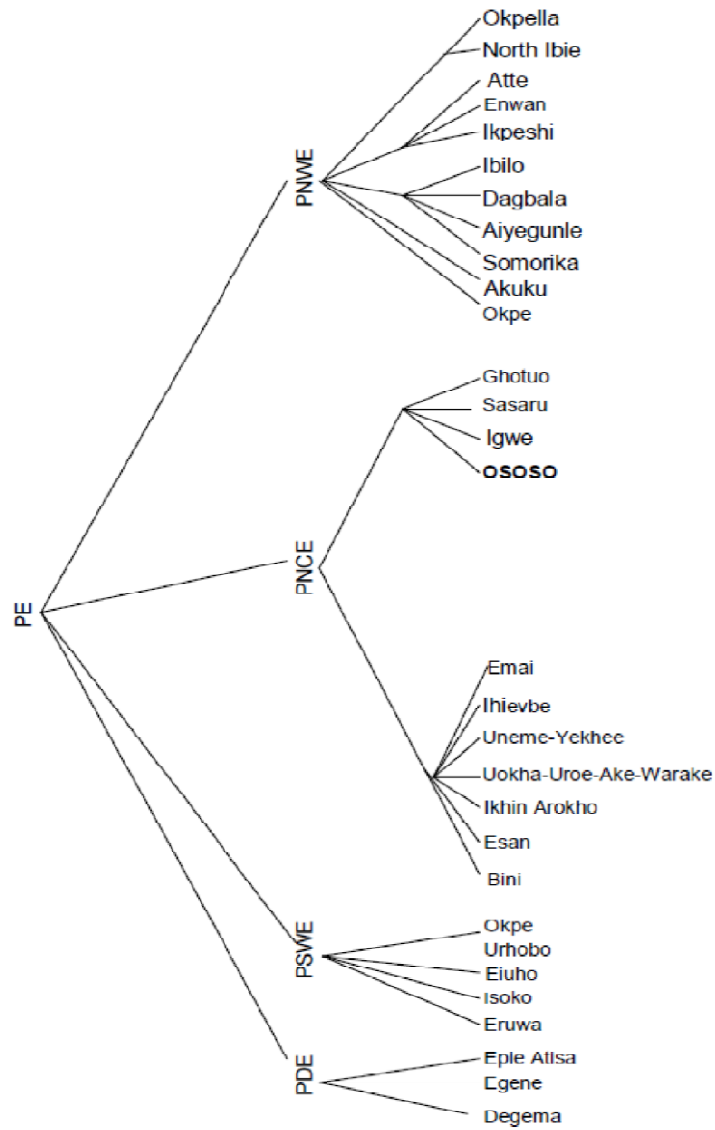
PDE - Proto-Delta Edoid

PSWE - Proto South-Western Edoid

PNCE - Proto North-Central Edoid

Fig 1.3. Classification of Edoid Languages

Source: Elugbe (1989)



Key:

- PE - Proto Edoid
- PDE - Proto-Delta Edoid
- PSWE - Proto South-Western Edoid
- PNCE - Proto North-Central Edoid

Fig 1.4. A revised tree by Lewis accounting for the gaps in Elugbe's (1989) classification

Source: Lewis (2013)

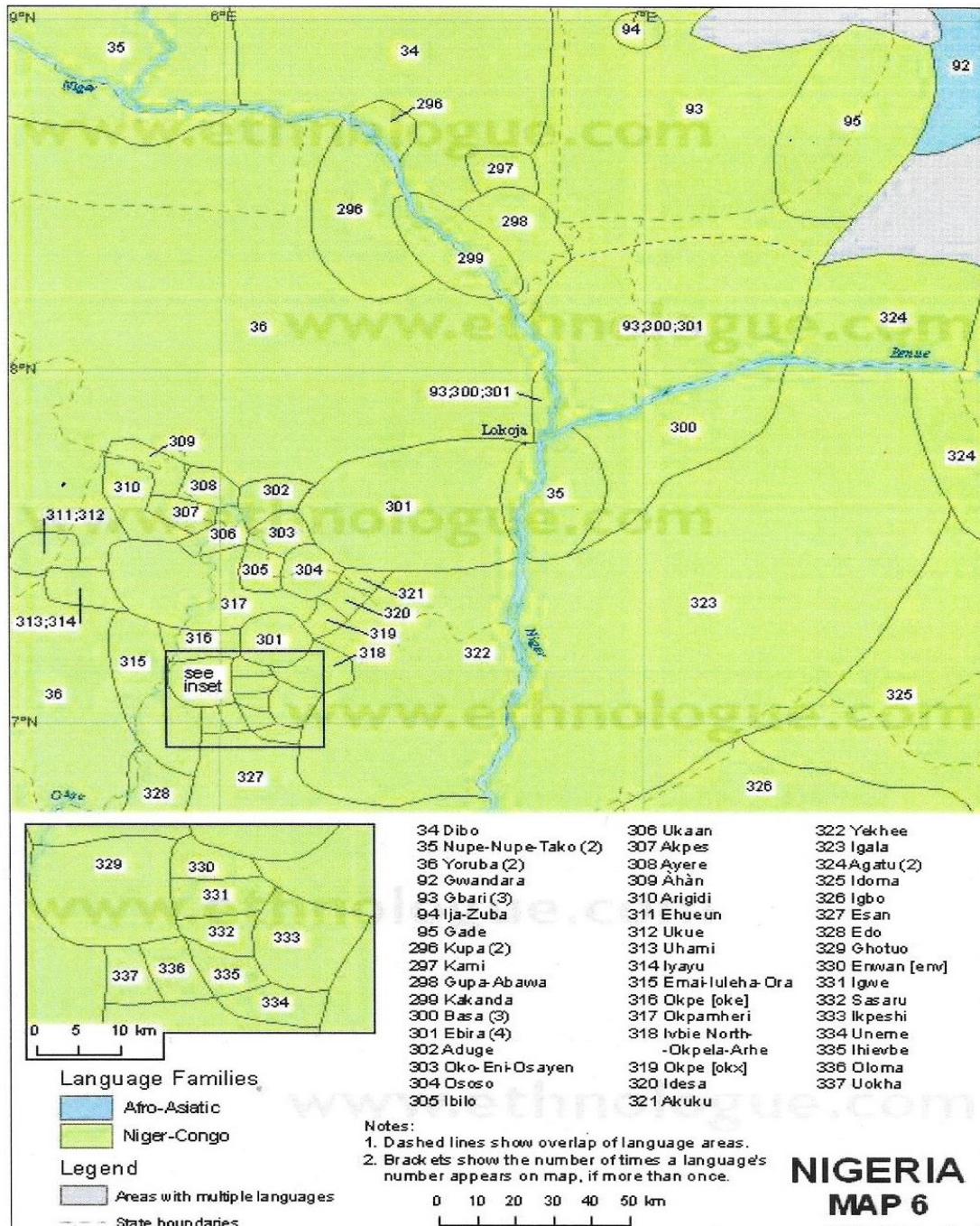


Fig. 1.5: Linguistic map of Nigeria, South-West of the confluence (with Ósósòt number 304)

Source: Eberhard, Simons and Fenning (eds), 2002.

1.2 Statement of the problem

There is an increase in the interest of linguists in the tone systems of the world's tone languages and the languages of Africa are understandably playing prominent roles in this endeavour. Regardless of this prominence however, Odden (1995:444) says "the vast majority of the more than one thousand languages spoken in Africa are tonal, and are for all intents and purposes undescribed. Much work therefore remains to be done in understanding tone as it is represented in Africa". Juxtaposing his position with Elugbe's (1989) declaration that "one point is of general interest and must be mentioned: the Edoid languages, when their tone systems come to be compared, will throw some light on the historical development of tone systems", both statements clearly point out a gap in knowledge. This study therefore investigates the tone system of Ósósò and establishes the form, behaviour and functional load of tone in response to this knowledge gap.

Beyond this, the study particularly investigates the phrase level tonology of Ósósò to discover grammatical tone in aspects of the grammar of the language. This is in light of extant studies on Edoid languages which establishes an intricate interrelationship between tone and the grammar of these languages. These studies include Edo by Amayo (1976), Ota Ogie (2003), Omozuwa (2010), Yuka and Omoregbe (2011); Isoko by Donwa (1982), Emai by Egbokhare (1990, 2018), Urhobo by Aziza (1997), Etsako by Elimelech (1976) and Ghotuo by Elugbe (1985), Ilori (2020). According to Donwa (1982:138) in Isoko, "Tone plays a very significant role in grammatical constructions". A claim Egbokhare (1990:314) supported saying for Emai: "in certain constructions, but for their tonal structures, they are undifferentiated 'segmentally'". In Etsako: "Tone bears a great syntactic functional load, particularly in the verb phrase" says Elimelech (1976:89) while in Urhobo: "tone bears a great syntactic functional load particularly in the verb phrase" declares Aziza (1997:272) and in Ghòtùò, Ilori (2020:146) says "most of the functional operators are tonal". Based on the foregoing therefore, tone is highly functional in the Edoid languages, especially in the VP.

From the foregoing therefore, the fundamental goal of this study; apart from establishing the tone system of Ósósò, is to investigate Ósósò for this ‘apparent’ Edoid grammatical tone feature in its NP, VP and other grammatical constructions. Sadly, the studies available on Edoid languages have not included analysis and evidence from several under-studied developing languages of the North Central Edoid (NCE) family like Ósósò, especially those adjacent borderline languages with divergence, like Òkò, a language reported by Atoyebi (2010:54) to lack this grammatical tones, atleast “not in the true sense of grammatical tones, namely distinctive pitch levels which mark contrasts in grammatical categories or constructions, without any traces of segmental marking”. An expansion of the understanding of tone in the grammar of Edoid languages is crucially expected from this work as Ósósò may show some divergencies that will have implication on Edoid tone-grammar typology.

Aside the foregoing, the status of intonation in tone languages have also preoccupied a lot of scholars like Abercrombie (1967), Awobuluyi(1978), Lindau (1986), Atoyebi (1989), Connell and Ladd (1990), Laniran(1992), Roach (2000), Fajobi(2011). In spite of the active works on these prosodic features however, studies on intonation in Edoid languages are virtually non-existent. Much of the attention on prosody have been on tone. Consequently, this study also investigates intonation in Ósósò and analyses the Fo trajectory of some declarative and interrogative sentences, particularly the yes/no question, to determine intonation tune and to determine if it is superimposed on Ósósò lexical tones.

1.3 Research questions

The following are the research questions this study answers:

1. What phonetic and phonemic sounds make up the sound system of Ósósò?
2. What are the structures of the syllable in Ósósò and the phonological processes that affects them?
3. What are the distinct tonal units of Ósósò tone system and its typology within Edoid context?

4. What are the tonal processes in Ósósò and tone generalization rules?
5. What grammatical permutations of NP and VP constructions in Ósósò manifest grammatical tones?
6. What are the intonation tunes in Ósósò and the status of intonation in Ósósò?

1.4 Aim and objectives of the study

The aim of this study is to investigate the tone system of Ósósò paying particular attention to several aspects of grammatical constructions in Ósósò to determine the interrelationship of tone with its grammar. The objectives are to:

- i. establish the sound system of Ósósò focusing more on the interesting sounds.
- ii. describe the syllable structure and phonological processes that affect the syllable
- iii. discover the tones in Ósósò and the typology of its tone system within Edoid system
- iv. explore and analyse the various tonal processes in Ósósò
- v. examine grammatical sketches relevant to the investigation of the manifestation of grammatical tone in Ósósò and situate results within the context of Edoid studies.
- vi. determine the prosodic constituents and intonation pattern in Ósósò, and discover, the status of intonation in this language using acoustic tools.

1.5 Significance of the study

Several extant studies have accounted for the Edoid languages and their tone system but none have examined Edoid languages bordered by non-Edoid languages for divergencies from Edoid typology. This study fills that gap. Apart from this, tonal description of North Western Edoid (NWE) languages are virtually almost non-existent at the moment and although Ósósò is classified as North Central Edoid (NCE), it is surrounded predominantly by NWE languages like Akuku, Okpe, Okpella; this study provides useful insights into these languages. Moreover, by its divergence from the extensive manifestation of tonal morpheme in Edoid grammar, as contained in works of all Edoid scholars reviewed, this study of Ósósò may be a call to revisit existing analysis of the

grammatical function of tone in Edoid languages as it may be restrained in borderline Edoid small group languages.

This work contributes to the body of data on tone behaviour in West African languages and Edoid languages in particular. The work therefore has comparative value and enhances typological studies with the available ample data on Ósósò tone system. In addition, based on the diverse grammatical constituents examined in the course of discussing the dimensions of the movement of tones in the explication of the language's grammar, a follow-up referential grammar of Ósósò is already facilitated.

1.6 Scope of the study

This study examines tone in Ósósò. It concerns itself with the role tone plays in different grammatical constructions in the language and situates results within established Edoid typology. Tone functional load within the NP and VP are also determined. Intonation patterns manifested in interrogatives and declaratives are also established. However, a complete grammatical description of the language is not the aim of the study, consequently, the study is limited to tone-grammar interface only.

1.7 An overview of Ósósò speech sounds

In this work, the consonants and vowels of Ósósò will be described at both the systematic phonetic and phonemic level, with instrumental evidence provided for a few segments. At this point, a summary of the sound system of Ósósò is provided as detailed discussion is in chapter four of the work. There are forty-three (43) consonants at the systemic phonetic level and twenty-nine (29) of them are phonemic. There are seven oral vowels: /i, u, e, o, ε, ɔ, a/. Whenever these oral vowels occur in the environment of any of the nasal consonants in the language, they become nasalized: [ĩ, ũ, ẽ, õ, ẽ̃, ɔ̃, ã], they do not contrast. Based on available data therefore, the total number of phonemic speech sounds found in Ósósò are thirty-six (36).

1.8 Summary of chapter

This first chapter is an introduction to the research. It introduces the Ósósò people and the language. The aim, objectives of the study and a statement on the research problems have also been made in this chapter. It also contains the gap to be filled and an overview of the sound system of the language. The next chapter reviews related literature to tone-grammar interaction; the crux of this research, and reviews the theoretical framework adopted.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.0 Preamble

This chapter is in three parts. The first part focuses on clarifying concepts relevant to discussions in the thesis. The second part examines previous works on Edoid tone systems, specifically the works on Edo by Amayo (1976), Omozuwa (2010), Yuka and Omoregbe (2011), Emai by Egbokhare (1990, 1999, 2018,) Isoko by Donwa (1982), Etsako by Elimelech (1979), Urhobo by Aziza (1997) and Ghotuo by Elugbe (1985, 2001). In the same part, phonology-syntax interaction and issues related, within the Edoid languages, will be discussed. The third part focuses on the theory adopted by the study.

2.1 Conceptual review

An understanding of the concepts central to this research is fundamental to the analysis that will follow. These concepts, as presented by different scholars, are discussed below.

2.1.1 Tone

A very basic question a study on tone needs to clarify may be: What is tone? Crystal (2008) says it is “a term used in phonology to refer to the distinctive pitch level of a

syllable”. Not differing from Crystal but stretching to include grammar, Odden (2020:30) says “tone is primarily the contrastive use of pitch in grammar and lexicon, including movement from level to level”. In other words, during speech production, every syllable or morpheme occurs on a pitch, when the fluctuation in pitch level causes a difference in the meaning of a phonetically similar minimal pair or set, pitch becomes a tone. Thus, tone is phonology, pitch is phonetic. One of the things Egboh Kare stresses in his tone system classis that nobody hears ‘tone’, rather, we hear pitch. It is at the level of analysis, where contrastive pitch emerges, that pitch can rightly be referred to as tone. This contrastive behaviour of tone is very real to the native speaker of a tone language; a word pronounced with a tone different from its inherent tone easily marks out incompetence. Welmers (1971:78) says “to the native speaker of a tone language, tone is just as basic a part of his speech as consonants and vowels”. Tone, simply put, is contrastive pitch.

2.1.2 Tone languages

Over the years, a working definition for a ‘tone language’ became important as tonal data began emerging. Attempts by a few will be discussed. Starting with Pike (1948:3) seem appropriate considering that his definition is classic: “a tone language is a language having lexically significant, contrastive, but relative pitch on each syllable”, Hyman (2001) however disagreed with Pike slightly saying “a tone language is one in which an indication of pitch enters into the lexical realization of at least some morphemes”. Both, and others apparently agree on lexical function of tone, prompting Yip (2002:257) to say “everybody’s working definition of a tone language is ‘a language that has lexical tones”. But tone covers more than lexical forms, so, the definition provided by Yip (2002:1), is adopted by this study since it seems more encompassing yet simple: “A language is a ‘tone language’ if the pitch of the word can change the meaning of the word. Not just its nuances, but its core meaning”.

In tone languages, tone systems are: *register system or contour system*. Hyman (1975:214) says in languages with register tone system “tonal contrasts consist of different levels of steady pitch heights, that is, perceptually such tones neither rise nor fall in their production”. Conversely, contour tone system “consists of some tones which are not level in their production but rather rise, fall or rise and fall in pitch. While contour tones are found mainly in Asia and the Pacific regions, African languages have register tone system. How does one transcribe tone? According to Hyman (2014: 527) presently, “there is no universally accepted phonetic transcription for tone”. The International Phonetic Alphabet (IPA), developed in the nineteenth century to provide uniform pronunciation system for languages, made some useful suggestion that also appears to recognize a continuous scale of five pitch heights and their possible combinations. Generally, there are three main systems used for the transcription of tone:

- i. **Integers:** Chao (1930) suggested the use of integers with five pitch range divided along 5 levels. Pitch level 1 is the lowest and pitch level 5 is the highest. These numbers are written as superscript after the segment. Chao’s system is used in tones in Chinese dialects and the practice is to use two integers, the first for the starting point and the second (or last) to indicate the end point: ma²², ma³³
- ii. **Vertical bar:** The IPA proposes marking the five pitch levels along vertical bar
 Lowest ma [l], highest ma [ʔ], in-between: ma [1], ma [ʔ], ma [ʔ]
- iii. **Accent notation:** this is the standard notation and it is adopted in this work along with the use of letters H for high, L for low. The accents are:

High tone (H) is represented with the acute accent	[́] má
Mid tone (M) is represented with the macron	[̄] mā
Low tone (L) is represented with the grave accent	[̀] mà
HL falling tone is represented with the circumflex	[̂] mâ
LH rising tone is represented with the hatchek	[̃] mǎ

The simplest tone system mark contrast in two ways: High (´) or Low(̀) pitch and according to Odden (2020:31) “majority of African languages fall into this category”. While not excluding Edoid languages with three-level tone system, but compared with two-level tone, the 2way contrast is more common among Edoid languages. Much less common among African languages are the four-level tone system. In fact, no 3-tone level system exist yet, among Edoid languages with study. How tone languages should be studied, as presented by Hyman (2010) based on years of studying tone languages, is briefly elucidated next.

2.1.2.1 How tone languages are studied

A study on tone requires some basic prior knowledge of phonetics and possibly tonal inventories. Starting from scratch to analysis stage, Tonologist Hyman (2014:525-562) outlines a three-step approach to the study of tone. He cautioned that though most analyses are often based on the last stage, analysis crucially depends on the first two. The stages are:

- (i) In Stage I the goal is to determine the surface tonal contrasts and their approximate phonetic allotones. This is first done by considering words in isolation.
- (ii) In stage II the goal is to discover any tonal alternations (“morphotonemics”) which may exist in the language. This can be done by putting words together to make short phrases or by eliciting paradigms.
- (iii) Stage III comprises tonal analysis itself, the interpretation of what has been discovered in Stage I and II. At this point, one typically draws on theoretical constructs and formal devices, e.g. autosegmental notation, to help express one’s insight as to how the tone system works.

These steps have been followed in this study. Others not addressed by him such as the preparatory stages involved in doing research on a tone language as well as specific

methodology involved as discussed by Rice (2014:690) were also applied but these will be discussed in the chapter on methodology. An important fact to know ahead of tone study is that arriving at specific value for pitch levels may be very difficult because pitch is relative. The pitch value of H in final position of a polysyllabic word may sometimes be equal to a low in word initial position of another polysyllabic word depending on a few phonetic factors. Sometimes, it may even be difficult to know if a pitch corresponds to tone or it is a realization of intonation or stress.

Worth discussing at this point are a few techniques tonologist use for the recognition and analysis of tone.

2.1.2.1.1 Whistling/humming technique

Whistling or humming a data helps remove the consonants and vowels and with the removal of these articulatory components, tones easily emerge. This technique is very popular and faster with identifying tone once mastered. The analyst quickly whistles or hum the tune after the informant has provided the utterance, repeating a few times, trying to identify the tone pattern. Once established, analyst repeat utterances based on tone pattern, asking consultants for validation. These days, acoustic tools like Praat can be used for further confirmation but a trained ear remains the best. The humming technique comes easy for me since I cannot trust my whistles but both requires practice especially with languages whose basic tones exceed two or three. The use of drum beat for the identification of pitch level, found in a short Yoruba video clip online, may also be explored by analyst.

2.1.2.1.2 Setting up frames

The use of frames is another useful technique in the study of tone systems. Pike (1948) for example, emphasizes the use of 'frames' for the discovery of underlying tonal properties of morphemes. After a few sessions, analyst is able to find suitable frames from the language of study, it is suggested that a frame fairly constant should be used, such frames do not change even when new elements are inserted in them. The chosen frame can then

be used to test out many tone patterns possible to set up. Once mastered, this technique can be used at various stages of analysis. Perception of tone based on frames may appear difficult and confusing at the onset but analyst gets better with time. Once a frame has been set up, such frame should be used to set up as many tone groups as possible, increasing data for each tone group set up as more data is acquired.

For example, the frame below is based on Leggbo, a language with three level tones with contour combinations involving all the three levels. According to Udoh (2003:53) the frame [ēdē -- sé] ‘it is the’ is very useful because “the determiner occurs after the noun in Leggbo and this provides a perfect frame with the mid tones beginning the frames and a high tone ending it. Such a frame makes it easy to depict whether the next tone is high or low, in an adjacent utterance”. See data below for ‘hair’, ‘eye’, ‘crocodile’ and ‘snake’ respectively:

4. ēdē sɪnsé
- ēdē ddɛnsé
- ēdē ddzè sé
- ēdē ddzò sé

Source: Udoh, (2003:53)

2.1.2.1.3 Monotony test

Monotony test is another useful technique in the study of tone system. It involves grouping words into what can be described as tone groups. Starting with simple words, analyst begins to group words based on various tone possibilities until patterns are identified. The first tone pattern forms the header for each group. Setting up a H, L, L H, H L, L L, M M, M H possibilities and filling them up during elicitation even when only few examples enter a group, repeating each word based on the tone pattern of each group. If a word, for example, does not fit into any of the groups already discovered, it gets used as header for a new group.

2.1.2.2 Universal Tone systems

At a very rough estimate, Yip (2002:17) says “as many as 60 – 70 percent of the world’s languages may be tonal”. Fortunately, the literatures on tones are extensive enough for linguists like Maddieson (1978), Cahill (2008), Hyman and Schuh (1974) to discover some form of cross linguistics tendencies that allow tone system universals to be proposed. Cahill (2008:2) list is presented below as it is a combination of the two others.

- a. A larger number of tone levels occupy a larger pitch range than a smaller number (~20 Hz for two tones, 50 Hz for four tones)
- b. Systems in which high tones are marked more frequent than systems in which low tones are marked.
- c. If a language has contour tones, it also has level tones.
- d. A language with complex contours also has simple contours.
- e. Rules raising tones are more common than rules lowering them.
- f. Perseverative rules are more common than anticipatory ones.
- g. Tonal polarity is more common than polarity with other features.
- h. Lower vowels tend to have lower tone.
- i. Low-toned vowels tend to be longer than high-toned ones.
- j. Vowels with rising tone tend to be longer than vowels with falling tone.

Cahill (2008:3) observed that “some of the preceding universals are stated as tendencies (1b, e, f, g, i, j), some as implicatures (1c, d) while only (1a) is stated as an absolute”

2.1.2.3 Grammar

Since the scope of this study is limited to the interrelationship between tone and grammar in Ósósò, this work sees grammar as the entire system of rules used by people to form and interpret words, clauses, phrases and sentences, in their individual languages.

2.2 Previous workson Ósósò

Linguistic works on Ósósò language are few and are mostly unpublished long essays. These works: Aiyejuro (1996), Reuben (2008), Ewekeye (2011), Legbeti (2016), and Oloko (2015) are the few found by this study. They provided useful insight into the sound

system of the language and established the phonemes identified by this work, with the exception of the lenis /bh, mh/ and palatal affricate /ts/. At suprasegmental level however, these works only scratched the tone system of Ósósò, discussions are not detailed and instrumental evidence totally unavailable. Besides, none investigated tone-grammar interrelationship.

This dearth of studies on Ósósò language has compelled this study to focus on reviewing the works on other Edoid languages studied by these linguists: Elugbe (1985, 1989, 2009), Amayo (1976) Omozuwa (2010) Donwa (1982), Egbokhare (1990, 1999, 2012, 2019), Aziza (1997, 2006) Lewis (2013), Elimelech (1976) and Rolle (2013) with special attention paid to interesting issues relating to tone and its interface with their grammar.

2.3 Tone in the Edoid languages

At the moment, towards establishing a tone system typology of Edoid languages, only Elugbe's (2009) attempt exist. Based on his study of most of these Edoid languages and on works of other linguists, he arrived at these four types:

- i. two discrete tones, no downdrift or downstep;
- ii. two tones plus downstep and downdrift;
- iii. two tones and a downstep, but no downdrift; and
- iv. YalaIkom-type three tones plus downstep and downdrift.

The most widely reported tone system among the Edoid languages, according to Elugbe(2009:4), is the two tones plus downstep and downdrift. It is a system with automatic downstep (i.e. downdrift) as well as non-automatic downstep. He calls it "the classic terrace level type system". Edo, Emai and Urhobo are examples of classic terrace level tone system languages. Although the two-tone system is the most common system among Edoid languages, the behavior of both tones varies. Egbokhare (2011) draws attention to the difference in the behavior of the H in particular, when he shared some words in four of these languages and showed H manifesting differently. His data is

presented below; notice in particular, that Emaidownsteps H following another H consistently while others realize them at the same H H pitch level:

5)	Edo	Etsako	Ora	Emai	gloss
	óbá	--	--	ó!bá	“king”
	úgbó	--	úgbó	ú!gbó	“forest”
	éghó	éghó(lọ)	éghó	é!ghó	“money”
	ùkéké	--	ùkéké	ùké!ké	“stick”

Low tone also behaves differently in these related two-tone system Edoid languages. In Urhobo, Aziza (1997: 170) says seven after a High and before a pause, the Low tone maintains its pitch height and consecutive Low also maintain their pitch irrespective of whether they are at boundary or not. This is unlike Emai (Egbokhare 1990: 252) and Edo (Omozuwa 2010) where the final Low of consecutive L ends as a short downglide. In Isoko, Donwa (1982:136) says intonation occurs when the floating L that marks a non-final pause contracts with a preceding Low.

Outside of the behaviour of the basic tones, there are other major interesting issues in Edoid tone systems like downstep, downdrift, downglides and others. These will be discussed in the order listed in the subsequent subsections before ending with an examination of the tone-grammar interface in these Edoid languages.

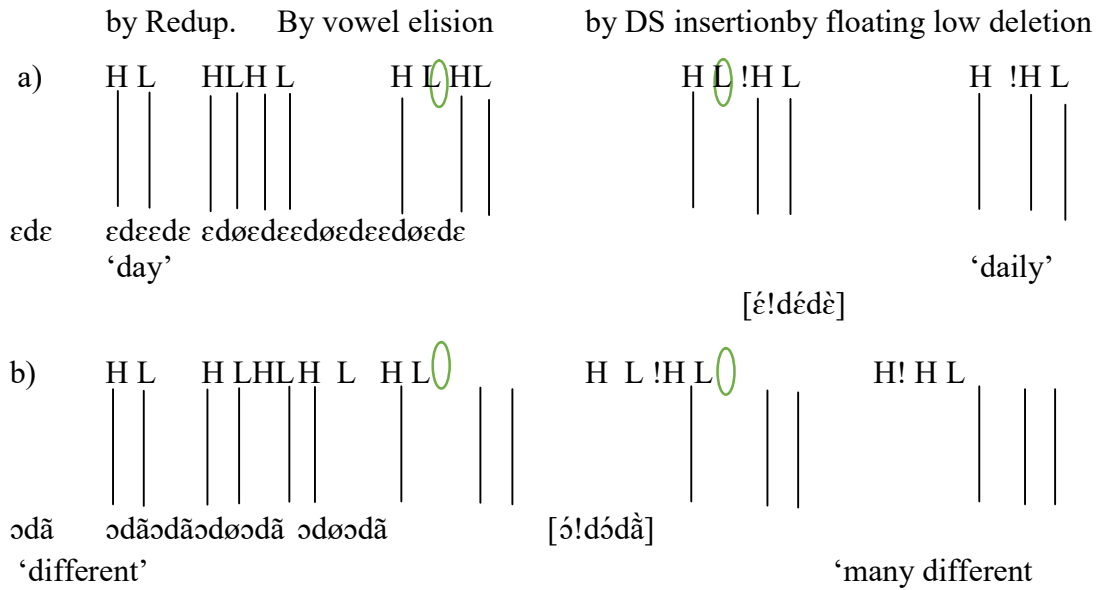
2.3.1 Downstep (DS) in Edoid languages

Defining the phenomenon, Omozuwa (2010:181) says “Downstep and downdrift are tonal assimilation processes involving the general lowering of the high and low tones in successive syllables in an utterance in a tonal language such that the F_0 realization of successive high tones with intervening Lows is less than that of the preceding Highs and Lows”. Egbokhare (1990:255) says “downstep refers to the lowering of highs or lows where no low tone exists phonetically”. Downstep or non-automatic downstep is however more complex of both downstep and downdrift, so, it will be discussed first.

Winston (1960) was the first to say downstep should not be treated as a third (mid) tone in a language with three-tone system but as an intersyllabic tonal feature, and this position he based on the problematic ‘mid’ tone he encountered in Efik (cf. Elugbe 2009). The source of this phenomenon has however remained in dispute. Also contended is how it is to be represented in analysis: before or after the deleted low. Stewart (1965) was among the first to trace the origin of downstep to a floating tone preceding a higher or identical tone and this became the widely held opinion on the source of downstep. Pulleyblank (1983:62) posits that the existence of a phonetic DS may be attributed to tense, aspect, syntactic and lexical factors. It is these factors that conditions the existence of a floating tone in the phonological representation. Hyman (1979) however suggests that DS is derived from this contour simplification rule: $\widehat{HLH} > \widehat{HL}H > HLH > H!H$. To make identification easier, Elugbe (2009:237) says the hallmark of a downstep system “is the terracing, the gradual descending, of the H tone in particular, in terrace-like steps”.

For the Edoid languages however, there have been various interesting attempts at determining the source of DS. Commenting on Hyman’s attempt at justifying the derivation of DS from contour tone simplification, Egbokhare (1990:262) says; “Hyman’s contour simplification rule is rather too clumsy in its derivation of DS”, saying contour tones (\widehat{HL} and \widehat{LH}) formed by syllable structure processes in Emai are never simplified. His investigation showed that DS is as a result of the desyllabification of a low tone vowel interposing two highs, adding that DS can result also from the insertion of a low tone to break up a sequence of highs in lexical and grammatical context; “in both cases, DS occurs as a result of vowel elision and the assignment of aspectual melodies which set lexical tones of the affected vowel afloat”. He explained DS occurrence in morphemes and sentences in Emai, showing how the deletion of a low tone vowel sets its tone floating, before its deletion, the delinked tone results into downstepping effect on the following H. His analysis, starting with reduplication, followed by nominalisation.

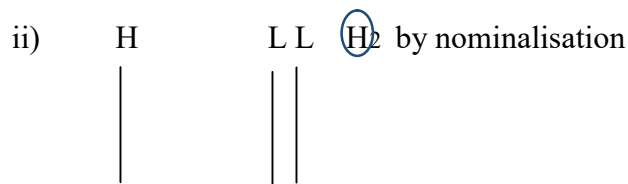
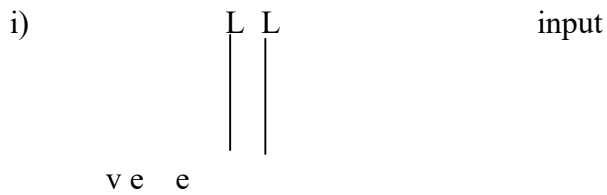
Emai (Egbokhare 1990: 264)



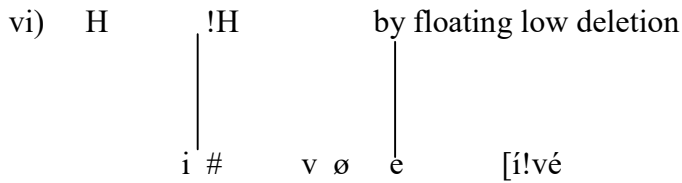
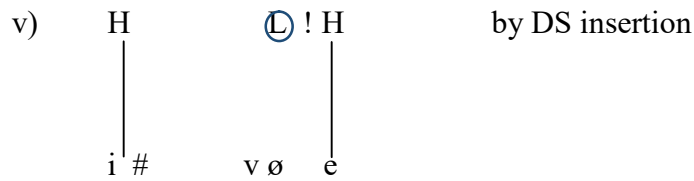
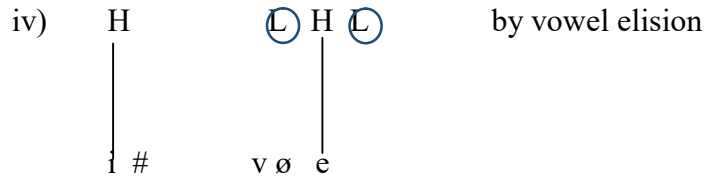
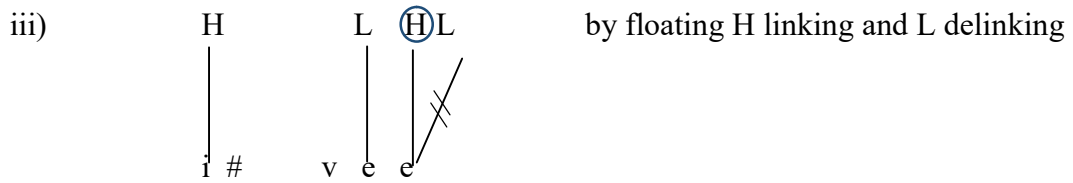
In Emai, the tonal combination of a number of bisyllabic verbs are realised as H!H following nominalisation which attaches a high tone vowel prefix marker to the stem and turns the CVV into CV even as it assigns a H tone to the second vowel left, delinking its L tone. This L tone floats, resulting into the downstepping of the high before it is now deleted. From the two examples below, derivation will be shown for one

6. Nominalization

- a. vèè → í+ vé
‘to bargain’ → ‘bargaining’
- b. rèè → ó+ ré
visit → ‘visitor, stranger’



i # ve e

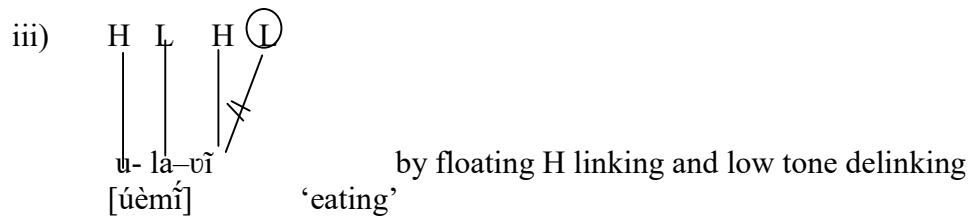
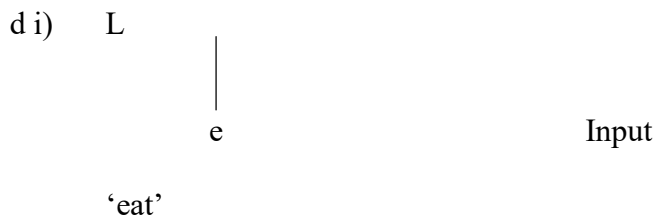


Egbokhare (1990:269) observe that other morphemes exhibiting DS in Emai have similar derivations even though their derivational history has been lost. He says “This position is supported by the fact that DS can only occur in nouns in Emai and only as a final tone, no matter the length of the noun”. Some of his examples of such words are:

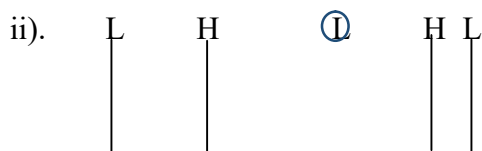
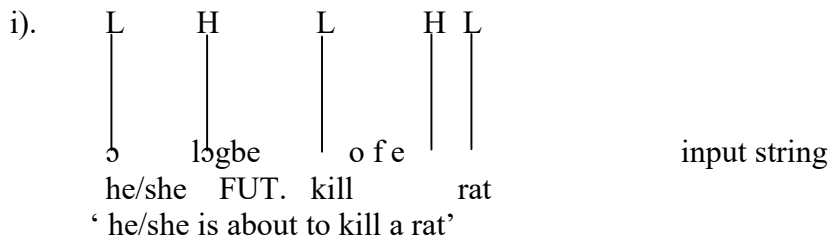
7.

- i. ú!gbó ‘forest’
- ii. i!ké ‘horn’
- iii. ìwó!wó ‘peers, mates’
- iv. ùké!ké ‘door lock’

He also disclosed that gerundive nominalization can result in downstep. DS insertion always follows a floating H linking the TBU while delinking the L and it is this floating Low that results into Downstepping of the H.



In Emai, the principal cause of DS in a sentence is the assignment of tense/aspectual tones and the two basic tones may be downstepped when a low tone preceding another is desyllabified. One example shall be used.



o lɔgbø o f e by elision
 he/she FUT. kill rat

iii). L H ① ! H L
 | | | |
 o lɔgbø o f e
 he/she FUT. kill rat
 by DS insertion

iv) L H !H L
 | | | |
 o lɔgbø o f e
 he/she FUT. kill rat
 [ɔ̃ lɔ !gbófè]
 by floating L deletion

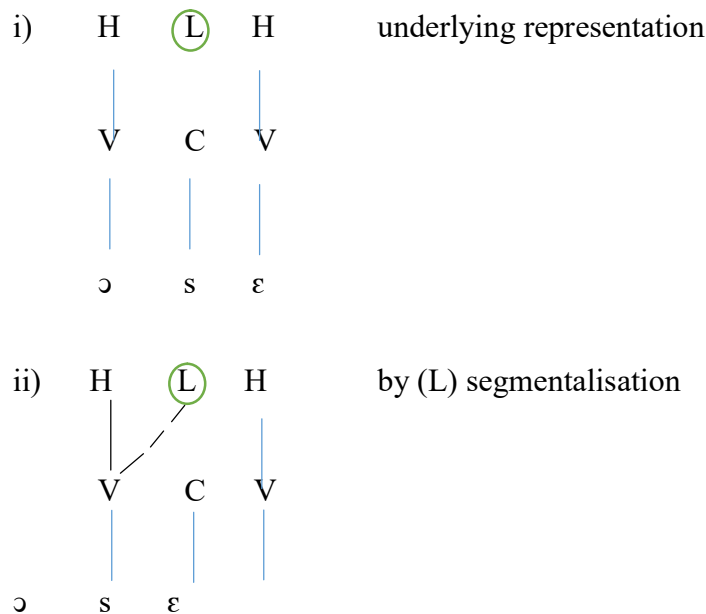
Contrary to Egbokhare's position on the source of DS, Aziza (1997:202) accounted for downstep differently in Urhobo. She reported that "lost low tones do not account for it. It is not also syntactically or grammatically conditioned" as has been found in Emai from the examples above. Aziza (1997:198) takes a full section to show how "when a low tone present in the underlying representation is set afloat due to some phonological processes, such as vowel elision, the floating low tone is often irrecoverably lost and has no effect whatsoever on the pitch of the following high tone". DS in Urhobo was not found in any other context except in some lexical constructions and the only thing shared by these set of constructions with Emai sets is that they also belong to noun category:

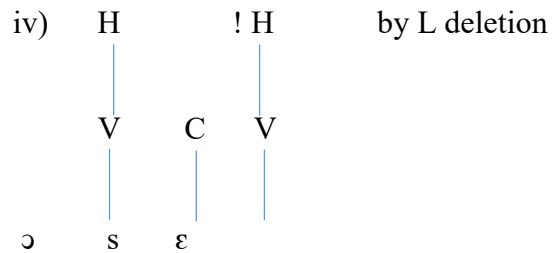
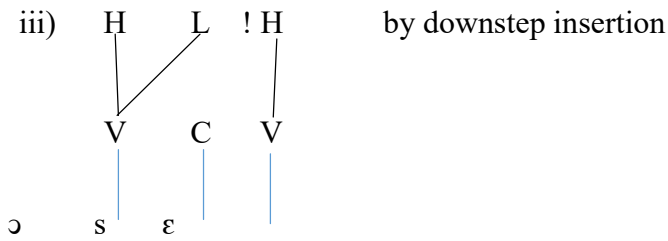
8. **URHOB**O (Aziza 1997:194)

- | | | | | | |
|----|--------|----------|----|------|---------|
| a. | ó!gó | 'in-law' | b) | í!yó | 'money' |
| | H! H | | | H! H | |
| c. | óré!ré | 'town' | d) | ó!/ó | 'honey' |
| | H H! H | | | H! H | |

Explaining further, Aziza (1997: 203) says downstep happens in these morphemes for ‘no apparent reason’ explaining that in Urhobo “the non-automatic or phonemic or, simply downstep, involves the lowering of a high tone but in the absence of an obvious preceding low tone in the phonetic representation. Thus, one finds two non-low tones in a sequence but the second is realised on a lower pitch than the immediately preceding one for no apparent reason”. Aziza makes a case in her study for the representation of a phonemic downstep, along with the H and L basic tones claiming that the position of deriving non-automatic downstep from lost or floating low cannot be sustained in the language.

Aziza’s inability to account for the few instances of DS found in the lexical make-up of a few nouns in Urhobo probably led her to agree with Fromkin (1972) that establishing a low tone only to delete later and claim its effect is responsible for DS is an adhoc device. Using this example below, she argued that if downstep can be derived in /ɔ́!sé/ ‘father’ in Urhobo and the idea is that historically a Low in the phonological string is responsible for the downstep, then similar strings in Urhobo should manifest such tonal behaviour, yet, she claim this is not the case, thus confirming her deductions that lost low tone cannot account for downstep, atleast not in Urhobo:

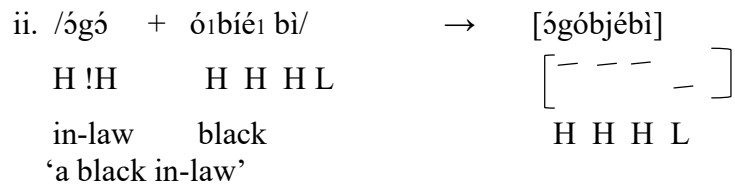
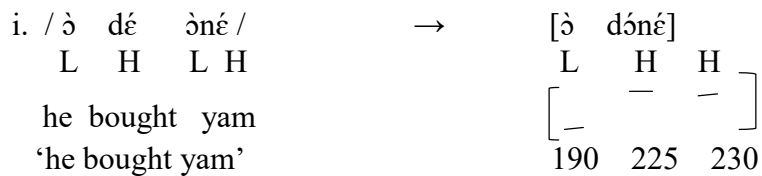




ó!sé ‘father’

sequel to her argument, she says Urhobo should also be able to derive /dé òné/ ‘bought yam’ in the same way [ó!sé] was derived but rather than become /dó!né/, it is /dóné/ in the language. This simply means in Urhobo, according to Aziza (1997:183), “a low tone which exists in underlying representation but gets deleted from the surface representation due to some phonological reasons, such as vowel elision or glide formation, has no effect on the pitch of the following high tone”. In the examples below, downstep insertion does not happen in 8i-ii context, rather, the pitch level of adjacent H remains the same:

9. **URHOB**O (Aziza 1997:183,191, 205)



iii.	íy!ó ré ógbá	[íy!ó rógbá]
	H !H HHHH !H !H !H	
	Money AM	‘hero’s money’

In the third example above however, Aziza shows how a lexical downstep present in a noun can lower the pitch of the following high tone but stresses that this downstep is not derivable from a floating tone. A low tone can lower a following high only because it is present in the surface structure otherwise when processes like vowel elision sets tone afloat, such tone is lost irrecoverably and has no effect whatsoever on the H following it in Urhobo.

Aziza was unable to synchronically and derivationally account for downstep in Urhobo but however insists downstep is phonemic. This phonemic downstep in Urhobo was not established with contrastive evidence and spectrogram by Aziza (1997) but years later, Rolle (2013:313) provided both. Below is his evidence of phonemic downstep in Urhobo:

10. a.	H !H	ε !βε	‘eczema’
	L H	εβε	‘goat’
	H H	εβε	‘kolanut’
b.	H !H	u!di	‘grasscutter’
	L L	udi	‘a drink, wine’
c.	L L L	ukpokpo	‘big rock’
	H H!H	ukpo!kpo	‘worrying, going through problem’

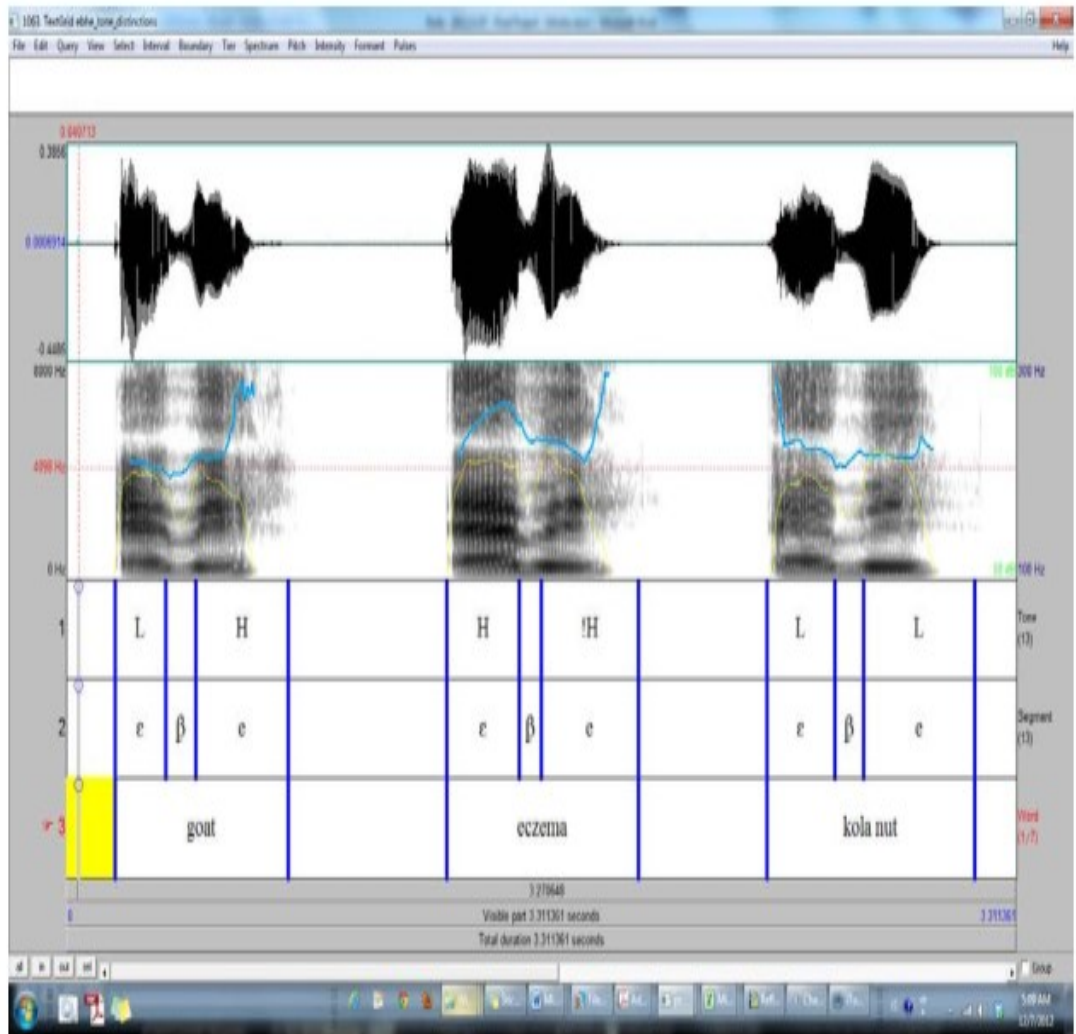


Fig 2.1. A spectrogram showing pitch track of the L H, H ! H and L L tone patterns on disyllabic word /εβε/in Urhobo.

Source: Rolle (2013:313)

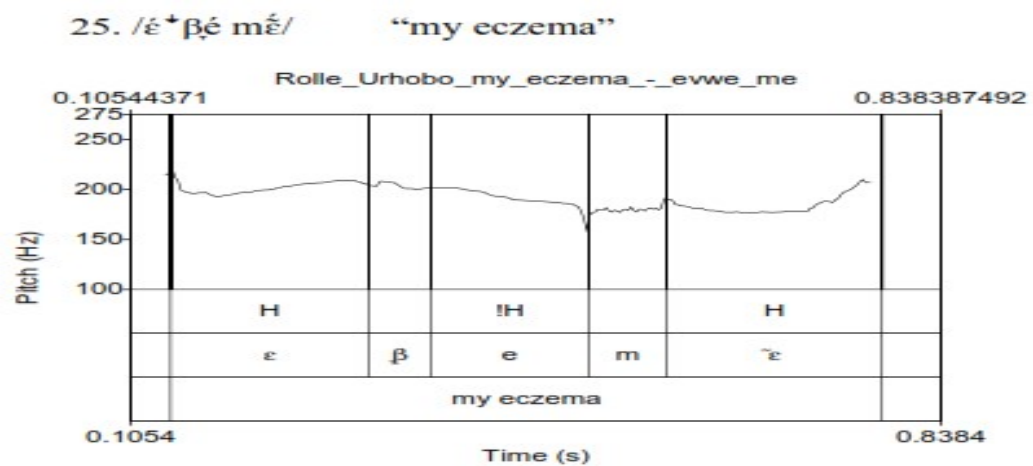
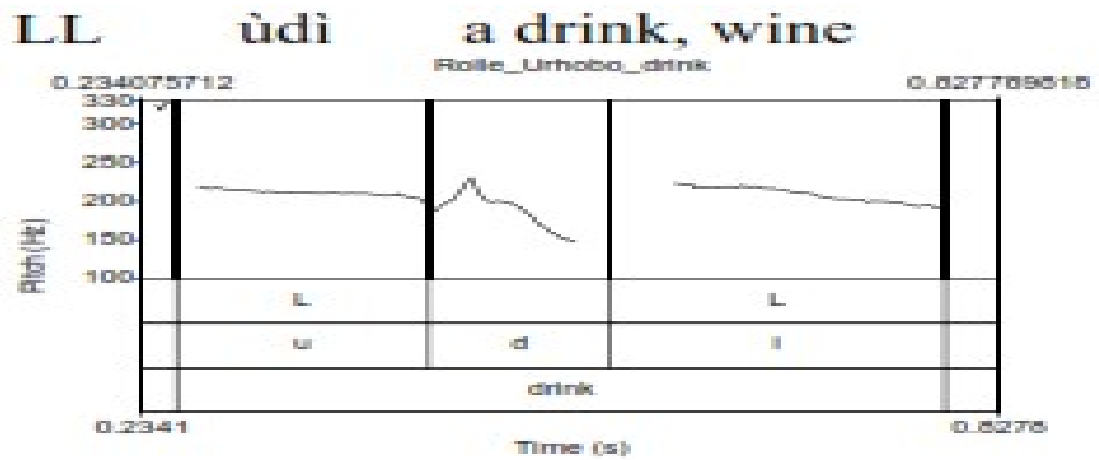
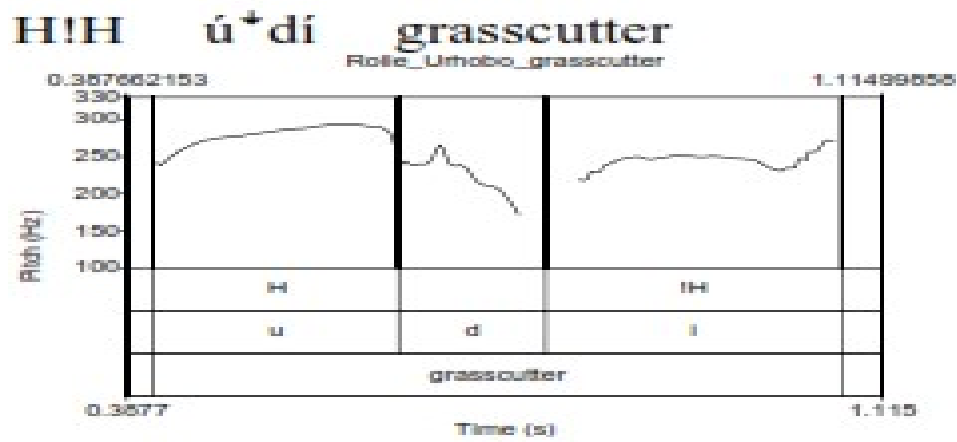


Fig 2.2. Pitch track evidence for contrastive downstep: H!H and LL

Source: Rolle (2013:315)

With the pitch track evidence in Fig 2:4, Rolle finds and supplies evidence to show downstep is indeed phonemic in Urhobo. He however failed to account for its source. Apparently, a lot remains to be done in the resolution of the source and status of downstep in Urhobo.

Although both Egbokhare(1990) and Aziza(1997) established the presence of downstep in Emai and Urhobo but their accounts varied slightly. Omozuwa (2010:188) on his part says “in Edo...downstep is a combination of three phonological processes the rules of which are strictly ordered to obtain the correct surface phonetic form”. These processes he listed as:

- i). Downdrift
- ii). Vowel elision
- iii) Tone shift

Omozuwa proved there is a phonemic downstep in Edo, but it applies only to this collocation in the language:

VCV # (óyé) # VCV

The tonal alternation must also be H # L across word boundary as any other tonal alternations would not lead to downstep. He provided the following examples to show downstep high and downstep low:

11. **EDO** (Omozuwa 2010:191)

- | | | | |
|----|--|---|--|
| 1. | a. /úwé # òwá/
inside house | → | [úwó!wá]
‘inside the house’ |
| | b. /úwé # ówá/
‘inside stall’ | → | [úwówá]
‘inside the stall’ |
| 2. | a. /íyó # òkpè/
money palmwine tapper | → | [íyó!kpè]
‘money for a palmwine tapper’ |
| | b. /íyó # ókpè/
‘money flute’ | → | [íyókpè]
‘money for flute’ |

In 1a and 2a, the precondition of a H # L tone sequence across word boundary is met hence H is downstepped following V1 elision and tone shift in that order. However, downstep did not occur in 1b and 2b because the H # L sequence condition was not met.

Donwa (1983) on her part shows Isoko is not a terraced tone language; both phenomenon of downstep and downdrift do not occur in the language. No study has refuted this claim.

Mainstream linguists however appear to have resolved the issue of source of downstep based on this comment by Elugbe (2009:240): “after years of debate, mainstream thinking with respect to the underlying source of downstep is that it derives from DD through the loss of low tones set afloat by synchronic or diachronic phonological processes”. The hallmark of a downstep system according to him “is the terracing, the gradual descending, of the H tone in particular, in terrace-like steps”. In the section that analysis downstep in Ósósò, what really causes DS is established with these various positions explored.

Concerning the representation of DS in analysis, scholars like Clements (1979) advocated an insertion of DS *before* the disappearing low. Stewart (1983) and Elugbe (1985) however insert DS *after* the disappearing Low. “One cannot make any universal qualitative judgement about this” says Egbohare (1990:262), he inserted DS after the disappearing Low, claiming it is more expedient. These insertion of DS (!) *before* or *after* positions of scholars only support Anderson’s (1985) position that the phonetic properties involved in downstep terraced-tone languages are systematically manipulated by language specific rules.

2.3.5 Downdrift in Edoid languages

In describing this phenomenon, Omozuwa (2010:160) say “the ‘downdrift’ phenomenon involves an automatic lowering of a sequence of High tones with intervening Lows in contiguous syllable”. According to Aziza (1997:192) a question reportedly asked often

about tone systems with downdrift is “whether highs and lows downdrift and if they do, whether it is at the same rate?” In Urhobo, she reported highs downdrift faster than Lows, claiming two Highs separated by a low drift at a faster rate than two low tones. This difference in rates of downdrifts had been observed earlier in Etsako and Edo by Elimelech (1978), and Amayo (1976) respectively.

In response to the second question, Aziza says neither the consecutive High nor Lows downdrift in Urhobo. This is very unlike Ghotuo, another Edoid language, where Elugbe (1985) claims consecutive tones do not generally downdrift but Lows downdrift when they are preceded by a high or a mid tone. According to Elugbe (1985:45),

purely phonetic explanations in terms of the mechanism of Fo adjustment do not in themselves account for DD: one must add to that, the linguistic purpose, the fact that some languages use it for a variety of reasons. Moreover, the questions of relationship between different (basic) tone levels in a downdrift stream appear to be irrelevant in the ...discussion of declination in non-tone language... Declination may be seen as a rather gentle (if undulating) gradient. Downdrift would be a succession of clearly marked hills and valleys in a terraced decline.

Cautioning against treating downdrift as declination, Egbokhare (1990:256) on his part says “Downdrift, unlike declination, is not simply a function of the speech process, it is under the active control of the speakers”, it is the global tendency of pitch of an utterance to decline progressively in time. In his analysis of downdrift in Emai, Egbokhare mentioned constraints stemming from the application of vowel elision and tense/aspectual information as both processes which affect tone and tonal melody in the language. Consequently, his discussion on DD was limited to word and intransitive sentences rendered in the immediate future tense as these are the only environment where elision and tone spreading do not take place in Emai. He provided some examples:

EmaiEgbokhare (1990:258)

12. a) ódùdú /⁻ - -/ → [⁻ - -]

 ‘shadow’

b) íkèké /⁻ - -/ → [⁻ - -]

‘bicycle’

c) ifòtó / _ _ - / → [_ _ -]
‘photograph’

DD in Intransitive sentence:

ókà ló bì á
maize Fut. black cs

‘the maize is about to/get blackened’

/ - _ - - / → [- _ - -]

Emai, from the result of his analysis behaves like sister Edoid languages and do not downdrift sequences of high or low. He says perhaps what may give the impression of downdrifting of low tones in Emai is the tendency for final low tones to downglide but in actual fact, low tones fall from the level of preceding low to an extra-low or downglides. There is enough reason to examine the behaviour of Low in Ósósò to take a position in the ongoing argument and affirm if constraints stemming from the application of vowel elision and tense/aspectual information affects tone and tonal melody in the language

2.4 Intonation

A lot has been done in the study of intonation in tone languages. These includes the works of Abercrombie (1967), Ladd (1990), Laniran (1992), Atoyebi (1998), Atoyebi (1999) Roca and Johnson (1999), Roach (2000) and Fajobi (2003,2011). Despite these studies, compared with tone, intonation has not received enough attention in tone languages and Edoid languages are not exception. Intonation according to Fajobi (2011:1) is a general term for the fundamental frequency pattern of a stretch of speech or as Egbohare (1990:362) puts it, intonation “refers to the pattern of fluctuation in pitch realised under different grammatical condition or mood”. In other words, intonation is pitch movement or pitch variance that causes meaning difference in an utterance. Hyman (1973) added that other secondary correlate may come from vowel quality and duration, manner of termination, or if the mode of the vibration was lax, breathy, creaky or tense - though physical correlate of pitch still remains primarily the rate of vibrations per second.

All languages employ intonation to convey certain grammatical information but it behaves differently in tone languages and since this behaviour has not been adequately captured it is not a surprise that some leading linguists like Abercrombie (1967), Roca and Johnson (1999) and Roach (2000) posit that a language is either a tone or intonation language. Abercrombie (1967:104) is quite clear on this: “in every language, the function of speech melody is predominantly either of one kind or the other, so that the languages of the world can be divided into two classes, intonation languages and tone languages”. Fajobi(2003, 2011)has argued against these 20th century authors who still describe world languages as tone and intonation languages, a stance which distracts from the study of tone language’s use of intonation. This clean dichotomy has also been challenged by scholars like Connel and Ladd (1990),Laniran (1992), Atoyebi (1998) andAtoye (1999).

Presently, the different positions on the tone and intonation interrelationship are:

- a). There is no intonation in tone language. This is the position of scholars like Abercrombie (1967), Roca and Johnson (1999) and Roach (2000).
- b). There is intonation and tone in tone languages but tone is superimposed on intonation. A position taken by Awobuluyi (1978), Lindau (1986) Oyetade (1987)and Laniran (1992)
- c). Intonation is superimposed over and above the intricacies of tone. Championing this position are Atoye (1999), Fajobi (2003, 2011).

Speaking further, Fajobi (2011:6) notes that “it is little wonder then that there is no distinction yet between the theory of tone and intonation in descriptions available for most African tone languages. Analysis is always focused on the mutual effects of tones on each other, often with reference to the phenomenon of downdrift”. Yet the phenomenon of downdrift/downstep/declination can be effectivelyblocked by some superimposed features of intonation on some utterance types found in Yoruba for instance. Working with Yoruba and analysing the final Fo trajectory of some declaratives and interrogatives, Fajobi argued that inspite of tones being lexically distinctive, intonation is still imposed on it. There is more to intonation in Yoruba than the effects of tone interacting with it therefore. She consequently classified intonation in

Yoruba into four levels based on data fed into Praat for pitch extraction and acoustic evidence:

Level 1 (lowest) is for statements,

Level 2 is for wh-questions,

Level 3 is for yes/no questions with particles and

Level 4 (highest) is for yes/no question types without particles.

Fig2.3. Intonation graph for question in Yoruba

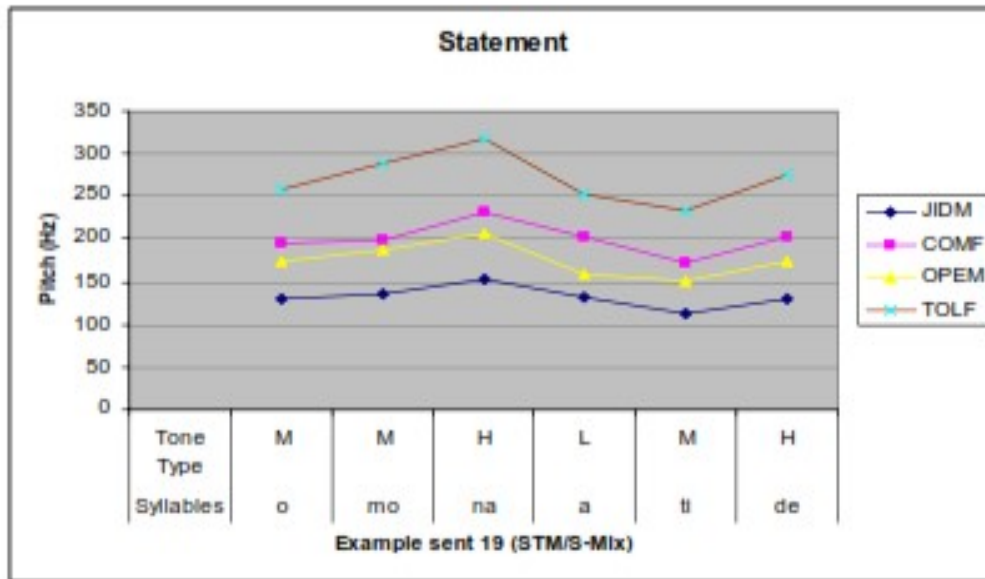


Fig2.3a. Intonation graph for statement ‘o mo na a ti de’

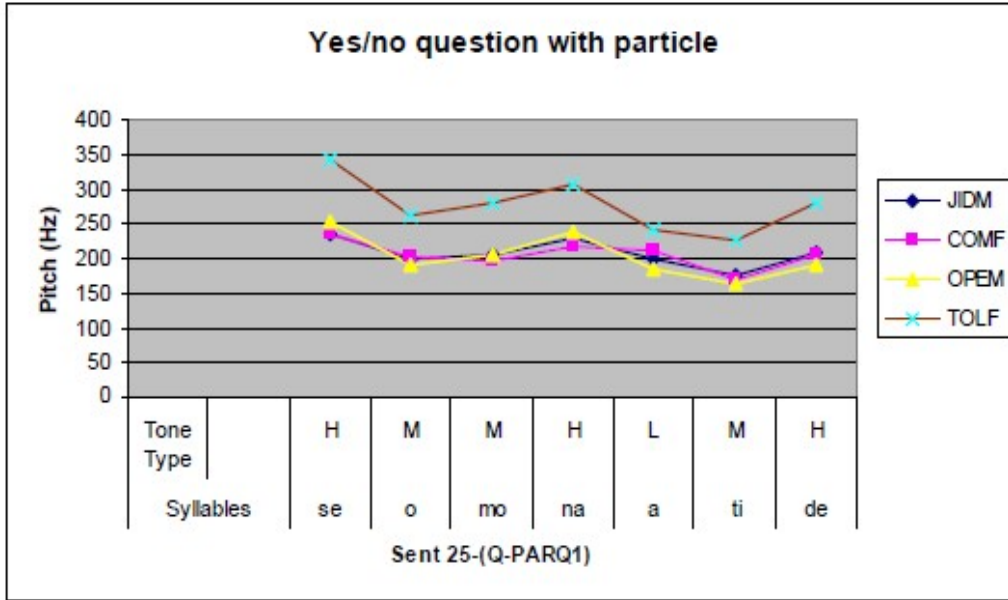


Fig 2.3b. Intonation graph for question at word word at initial position plotted on a graph: se ọmọnáà ti dé?”

Source:Fajobi (2011)

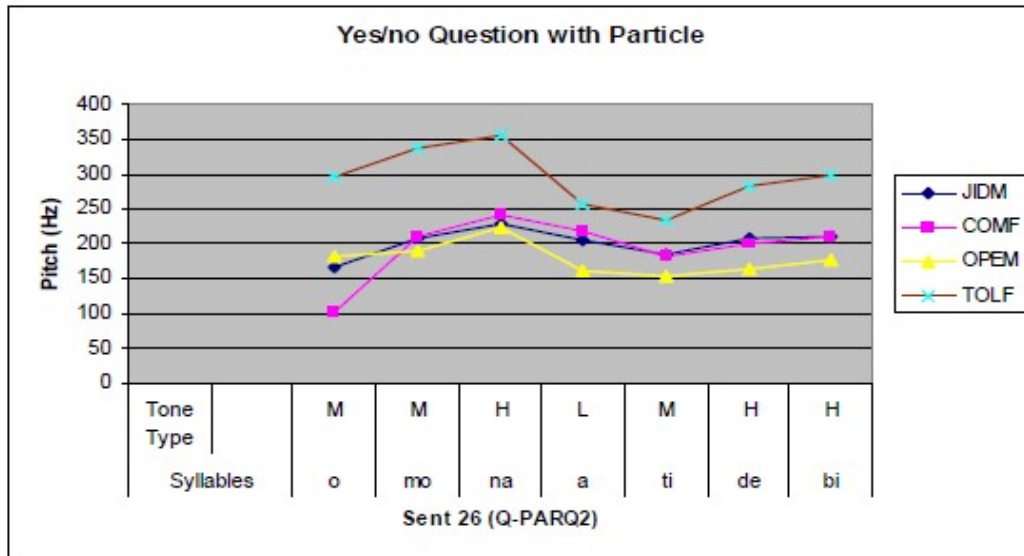


Fig 2.3c. Intonation graph for question word at final position in Yoruba: ọmọnáà ti dé bí?”

(Has the child arrived?)

(He has/He hasn't).

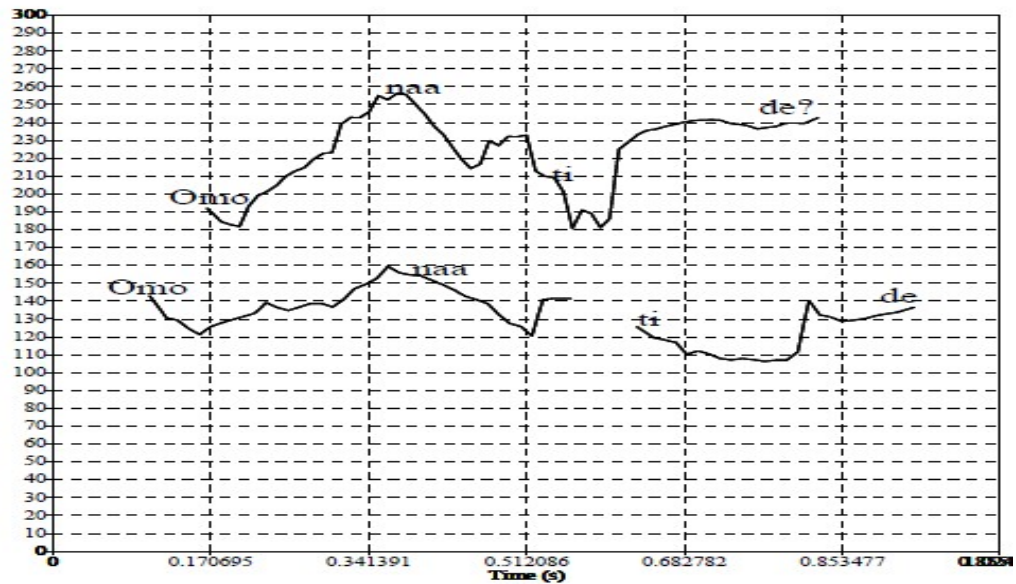


Fig 2.3d. Intonation graph for question plotted on a graph for: ọmọnáà tí dé?”

Source:Fajobi (2011)

In her findings, Fajobi (1990:28) says “Yoruba does indeed permit a superimposed intonation on its lexical tones’. Data above reveals that the statement intonation is characterized by downdrift or progressive lowering of pitch. Statement is of falling tune. Question however is characterized by a couple of features like: general upward shift of pitch, final syllable lengthening (this happened for a greater percentage of the questions) and compromised downdrift depending on the question type

Although Fajobi identified intonation types in Yoruba as (1) statement intonation with falling tune and (2) question intonation with rising tone, there are several other intonation types like focus, vocative, discourse, and clausal relationship intonation. Nien-Chuang T Chang (1958) who studied intonation in the Chengtu dialect of Szechuan, a tone language spoken in China recognized 5 intonation contours marking different sentence types: question, emphatic statements, and declaratives. He observed and went on to prove that *intended intonation modifies the individual tones in an*

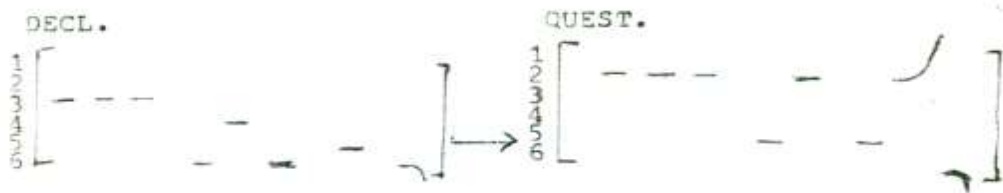
utterance and not the other way where the individual tones decide intonation. Thus, apart from basic tone, allotones exist due to intonation.

Fajobi's(2011: 12 - 20) investigation into the nature of intonation in Yoruba aids this study to the use of current tools and methodology in the investigation of tone and intonation in Ósósò since no such acoustic attempt is available in the few Edoid studies found even though Egbokhare (1990:362) affirmed that it is only contour graphs that help mark the distinction between declaratives and their yes-no counterpart. The few attempts at studying intonation in Edoid languages found by this study are as discussed below:

2.5.1 Intonation in Edoid languages

With the exception of the work of Donwa (1982), Egbokhare (1990) and a page-discussion by Rolle (2013), not many works have been done on intonation in Edoid languages. Universally, there is oftentimes a rising register and a suspension of DD as question intonation is defined by a final rising contour generally. Egbokhare (1990:362) says, “Declarative sentences in Emai are differentiated from their yes-no question counterparts only by different Fo contour graphs in both sentence types”. However, he said the yes-no question type in Emai are either the simple yes-no or yes-no with surprise. The former involved the suspension of DD, a change in the phrase final lexical High to extra-High and the realisation of a following boundary low being raised while for yes-no with surprise, the final tone first falls to a low before rising to an extra high pitch level. Demonstrating this contour, in the absence of modern speech analyser, Egbokhare (1990:365) provides illustrative evidence as best as possible and these have been re-presented in Fig. 2.6 and Fig. 2.7

ófé ló vǎré sǎǎá
 'rat will come now'



ébò jǎdó
 'doctors have gone to Benin'



Fig. 2.4. Illustrative evidence for simple yes-no intonation in Emai

Source: Egbokhare (1990:364)

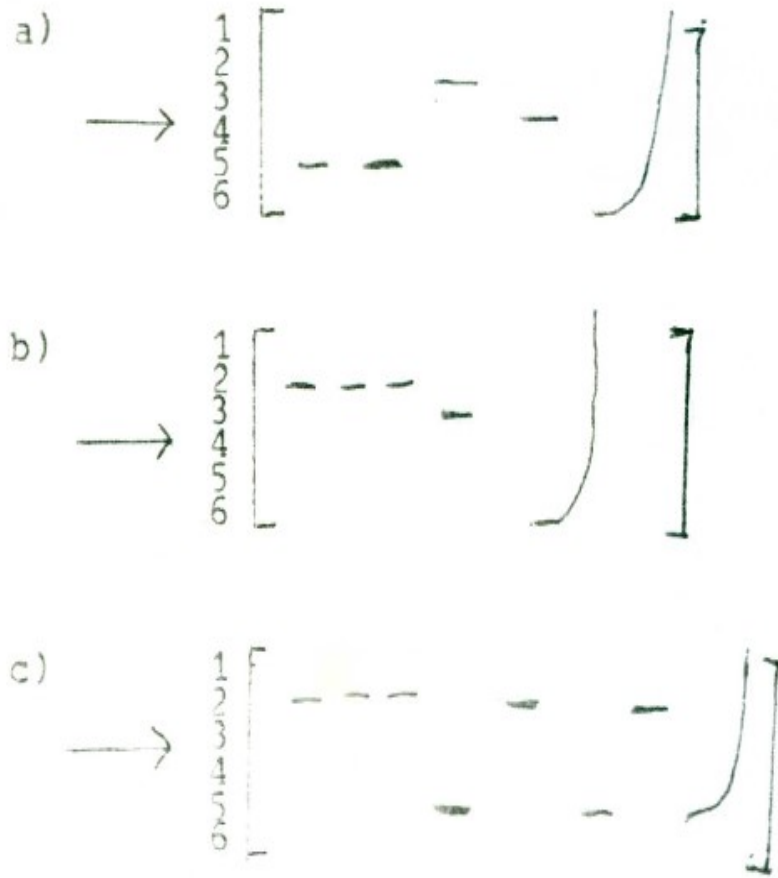


Fig. 2.5. Illustrative evidence for yes-no question with surprise in EmaiSource:
Egbokhare (1990:366)

It is on the basis of the foregoing that Egbokhare (1990:355) postulates “a rising register tomorph” or grammatical tone attached to the last H of simple yes-no or the last tone H or L, in the yes-no with surprise mood. The tier should have a rising and a Low register tone. This register tone affects all tone that are within its domain, re-setting them up or down depending on if it is H or L. The register tone by virtue of its alteration capacity is therefore a superimposition on the lexical tone and consequently, intonation in Emai is superimposed on lexical tone, similar to Yoruba as studied by Fajobi (2011). However, Egbokhare (1990:368) was quick to declare that as at the time of his investigation “relevant equipment for carrying out the investigation was not available”. Analysis of intonation contained in his work were based on purely auditory evidence. This limitation is addressed by this study and instrumental evidence to determine the exact nature of the Fo intonation curve in Ósósò, provided.

Although lacking instrumental evidence too, in her study of intonation in Isoko, Donwa (1982:135) declared: “Isoko is a tone language with intonation”. This intonation of an utterance can be superimposed on the two-level tones, H and L and if the intonation of an utterance demands it, a L may be replaced by a H; or a H by a L, causing them to either become raised or lowered. Donwa (1982:178) went on to say “it is necessary to note that there is no clear-cut distinction between it and tone. Both are tied together in such a way that tone is generally used to manifest intonation”. Donwa says there are floating tones whose existence is solely an intonation feature “thus... in addition to floating ones which function as grammatical morphemes marking specific constructions, there are floating tones which have purely intonational function”, Again, showing in this Edoid language like Emai, there is a superimposition of intonation on tone and the existence of tomorph. She claimed that when the floating L marking non final pause contracts with a preceding L, a downglide results. Consequently, in Isoko, “all intonational floating tones thus end with a glide when they contract with a preceding tone”.

Revealing that intonation tune in Isoko is different from intonation in a non-tonal language like English, Donwa (1982:197) says with the latter, overall pitch pattern of a sentence is meant but in Isoko, there are certain points of a sentence where pitch manifest intonation tunes. A part of a sentence manifest particular contour tune and so, the identification of this contour and the key places where this crucial formation of meaningful contour occurs helps determine sentence type. On the basis of behaviour of the basic tone level of H and L in different constructions in Isoko, Donwa identified these four tunes in the intonation system of Isoko:

1. *Low tune used to mark negative sentences alongside the neg. particle.* In such sentences, a distinctive lowered pitch is realized on the syllable immediately before the neg particle and on the neg particle itself. Observe the floating L before the neg particle, it is often segmentalised on the preceding vowel and this will result into a downglide. The polar question is marked by a final floating L which causes a preceding L tone (may be floating like neg sentence) to end with a downglide and a preceding H to fall to pitch level 1. All tones remain normal until one gets to the final vowel of the sentence where a distinct falling pitch is heard
2. *High tune marks positive declarative sentences and imperatives.* Whereas for declaratives, the high pitch is identified towards the end of the verb phrase, starting from the verb stem to the last tone of the sentence but in imperative, it is identified both at the beginning and at the end of VP
3. *Rising tune marks the negative interrogative sentence type as opposed to the positive interrogative sentence.* There is a slight lowering of the pitch of the voice at the beginning of the sentence followed by a gradual rise of the pitch of every syllable until one gets to the last syllable where the distinct rise is heard.
4. *Falling tune or falling intonation marks all non-final pause groups such as conditional clauses, relative clauses.* The falling pitch contour of the conditional and relative clauses is identified at the beginning and at the end of the VP. The verbal construction here as with imperatives is characterized by an initial H tone but unlike the imperatives, these constructions are also marked by a final floating

L tone whose function is purely intonational. This floating tone causes a preceding L tone to fall with a downward glide from pl 2 to pl 1

Donwa (1982:178) shows that the question tomorph is definitely L in Isoko, not just because it makes Ls to remain low, but also because it causes final Hs to fall. This is totally contrary to the finding of Rolle (2013:320) as presented in Fig 2:7 where the Praat picture shows that the Fo contour of Yes/No question in Urhobo, an Edoid language is a high tone becoming extra-high at specific place in the utterance while the low remain unaffected. Using the minimal pair, he captured this in the spectrogram below and says the consultant H pitch range almost reached 350 Hertz. From foregoing, Egbokhare's (1990:355) postulation of "a rising register tomorph" or grammatical tone to be attached to the last H of simple yes-no or the last H or L, in the yes-no with surprise or imperatives is important in the discussions of intonation in Edoid languages. The insight from these attempts into the analysis of intonation in Edoid languages will help investigation into intonation in Ósósò, in line with the last objective stated for this study.

29. Yes/no question intonation

a. [wɔ̃ β̃ɛ̃ɛ̃ɛ̃] “are you sleeping?” vs. [wɔ̃ β̃ɛ̃ɛ̃] “you are sleeping”

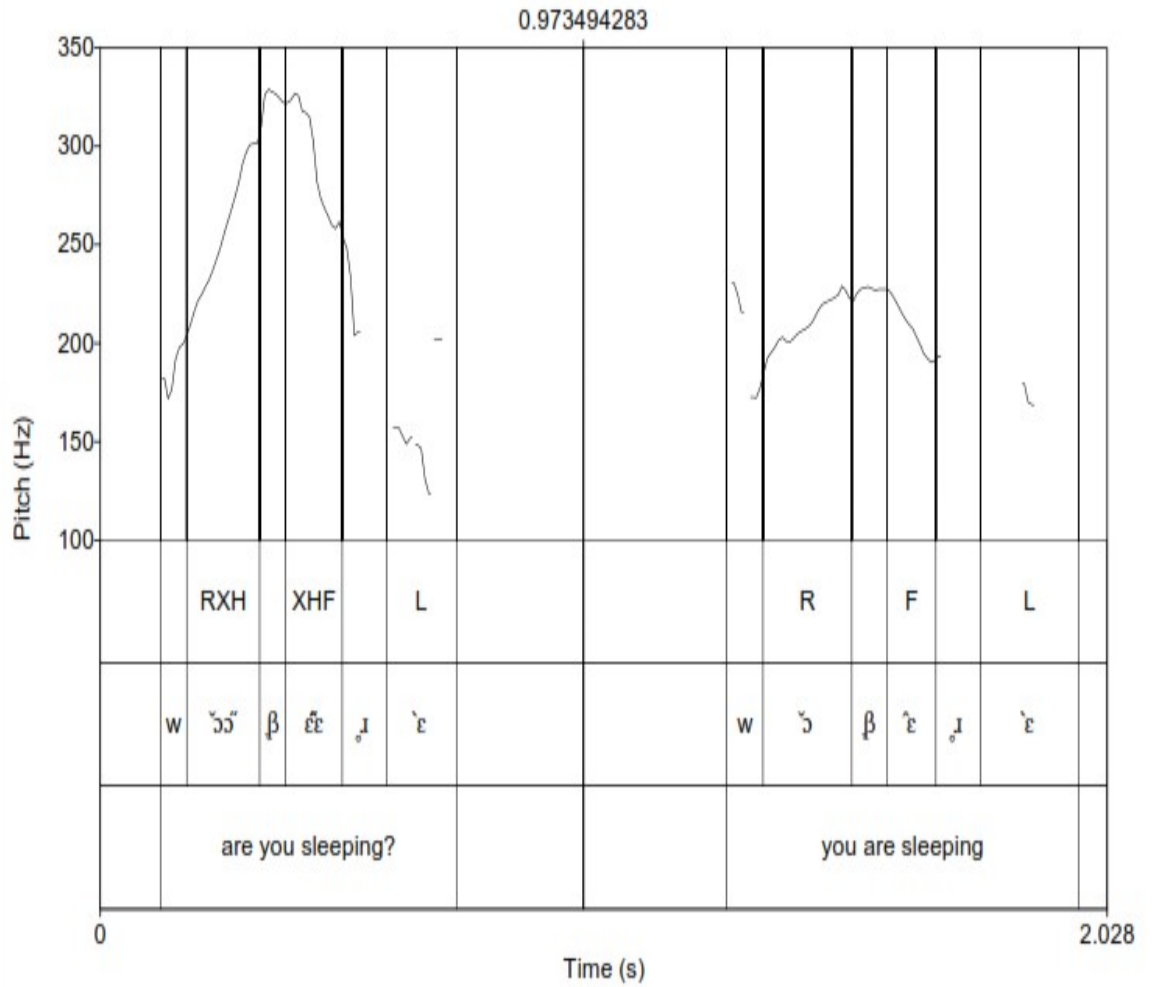


Fig 2.6. Pitch track evidence for yes/no intonation in Urhobo

Source: Rolle (2013:325)

2.6 Function of tone in Edoid languages

Tone performs both lexical and grammatical functions in tone languages and there is yet an Edoid language that does not manifest these tone functions. A review of lexical function in these languages with extant studies will be carried out first, followed by grammatical function of tone.

2.6.1 Lexical function of tone in Edoid languages

Lexical tones are basic tones borne by lexical items in the underlying representation. These tones are comparable to segments, and they are used to distinguish linguistic meanings in similar forms. According to Abiodun (2006:67) “tone performs a lexical function in a language when lexical items with identical phonemes are distinguished on account of tonemes”. Across Edoid languages, lexical contrasts are prominent in the noun category than other lexical categories. Below are some examples used for lexical contrast by some Edoid scholars:

13. Emai- Egbokare (1990:277)

- a. òkpá ‘one’
òkpà ‘cock’
- b. òí ‘pomade’
óì ‘thief’
- c. ékpà ‘vomit’
èkpà ‘punch’
- d. údò ‘stone’
ùdó ‘name of a place’

Isoko -Donwa (1982:137)

- a. èví ‘goat’
èvi ‘kola’
- b. òdí ‘patience’
ódi ‘forest’

Urhobo - Aziza (1997:212)

- a. èni ‘elephant’
èkpá ‘head pad’
- b. ùkpà ‘year’
ùkpé ‘bed’

2.6.2 Grammatical function of tone in Edoid languages

In describing grammatical tone (to be called GT sometimes) Rolle (2018:18) claims GT is: “a tonological operation which is not general across the phonological grammar, and is restricted to the context of a specific morpheme or construction, or a natural class of morphemes or constructions (i.e., grammatically conditioned tone addition, deletion, replacement, shifting, assimilation, dissimilation, *etc.*)”. They are floating tones which can and do exist ‘independent’ of segments in languages with GT. Hyman and Leben (2017:15) says in languages where tone is largely grammatical, tone is used for example in the “marking of morphological classes, morphological processes, and ultimately syntactic configurations as well as semantic and pragmatic functions such as negation and focus”. Such grammatically significant tone Elugbe calls ‘tomorph’ (cf Elugbe (1985). In the Edoid languages, tomorph may be single tone units or tonal melodies (fixed tone patterns) but they are very productive in the grammar of Edoid languages.

However, that a pitch can exist without segment and at the same time perform grammatical function or, be grammatically conditioned, appears disputed by some linguists. Atoyebi (2010:54), for example, declared GT does not exist in Ọkọ: “not in the true sense of grammatical tones, namely *distinctive pitch levels which mark contrasts in grammatical categories or constructions, without traces of segmental marking*” (italics are mine).

So, while the operations of lexical tone to mark contrast is similar in tone languages, grammatical tone marking contrast is controversial. Hyman and Leben (2017:15) say “grammatical tone does not usually refer to tonal contrasts on segmental morphemes...grammatical tone will refer to cases where tone is either the sole exponent of morphology, or where morphology introduces tonal exponents that are realized independent of any segmental morpheme that may accompany the tone”.

GT is not when the H and L tones of the subject pronoun contrast as found by Jenewari (1977:258) in Kalabari: à -‘I’ and á - ‘she’ because in this case, tone is clearly linked with a TBU. When GT is meant, one is talking about a tone assigned by a grammatical

2.7.1 Tone in associative constructions in Edoid languages

Associative constructions together with their modifiers show possession/ownership, origin or quality. These types of constructions are widespread and well attested in languages. According to Salfner (2009:222), “in many but not all languages, associative constructions are marked with an associative morpheme. This morpheme can be made up of segments and tone or it can be entirely tonal”. Cases of these in certain cases alters the lexical tone of individual morpheme and one of such cases in Edoid languages is in the associative constructions where pitch marks possession. Explaining tone morph further, Rolle (2013:319) says “in certain cases, grammatical tone occurs which alters the lexical tone of the individual words/morphemes. One of such examples is in an associative marker used in noun noun compound/sequences. This is realized as a High tone which falls in between these noun”.

Possessive constructions are classified into alienable possession (ALP) and inalienable possession (IAP) based on the semantic relationship between the possessor and the possessee (see Heine 1997). According to Halspermath (2008:1) “Nouns like 'arm' normally, or at least very frequently, occur as possessums in possessive NPs, whereas for nouns like 'garden', this is much less frequent: We often talk about gardens without mentioning or even thinking about their possessors. This means that the overt expression of the possessive relation is expected anyway”. Halspermath went ahead to say a common universal is: “If a language has an adnominal alienability split, and one of the constructions is overtly coded while the other one is zero-coded, it is always the inalienable construction that is zero-coded, while the alienable construction is overtly coded”.

However, why the inalienable constructions are zero coded becomes obvious in the light of the semantic dependency relation between the possessor and possessee/possessum in contrast with an ALP semantic relationship said to be contextually dependent by Nichols

(1992) and Heine (1997). Prototypical members of nouns that are the possessor in IAP refer to kinship terms or body parts while ALP will be others. Adopting the illustrations of Gebregziabher (2012:161), the difference between IAP and ALP is explained in sets:

15. **Set A**

- a. John's daughter
- b. John's ears

Set B

- a. John's book
- b. John's house

From the two, set A shows an inseparable semantic dependency on a possessor making it a requirement of a daughter that she be the 'daughter of somebody' just as human body parts, such as nose, eyes, mouth and ears belongs to somebody, this time 'John's'. As rightly pointed out by Gebregziabher (2012:161), "this semantic dependency in many languages forces inalienable nouns, such as kinship terms and body-part nouns, never to appear without a possessor". Contrary to ALP where N1 and N2 possession relationship have no such semantic dependency. In set B, the book or the house cannot be interpreted as being inherently related to Mr John. There is no evidence of strict semantic dependency as 'John's book and John's house', can be interpreted as a book that John wrote, bought, converted, own or even inherited and a house he built, bought, inherited and so on. In other words, the interpretation to be inferred is more or less contextual or pragmatically determined.

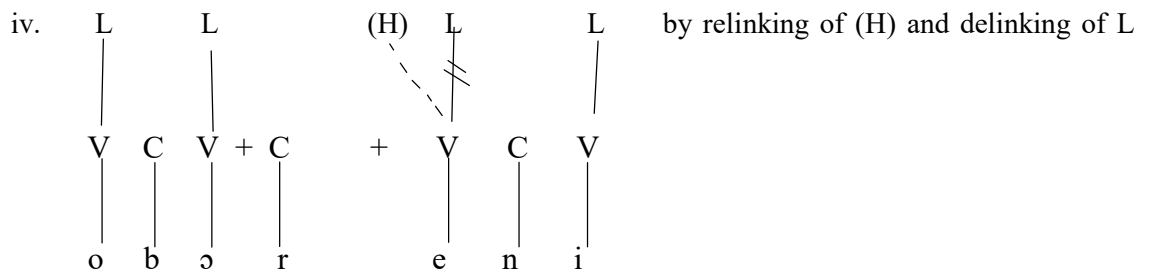
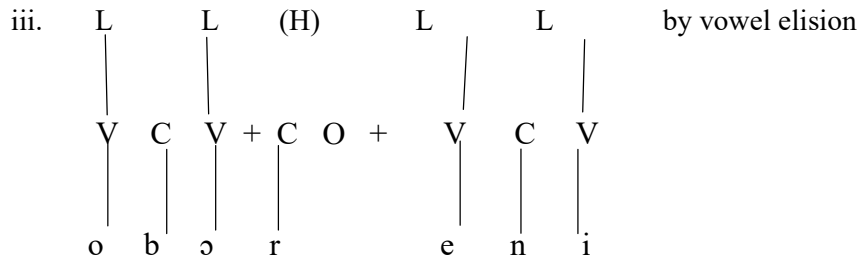
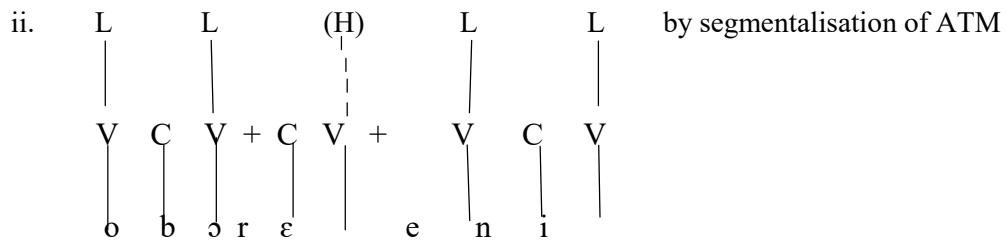
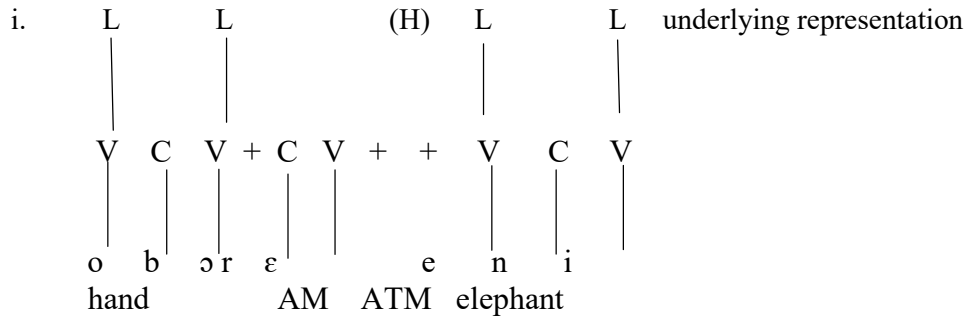
In Urhobo, Aziza (1997:238) says associative construction is usually marked by a floating high tone, "the associative construction is marked underlyingly on both the segmental tier and on the tonal tier. On the segmental tier, it is marked by an independent grammatical morpheme /rɛ/ "the morpheme is the associative marker (AM) while the floating tone is the associative tone marker (ATM). Explaining further, Aziza says the morpheme is found between the noun and its modifier. It is toneless underlyingly and when in Noun + Noun phrase, the floating tone gets segmentalized on the the vowel of the AM /rɛ/ and though recoverable in deliberate slow speech, the vowel is often elided in normal speech. The inherent tone of the prefix vowel of the second noun is delinked for the floating tone. All other tone patterns remain unchanged.

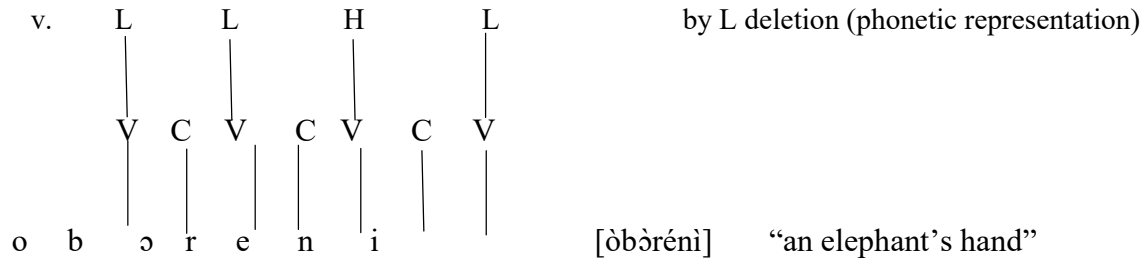
16a. ò̀b̀b̀ + rɛ́ + è̀nì [ò̀b̀rɛ̀nì] →

L	L	H	L	L	(-	-	-)
Hand	AM	+	ATM	elephant	LLH L	'an elephant's hand'			
					[ò̀b̀rɛ̀nì]				

b. é(w)u) + ré + ó!dé → é(w)u) ró!dé
 H L H H !H (- - -)
 dress AM + ATM yesterday H L H !H “yesterday’s dress”

Noun + Noun phrase illustration using example a.





In Emai, Egbokhare (1990:282) made it clear that “all noun phrase types in Emai (excluding the numeral construction) manifest the same types of tonal changes. Usually, all low tones on the head of the phrase become high if there is no interposing high tone”. He proceeded to clarify his affirmation by showing tonal alternations in the NP of simple phrases, breaking possessive associative construction type into alienable and inalienable types where the distinction between the first is the presence of the associative morpheme /ísi/ in place of the high tomorph in the second.

Possessive Associative Construction:Egbokhare (1990:283)

Alienable

17. a) àwè ísi ófè --> áwé!sófè
 leg AM rat ‘rat’s legs’
- b) óvèxǎ ísi òì --> óvéǎsòì
 child AM his ‘his child’

Inalienable possession

18. a) ùbèlè àvè --> úbélàmè
 gourd water ‘a gourd of water’
- b) èkpà ìvǐ --> ékpìvǐ
 bag kernel ‘a bag of kernels’

other types of associative constructions where the H-tomorph is the associative marker are:

Descriptive Associative Construction

19. a) ògbèlè ólì òfúà) --> ógbéle lòfúà
belt AM white 'white belt'
- b) íkùkù èlì ògbèré --> íkúkú lògbèré
bullets AM surplus 'surplus bullets'

Demonstrative Construction

20. a) ìkpèxìè òlǎ --> ìkpéjé nǎ
beans this 'this beans'
- b) íbàtà èlǎ --> íbátá nǎ
shoe these 'these shoes'

However, in numeral constructions, this morphotonic alternations does not occur (notice when it is followed by a nasal vowel, [v] becomes [m] in Emai)

Numeral Construction

21. a) ìxùvǐ èvǎ --> ìxùmǐ èvǎ
medicine two 'two medicines'
- b) ùkèlè ógbǎ --> ùkèlè ógbǎ
morsel thirty 'thirty morsels'

Also, where there is an interposing H, such a high tone blocks all non-High tone preceding it as shown in the example below:

22. a) ìmátò èvǎ --> ìmátó mǎ
car mine 'my car'
- b) ògídìgǎ ólì òdè --> ògídìgǎ lòdè
a type of cutlass AM yesterday 'the cutlass of yesterday'

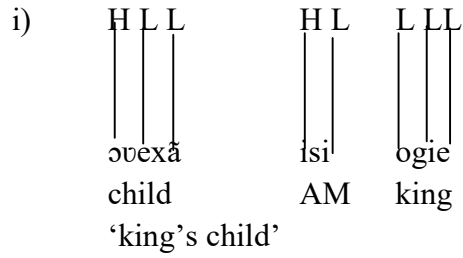
Morphotonemic alternations of this kind is not peculiar with Urhobo or Emai alone. Egbokhare says it seems a general feature of Edoid languages. This kind of change, with consistency exhibited in all noun phrase types, in the language family cannot but have an explanation. In providing an explanation for this manifestation, Elimelech (1976) and Amayo (1976) both postulated floating tones in the phonological representation for each noun phrase type identified. This floating tone is said to sometimes be remnants of a deleted construction marker that once existed historically. They made no attempt however to show its derivation history.

Accounting for the change in the head noun on his part, Egbokhare (1990:286), argues that “tonal change in the head noun of an associative noun phrase (alienable or inalienable) may be traced to the high tone concord prefix of the associative markers (ísi/ési and óli/éli)”. He explains that the initial vowel of the associative marker -ísi/ési— which is a concord prefix marking agreement between the head noun in locative and non-locative association and number agreement in descriptive phrase. This claim of changes in the head noun being caused by the spreading of initial high tone of construction markers or qualifiers this study totally agrees with and will prove this with data, thus a high tone prefix of construction markers or qualifiers after the head noun is postulated.

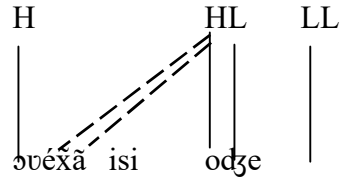
With the above background information, he says the change in the possessive and descriptive associative constructions is caused by:

- a. the spreading of the high tone of the concord prefix of the construction marker.
- b. followed by the deletion of the vowels of the associative marker in the descriptive and alienable associative constructions or deletion of the entire associative marker in the case of inalienable constructions.

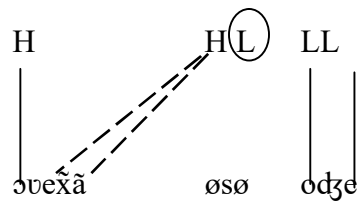
Egbokhare demonstrated his postulation with data, and this is presented below using only one each, for alienable and inalienable:



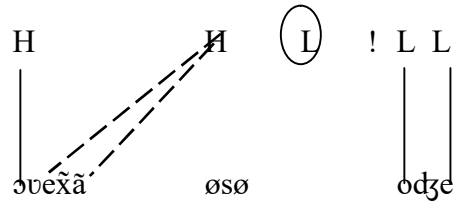
ii) by CPTS (Concord prefix tone spread)



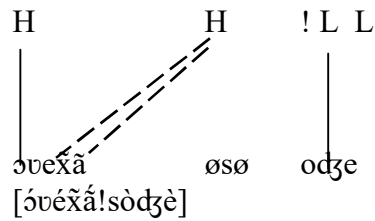
iii) by Vowel Elision


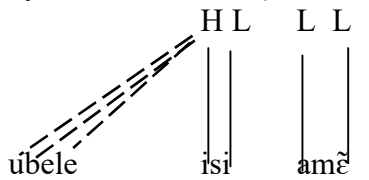
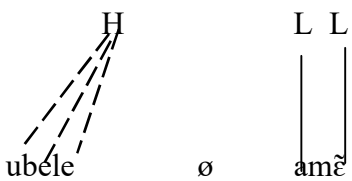
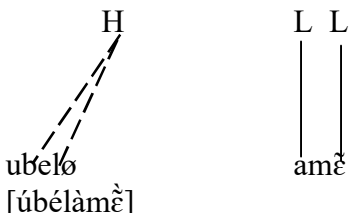


iv) by DS Insertion



v) by floating low Deletion



- Inalienable Associative Construction
- i) $L LL$ HL $L L$

 ubele isi avẽ
 gourd AM water
 ‘a gourd of water’
- ii) by CPTS (Concord prefix tone spread)

 ubele isi amẽ
- iii) by AM Deletion

 ubele ø amẽ
- iv) by V_1 Elision

 ubeleø
 [úbélàmẽ]

Tonal morphemes also indicate tense and aspects and their segmentalization usually affects lexical tones of adjacent segments in urhobo. This modifications of lexical tone for grammatical tones showed in the preverbal elements of Edoid languages enough to warrant an exhaustive discussion on tone, aspects and negation in Edoid in the VP.

2.8 Edoid Verb Phrase (VP)

In the Edoid languages, the structure of the VP is preverbals, Verb and object NP for transitive verb with optional PP, Adv P or ADj P while for intransitive verbs, oftentimes it is the verb alone.

2.8.1 Tense

When relating experiences, in all languages, speakers relate their experiences either in the past, present or future, thus tense is located in terms of time. Taiwo (2003) affirmed this notion and says tense has to do with time relation between event and time of utterance. Essien (1990:78) also say "Tense is a grammatical category that grammaticalizes time reference by making use of indicators or operators (other than adverbs of time) which mark the relationship between the time of a situation and the time an utterance is made concerning that situation. The latter situation is usually the present moment". Generally, however, when discussing tense and aspects, it is common to find Bull's (1963) descriptive framework in literatures. For Bull, it is more important to convey whether an event occurred before, after, or at the same time as another one. By this, people place themselves in relation to the event they are actually talking about or imagining, when they speak.

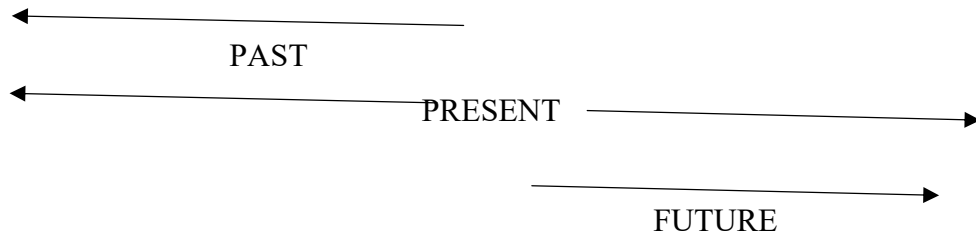


Fig 2.7 Time line illustrating the Bull framework

Source:Bull (1963)

In the figure above, the longest rope represents the present axis while the upper left rope represents the past axis and the lower right rope represents the future axis. This is Bull's framework schematically. The figure shows how, with each axis, there is an indication of basic time as shown in the middle while the others flanking it signal: to the left, a time before the basic time, and to the right, a time after the basic time of that axis. It is obvious therefore that Bull sees tense as having a start-off position to which there are only three possible orders of relationship between a situation or experience and any axis of orientation. The event being perceived may either be anterior to, simultaneous with, or posterior to the event used as an axis of orientation. By event, Bull meant the axis of orientation as at the time the speaker perceives, recall, or anticipate an event, and this is usually in the present.

Grammar uses tense to show location of the time the verb refers to in relations to the actual time when speech was initiated. Bull (1963) opined that all languages express three points in time which are present, past and future. Languages only differ in not having the same surface realization of tense marker. This appears to explain why Comrie (1976:2) say tense is deictic, "...since tense locates the time of a situation relative to the situation of utterance, we may describe the tense as deictic.", later, Comrie (1985:9) simply said tense is "...a grammaticalised expression of location in time", affirming that situations or experiences are distributed over time or a 'deiticentre'. This deiticentre is a reference point

Some languages like the English-type have grammaticalized tense in a tripartite system of past, present and future with each of these time reference differentiated by affixes or forms, for example:

23. Past	Present	Future
Mary ate	Mary is eating	Mary will be eating
John slept	John is sleeping	John will be sleeping

Mary danced

Mary is dancing

Mary will dance

While English and English-type languages show a very clear distinction between related events in tripartite ways, this is not the case with some tone languages. In Yoruba for example, Bamgbose (1990) and Awobuluyi (2008) identified a two-tense system: future and non-future. Both linguists agree that the non-future tense do not have any marker in the language, rather, it points to events either simultaneous with or anterior to the moment of utterance. In some Edoid languages like Urhobo, Edo, tense system is said to operate the tripartite-tense system. This situation has prompted some scholars to conclude that although tense and aspect are elements of universal grammar, their morphological and syntactic manifestation may differ from one language to another and this is part of the parametric variations that are available in language according to Taiwo (2003:773).

2.8.1.1 Tense in Edoid languages

Discussions on tense in Edoid languages will start with Edo (Benin). In Dunn 1968, Emovon 1980, Agheyisi 1986, Omoruyi 1991, Ogie 2003 and Omozuwa 2003 a clear distinction is said to be difficult to observe often as there are striking similarities between both tense and aspect in the language. Isolating and distinguishing tense and aspectual in Edo, most of these scholars had different opinions. Emovon, Agheyisi and Ogie, for instance, split tense into the classical tripartite: present, past and future, while aspect was interpreted as progressive, imperfective and perfective. Agheyisi differed slightly by recognising an opposition between the perfective/imperfective aspectual with *né* marking perfective and *ghá* marking the imperfective while Ogie (2003:2) showed progressive as *ghá*, inceptive as *rá* and perfective as *né* and concludes that tense and aspects in Edo are marked by tones, suffixation and auxiliaries. Omozuwa and Agheyisi however drew a dichotomy between perfective and their non-perfective forms. The examples below show how Edo marks this differentiation with L tone on the imperfective and H on the perfective:

24. a) ọ le evbare [ò lèèβàɹé]
 she/he pres-cook food
 ‘She/he is cooking’
- b) ọle evbare [òlé èβàɹé]
 she/he pst-cook food
 ‘She/he cooked food’
- c) Ekilọẹhiẹn[èkilòèhyé’]
 Ekipres-grind pepper
 ‘Eki is grinding pepper’
- d) Ekilọẹhiẹn[èkilóèhyé’]
 Ekipst-grind pepper
 ‘Eki ground pepper’

(Source: Yuka and Omoregbe 2011:6)

Omozuwa (1987) also noted a heightened rising tone on the past perfective verb form which marks minimal aspectual distinction possible on monosyllabic verbs in the language. By heightened, he meant a high which follows another realized on a higher pitch during articulation than the initial high. On tense, Yuka and Omoregbe (2011:9) say “the Edo native speaker’s distinction of tense and the segmentation of the life of an event are deeply rooted in his/her interpretation of time (ẹghẹ). They presented the specification of event as conceived by the speakers in the time line below:

The Edo Time Line

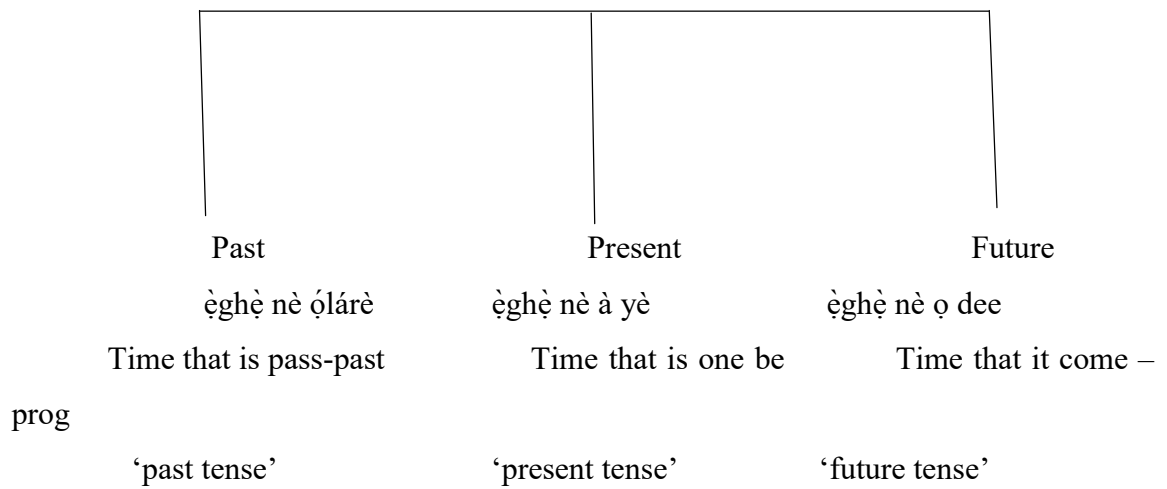


Fig 2.13. The Edo time line

Source:Yuka and Omoregbe(2011)

- ‘ota is cooking food’
- b. òzó kpè ókpán
 ozopres-wash plates
 ‘ozo is washing plates’

While for the future tense which locates event in time ahead of the moment of speech, overt preverbal morphological form like ‘ghá’ is used:

27.

- a. ò ghá dé ìmótó
 he future buy car
 ‘he will buy a car’
- b. ọ ghagbe
 he future dance
 ‘he will dance’

On aspectual distinction in Edo, Yuka and Omoregbe (2011:17) say most of the literature they reviewed limited the interpretation of aspect to either events yet to be concluded at the time of speech or have come to a close at the speech time. This means aspect was either imperfective or perfective but this is not exactly all there is to the internal structure of aspects. Infact, Fawley and Elbraum (1992) say morphologically and conceptually, aspect is different across languages. In Edo, according to Yuka and Omoregbe, the perfective in Edo is marked in similar ways with simple past tense in the language: as high tone on ‘né’ while the imperfective bears low tone ‘nè’ and the CV verb stem copy the tone

- 28a. ò lè èvbàré né
 he pres-cook food prog-already
 ‘he is already cooking food’
- b. ò lé èvbàré nè
 he pst-cook food non-prog-already
 ‘he is already cooking food’

Completive Construction

30. **Input** **Present** **Past**
- a) òdžè mèh̃h̃ è ì òdžè mèh̃h̃ ! ì òdžé ! mèh̃h̃ ! ì
king sleep Fac. 'the king has slept' 'the king slept'
- b) àgbò là lé àgbò lá ! lé àgbó ! lá ! lè
ram run away 'the ram has run away' 'the ram ran away'
- c) àkàkà ù ì àkàkà ú! ì ákáká ! ú ! ì
grasshopper die Fac. 'the grasshopper has died' 'the grasshopper died'
- d) òkpòsò và ré òkpòsò v́ ! ré ókpósó ! v́ ! rè
womancome G 'the woman has come' 'the woman came'
- e) ívèx̃à ù-lò ì ívèx̃à ú-ló ! ì ívèx̃à ! ú-ló ! ì
children die it. Fac. 'children have died' 'children died'
- f) ításà ùwè ì ításà úwé ! ì ításà ! úwé ! ì
platelost Fac. 'the plate has been lost' 'the plate is lost'
- g) ùgì dè ré ùgì dé ! ré ùgí ! dé ! ré
basket fall G 'the basket has fallen' 'the basket fell'
- h) ètòké dè ré ètòkê dé! ré ètòké ! dé ! ré
firewood fall G 'the firewood has fallen' 'the firewood fell'
- i) íkèké dè ì íkèkê dé ! ì íkèké ! dé ! ì
bicycle fall Fac. 'the bicycle has fallen' 'the bicycle fell'

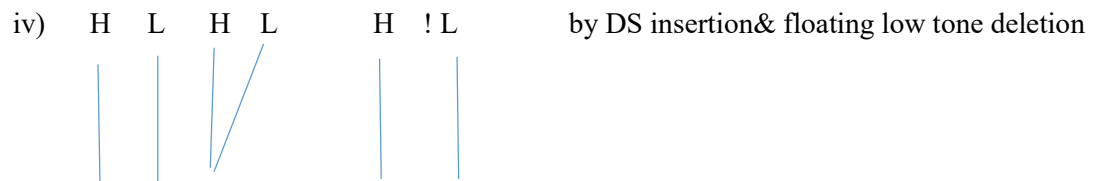
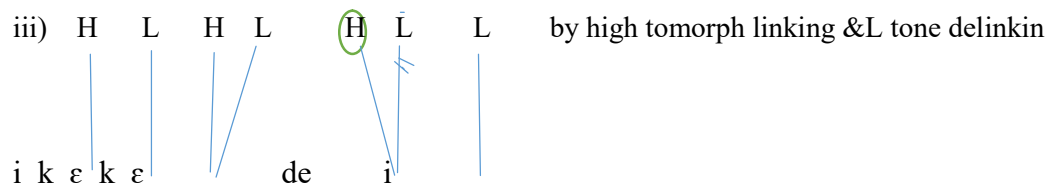
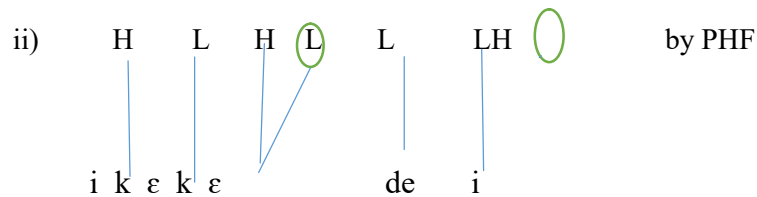
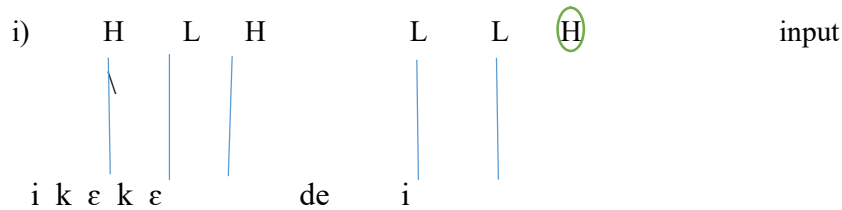
(adapted from Egbokhare

(1999:316)

from the data above, Egbokhare proposed downstep could not obviously result from simple tonal changes, rather, a situation where linked melodies set lexical tones afloat and downstep then gets inserted before the final disappearance of the floating tones is suggested. With the completive present construction for example, a high tone morph is

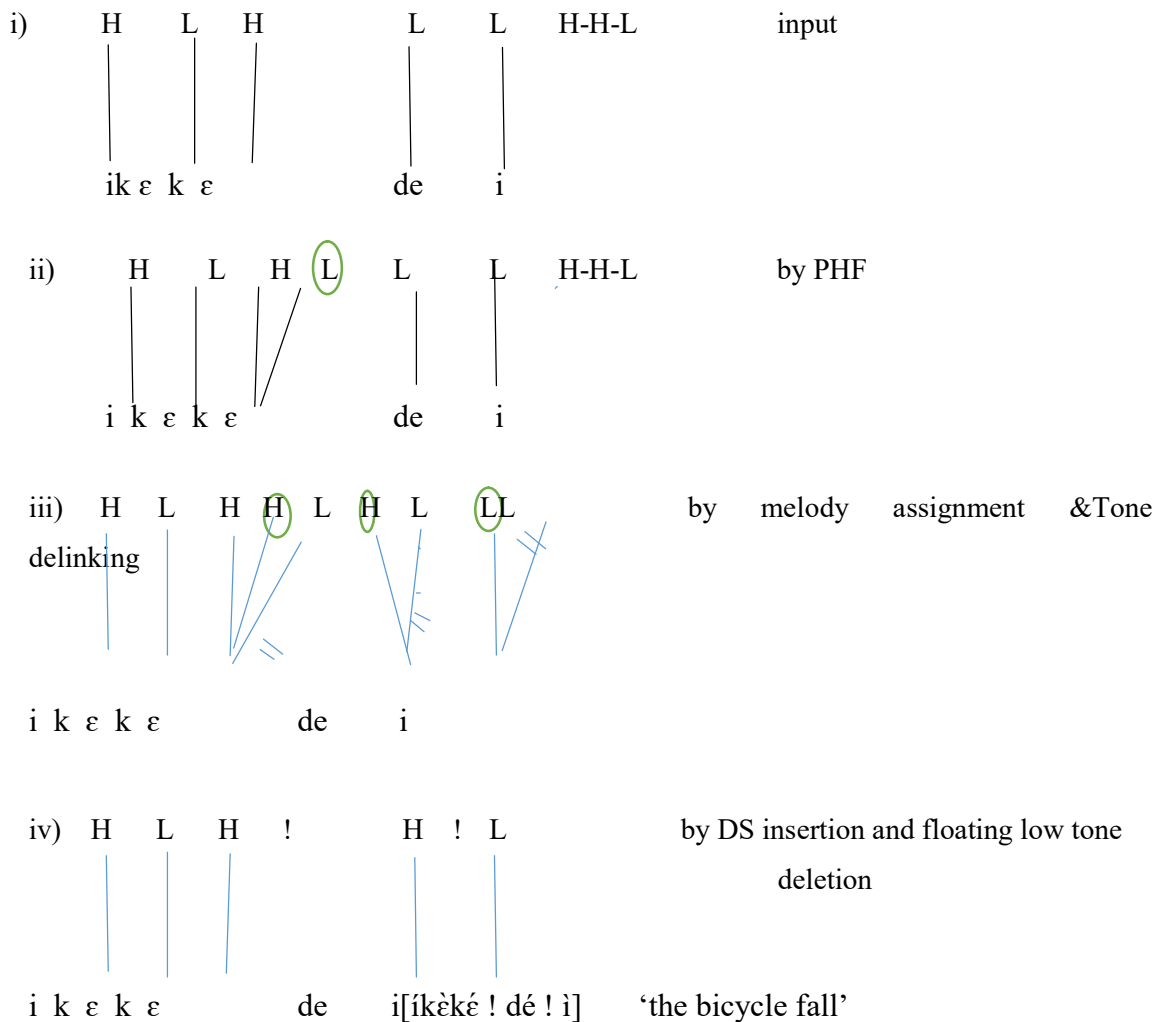
assigned to the rightmost syllable of a verb, this tomorph spreads backward in cases where the verb is disyllabic, as a result of the linking of this high tomorph, the low tone of the verb is set afloat. It is this low that downsteps the high of the following tone before disappearing. Thus, to account for tonal changes, the lexical tones are taken as input and tonal pattern expressed are seen in terms of grammatically conditioned tonal changes.

Presented below is a demonstration, within the autosegmental framework, of the spreading of the high tomorph, the delinking of the low, the insertion of the DS and deletion of low tone using the last example in the data: /íkèké dè ì/



i k ε k ε de i [íkèkè dé ! i] ‘the bicycle has fallen’

Notice however that the completive past carries a H-H-L melody with the initial H linked to the subject, second H to the verb and the final L links to verbal morphemes. The ‘Prepausal (High Tone) Fall’ (PHF) rule ensures that the subject necessarily ends in L and so it delinks the H this results into the downstepping of the tone on the verb. It is this H that in turn spreads leftward to the low tone syllable (but if such tone was lexical H, such spreading is said to be blocked in this language). It happens with the completive present where only one H tone unit is assigned to the verb /dè/, the same happens with the completive past. Finally, if any other verbal morpheme occurs after the verb, the low tone melody is linked. This is demonstrated below with the same: /íkèkè dé i/



Once again, the need to recognize tonal morphemes as an essential part of the grammar of Edoid languages as mentioned in the analysis of Urhobo by Aziza becomes obvious if proper tonal analysis is to be achieved. According to Egbokhare (1990: 318), “these morphemes which may be single tone units or tonal melodies (fixed tonal pattern) are grammatically significant tones which are construed as existing independently of ‘segmental’ phonological string (i.e., distinct from the lexical tones) and thus must be mapped onto specific constructions”. This affirms Goldsmith’s (1983) observation that in tone languages “if one filters out everything leaving tone, the melody of the tone remaining can still be of grammatical importance”. But is this conclusion absolute? Is it possible that data may show Ósósò is different? This is one of the bases for this research.

2.8.2 Aspects

In most discussions on aspect, it is not uncommon to refer to Comrie’s (1976:3) definition of aspect: “the different ways of viewing the internal temporal constituency of a situation”. Bhat (1999:43) on his part says aspect is “the temporal structure of an event, i.e. the way in which the event occurs in time” and Lyons (1968:315) opined that aspect is unlike tense as it lacks deictic category, it is also not relative to time of utterance. Summarizing the different definitions of aspect, Obiamalu (2015:40) says

what all these definitions have in common is that aspect has to do with events and their structure and not necessarily time of occurrence in relation to utterance. Aspect answers the following questions; is an event completed or on-going? Is an event beginning, continuing or ending? Does an event occur repeatedly? These and many more questions are what aspects seeks to answer. While some languages make grammatical distinctions of some of these aspectual notions i.e. marking them with specific morphemes, many languages do not.

Obviously, aspect, like tense, varies from one language to another; yet scholars agree the distinction lies in the perfective and imperfective aspectual distinction. Comrie (1976:16) says “perfectivity indicates the view of a situation as a single whole, without distinction of

the various separate phase that make up that situation, while the imperfective pays essential attention to the internal structure of the situation” the imperfective is usually further divided into habitual and progressive. With Yoruba for instance, Bamgbose (1960:167) categorizes aspects in the language as: neutral, perfective and imperfective, subdividing the last into the continuous imperfective and the habitual imperfective. Muysken (2008:58) however gave twelve distinctions under aspect: habitual, perfective, progressive, continuative, repetitive, frequentative, terminative, celerative, retrospective, procimative, durative and completive. Expectedly, this applies differently in languages.

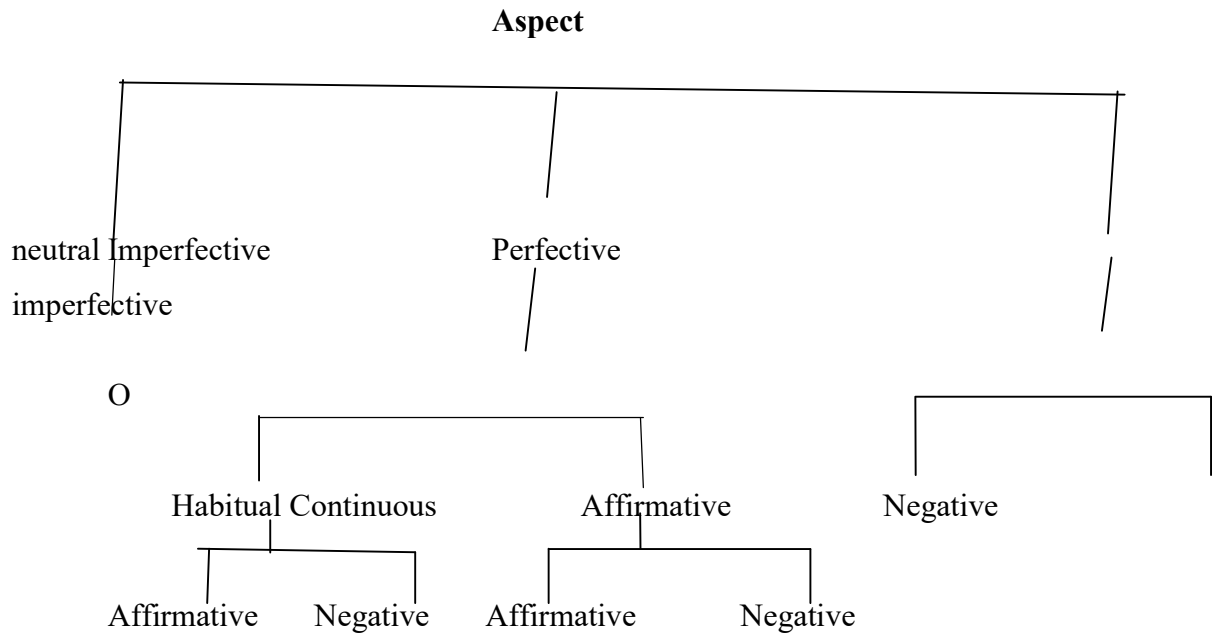
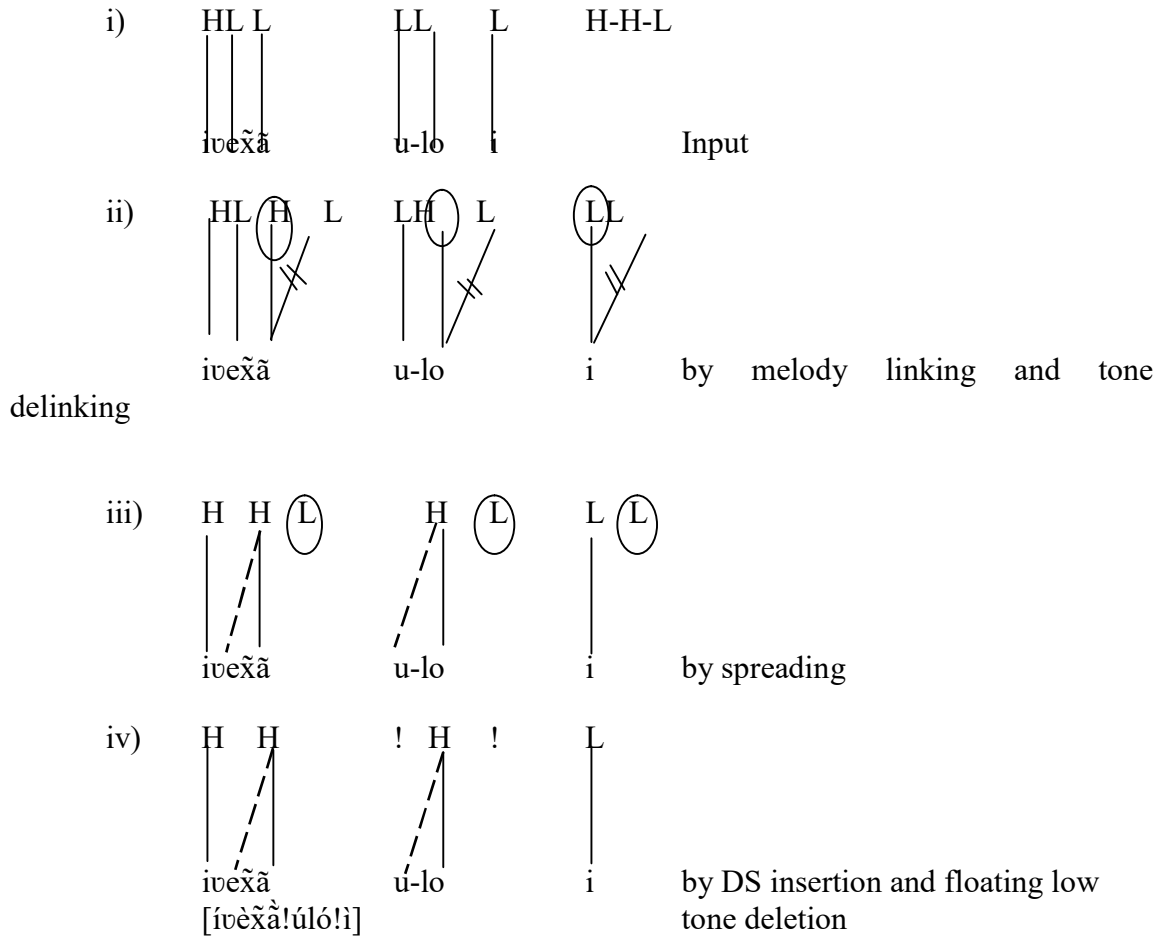


Fig 2.14. Distribution of Aspect

2.8.2.1 Aspects in Edoid languages

Among Edoid languages, sometimes tense and aspectual constructions overlap and a construction can surface under both tense and aspect. Differentiated by tone alone. Consequently, in his tonal analysis Egbohware did not distinguish between the pairs of tense and aspectual constructions that came under focus in his work. He simply analysed them as either completive present (CPE) and completive past constructions (CPA); or remote future (RFUT) and immediate future (IFUT); habitual (HAB) and continuous (CONT). The completive past construction in Emai carries a H-H-L melody. The initial H links to the subject, the second H links to the verb (and its suffix). The final low tone of the melody links to subsequent verbal morphemes. This Egbohware illustrated with the example below:



‘children died’

2.9 Negation

Following Truth Conditional Semantics, the value of a proposition is either true or false. According to Schaefer and Egbokhare(2018:328) “sentence negation affects the entire proposition of a clause, specifying that clausal information is not shared by speaker and hearer as true”. Sentence negation (SN) is a universal phenomenon but languages go about it differently and the idea that it ought to be recognized as a separate functional category was first proposed by Pullocks and made popular by Benmamoun (1992). In English, SN is expressed with the overt morpheme ‘not’ while in Yoruba the marker is commonly ‘ko’. Study now looks at negation in the Edoid languages

2.9.1 Negation in Edoid languages

Across some Edoid languages, negation can be tonal or it a morpheme with floating L tone forming part of the negative particle. In Emai, negation is marked by the negative morpheme /i/ occurring after the Subject Concord Marker. Negative morpheme can also be [kì] after [éri] in focus sentences but its position is not fixed as it can occur after the focused entity, depending on what is to be negated – the sentence or the phrase. The affected clause takes the form of a polar question with an obligatory interjective marker ‘ò’. It is often the case with this language that a response starts with either ‘hèè’ ‘yes’ or ‘ógbò’ for ‘no’.

Emai (a low tone negative morpheme / i/ or /kì/)

31. ófè ó ì è ókà
 rat SCM NEG eat maize
 ‘the rat did not eat maize’

kí ólí ómóhé gbé’ ófè
 SN the man PAP.kill rat
Isnt’t it the case that the man killed a rat?

hèè, ó gbé' òì
 yes, he PAP.kill it
 'yes, he killed it'

óghò, ó ì gbè òì
 no, he NEG PAP.kill it
 'no, he did not killed it'

Schaefer and Egbokhare (2018:328)

Isoko (a floating Htone morpheme)

In Isoko, a floating H tone can be the auxiliary marker (AM) occurring immediately after the verb stem to negate a sentence:

32. ò ò dè ' òlé → ò ò dé òlé
 he Scm buy AM yam he bought yam

ò ò dè' òlé hV́V́ → he didn't buy yam
 he Scm buy AM yam Neg

Urhobo (a floating Htone morpheme)

In Urhobo, negation is derivee by floating H segmentalized on the final vowel of the stem of the noun at sentence final position

33. /ò + dé + òné + ' / → [òdònééé]
 L H L H LH* L H HL H
 He bought yam Negative 'he did not buy yam'

2.10 Theoretical framework

The theory adopted by this work is the autosegmental theory (AT), as found in the Autosegmental or non-linear phonology credited to Goldsmith (1976, 1979, 1990). An understanding of built-up issues that led to the emergence of AT is considered fundamental to an understanding of the emergence of the theory. Therefore, a brief account will be provided. A discussion of Interface theories that have emerged in relations to phonology-syntax will end the discussion with attention paid to the tenets of their approach, strength, weaknesses and relevance to present study.

2.10.1 Classical Taxonomic Phonemics

Classical taxonomic theory happens to be the first in the line of theories that studied human speech sounds and the identification of patterns and significant units. From the 1920's to mid 1960's phonologists were preoccupied with providing answers to the question "What phonic features serve in the language under investigation and are capable of serving in natural language, to distinguish one utterance from another?" Sommerstein (1977:1).

Their orientation produced concepts such as complimentary distribution (mutually exclusive environment), free variation, contrastive sounds using minimal pair test and a discovery procedure that has remained useful to phonologists in the identification of distinct sounds in languages even till date. In spite of its usefulness however, Oyebade (2018:5) says it seems that the complexity of language had only been surface scratched by the theory "leaving a whole bunch of empirically interesting questions unanswered". The usefulness of the discovery procedure for the identification or distribution of sounds in a language which this school of linguistics produced have however remained helpful to phonologists over time. Their discovery procedure presented below was adopted in the

discovery of phonemes and allophones; sounds restricted and sounds basic; in a variety of context in Ósósò.

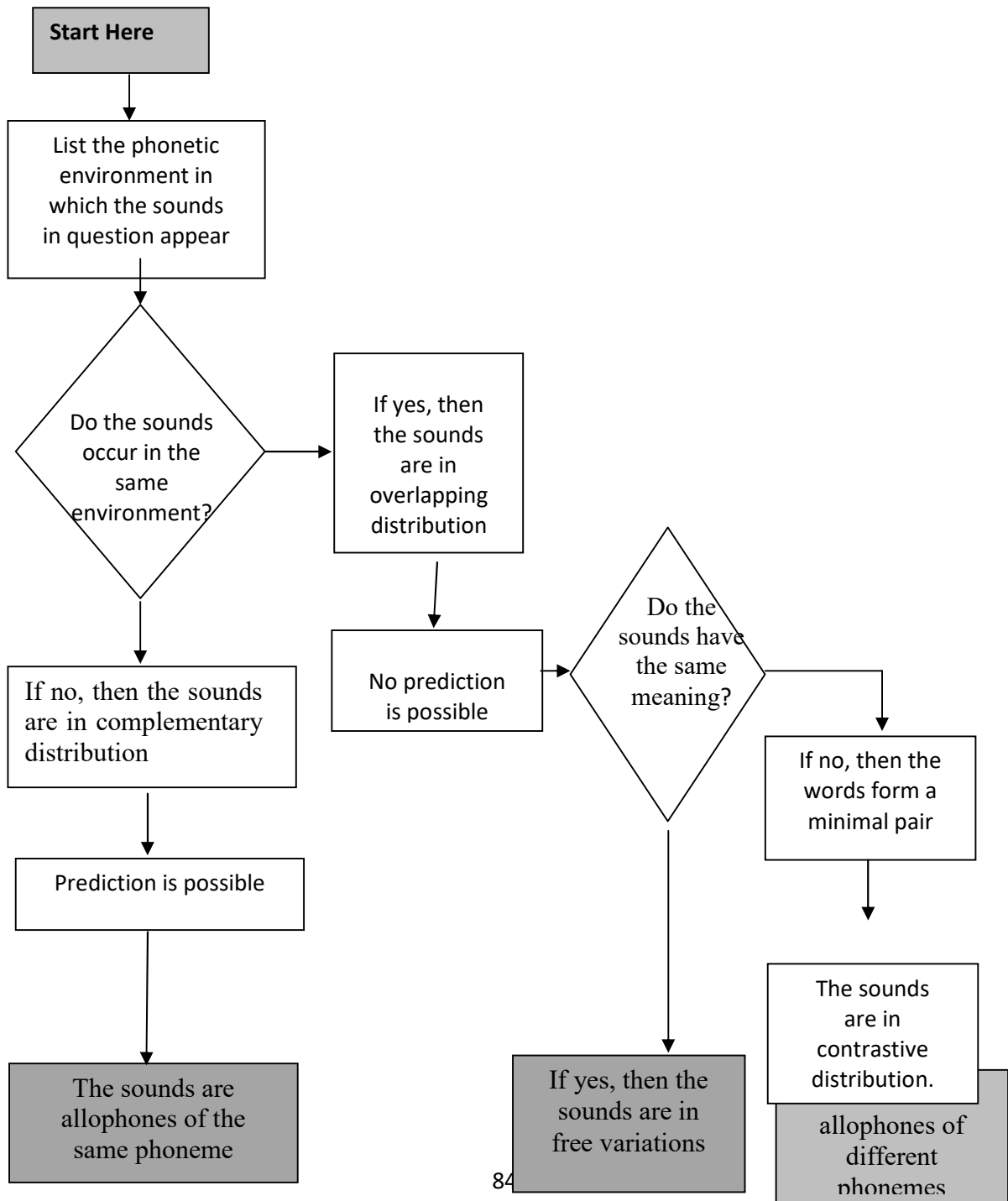


Fig 2.10:Trubetzkoy (1939)flowchart adopted for the discovery of sound distribution in Ósóṣò. Yes or no answer to the questions in the diamond shapes leads to the rectangular shapes which guides conclusions.

Source - Udoh (2003:49)

Many other phonological theories emerged to account for speech phenomenon, this study will however discuss briefly, generative phonology alone and it does so in other to lay foundation for why autosegmental phonology is the preferred theory of this study.

2.10.2 Generative Phonology

Prior to the advent of the Autosegmental phonology, the standard theory (ST) of Generative phonology as propounded by Chomsky and Halle (1968), in *Sound Pattern of English* (SPE), had emerged. Although ST changed the focus of phonological analysis, it built on the insights provided by the taxonomic phonemics. According to Oyebade (2018:7) “the major motivation for this theoretical framework was the clash between theoretical assumptions and linguistics data”. Under Classical (taxonomic) phonemics, “no two utterances which contrast at the phonetic level may be analyzed as phonologically identical, and no two utterances which are phonetically identical, or are in free variation, may be analysed as phonologically distinct”. This principle referred to as the ‘bi-uniqueness principle’ held to tenaciously by the taxonomists was considered a hindrance to data analysis by the generativists. For example, this data adapted from Oyebade (2018:7) shows the weakness of the principle:

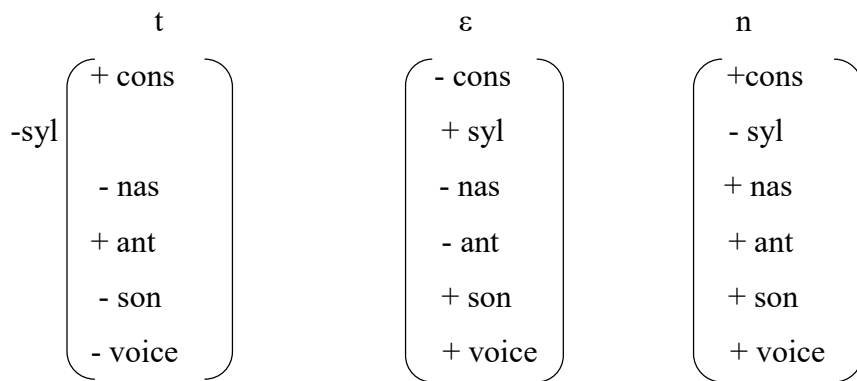
34.	Set A		Set B.
	[kát] cat		[ilékrik] electric
	[sát] sat		[ilekrisiti] electric

Based on Set A, /k/ and /s/ will be considered phonologically distinct based on contrast, by the Generative phonologists, while in Set B, they both belong to the same family, one is a variant of the other and occur in complimentary distribution, thus in one, they are

phonetically contrastive but in set B the same sounds are phonologically identical, an analysis which contradicts the bi-uniqueness principle. Though the taxonomist explained set B off as a case of morphophonemics and not phonemic, this problem, among other motivated a new focus for phonology.

At its emergence, Generative phonology held three components as very crucial in phonological analyses: the underlying representation, the phonetic representation and the rules which links the two together. The underlying is an abstract level but it has the property of encoding distinctive features which languages actually targets rather than segments, the phonetic level is however a representation of how lexical items are realized in speech and the rules are directives which map the underlying form to the surface form according to Oyebade (2018). It clearly departed from the era of segments being the smallest primitive in the make-up of a natural language.

As a theory, it characterizes utterance as a bundle of unordered features arranged in an ordered sequence. It focused on distinctive elements or features of sounds based on articulatory and acoustical phonetic properties for describing human speech sounds. In the framework, the illustration below captures the characterization of 'ten' thus;



These distinctive features eventually came up to 20 from the 12 it started with. They were represented as binary following one of the most primitive ways of representing oppositions, in matrix, that ultimately help identify the crucially important features needed in identifying and representing human speech sounds. Indeed, considering languages of the world are over 7,000 and the sounds contained in these languages exceeds 600 with 150 symbols used to represent them, having a theory that reduces all these to just 20

features and rules that help generalisations was a great and profitable feat in phonological theorization.

However, inadequacies of the generative phonology framework soon began to emerge in the face of data from tone languages, in particular. This characterization into features and rules application/ ordering became a problem. Linguists began to have issues with applying the framework to contour tone, floating tone and so on. This study will not go into details beyond this on Generative phonology. The autosegmental theory as a framework for phonological representation whose evolution was on the heels of issues relating to suprasegmentals, is appropriate for this work and so will be discussed with more details.

2.10.3 Autosegmental Phonology

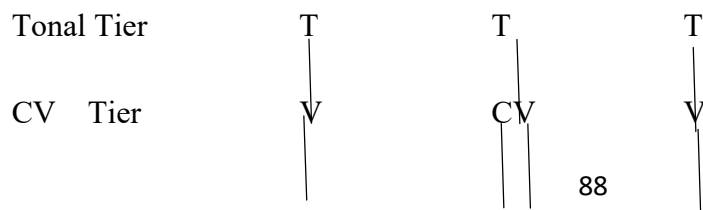
One of the fundamental breakthroughs as far as the development of phonology in recent time is concerned, according to Kenstowicz (2020:13), is “Goldsmith’s (1976) proposal that tone be represented on a separate level or tier from the segments that bear it”. Introducing the central difference between Autosegmental phonology and the two theories preceding it (discussed briefly above), Goldsmith (1990:8) says “Autosegmental representation differs from familiar generative and traditional phonemic representation in that it consists of two or more *tiers* of segments”. Explaining further, “in the case of a tonal language, for example, tones are represented on a separate tier - tonal tier - and on this tonal tier, each segment is specified for tone and for nothing else”. This became imperative because arranging all features that represent utterance in linear order in the face of data from tonal languages became inadequate representation of these languages as it left the suprasegmentals and Goldsmith (1976:5) says “...ever since there have been segments in phonology, there have been phenomena that evaded segmental classification... there have been suprasegmentals”. Fundamentally therefore, ST was linear while AT was non-linear.

So, at inception, that earliest model of Autosegmental phonology was concerned with the relationship between tone and other features. According to Akinlabi (1984:12), “The basic difference between the autosegmental theory and the standard theory of Generative phonology in SPE is in terms of phonological representation”. The autosegmental

representation allows one-to-many and also many-to-one relations between tones and their TBUs. Autosegmental phonology model proposed two or more parallel tiers for phonological representation with each of these tiers differing from the other in terms of what they specify and inspite of his background and training in generative phonology, Goldsmith (1976:9) says “Autosegmental theory is, I believe, an improvement to this system”. Explaining AT framework further, Adeniyi (2010:4) says “the kernel of autosegmental phonology is that the underlying form consists of parallel strings arranged in two or more tiers. Goldsmith (1990) says none of these parallel sequences of segments ‘depend’ or ‘ride on’ the others. Each is independent in its own right, hence the name autosegmental”.

Though credited to Goldsmith (1975), before him, Zellig Harris had drawn attention to autosegmentalization of features in his article ‘simultaneous components in phonology’ followed by William (1971) and Leben (1973) attempts at a non-linear framework for utterance. Afterwards several other linguists like Halle and Vergnaud (1980), McCarthy (1981), Pulleyblank (1983) all worked on autonomy of suprasegments. With time, AT has been extended to other phenomenon such as syllable structure; Clements and Keyser, (1983), Nasality; Hyman (1982) and Vowel Harmony; Chumbow (1982), its uniqueness continues to lie in how it allows such units operate autonomously, beyond segments.

As explained by Goldsmith (1976:23), AT attempts to provide a more adequate understanding of the phonetic side of linguistic representation. A side which he said is composed of several simultaneous sequences of segments, with constraints showing how the various levels of sequences are interrelated or associated. Thus the units of phonological processes are represented on separate tiers as linear representation mapped to a central CV-skeletal tier by association lines. Below is a sample illustration of AT:



Skeletal Tier X XX X

Like ST of Generative phonology, AT is also committed to a formal account of phonological processes where natural or expected output in a language is reflected in a formal representation, but, the absolute slicing hypothesis of ST falls short of this commitment in certain respect. AT explicitly proposed that:

- a. phonetic representation is multi-linear or multi-tiered (Goldsmith 1976)
- b. tiers are linked.
- c. feature specifications have an internal hierarchical structure (Steriade 1982, Clements 1985, Sagey 1986)
- d. some tiers may be morphemes, (McCarthy 1979, Lieber 1987)

In this model therefore, all tiers remain autonomous throughout derivation; tonal tier does not merge with segmental tier for instance.

2.10.2 Well Formedness Condition (WFC)

All autosegmental phonologists agree that phonological representation is multi-tiered at all levels but the big challenge was “how are these tiers to be linked or regulated to reflect produced speech? According to Oyebade (2018:139) “one of the earliest questions that non-linear phonology had to grapple with was how independent tiers got synchronized to produce the unity called speech”. In other words, how are these elements, located on various tiers, to be coordinated so as to arrive at a well-formed phonological representation? To solve this problem, William (1971) and Leben (1973) proposed the Tone Mapping Rules (TMR). Clements and Fords (1979), Halle and Vergnaud (1982) and Pulleyblank (1986) developed it further. On tone mapping rule, this study quotes Aziza (1997:32), who quoted Halle and Vergnaud (1982):

- i. Map from left to right a sequence of tones onto a sequence of syllable.
- ii. Assign one tone per syllable, until it runs out of tones.
- iii. Assign the last tone that was specified to the remaining untoned syllable on the right.

- iv. Until you encounter the next syllable to the right belonging to a morpheme with aspecified tone.
- v. If the procedure above runs out of vowels (syllable elements or syllables), more than one tone may be assigned to the last vowel only if the grammar of the language includes astipulation to that effect.

This last outline (v) was added by Halle and Vergnaud (1982) when provision had to be made for when several tones are mapped on a single tone bearing unit. According to Leben (1971) “a linguistic formalism would be sterile if in principle it provided no clue as to the adequate representation of linguistic statement”.

However, Goldsmith (1976) felt TMR was too restrictive because the consequence of the tone mapping rules is that “multiple linking of many syllables to a single tone is a universal property of language whereas contour tone (that is multiple linking of a syllable to many tones) is a language-specific phenomenon”. He consequently proposed strategy to effect synchronization which he calls the *Well Formedness Condition* (WFC). WFC strategies are:

- i. Match the tones and tone bearing unit one-to-one, left to right.
- ii. Associate leftover tone bearing unit with the last tone and leftover tones with the last tone- bearing unit.
- iii. Association lines do not cross.

Goldsmith mapping convention has been criticised as being both strong and weak. Although by WFC, contour tones become automatic and a universal feature of languages, some languages do not attest to contour tones, how then can the asymmetry be accounted for? This led to contour tone simplification rule as a repair rule by such languages, a language specific rule which Pulleyblank (1986) describes as suspect. Furthermore, with regards to the problem of surplus tones or TBUs, for WFC, tones remaining should be (re) linked to the last tone bearing unit and remaining TBUs should be linked with the last tone. For the first, this strategy is considered too strong because some languages do not permit tone clustering on short vowels, and for the second, when

an unassociated TBU has tone to its right and to its left: In what direction should it go? WFC did not specify.

Pulleyblank (1986) suggested a further modification and argues that both the multiple linking of tones to a single TBU and multiple TBU to one tone should occur based on language specific rules only. He then proposed association procedure below:

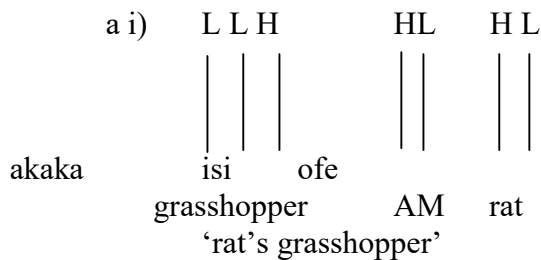
Association Convention

Map a sequence of tones onto a sequence of tone-bearing units:

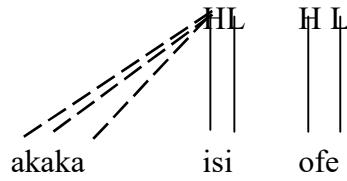
- a. From left to right
 - b. In a one-to-one relation
- Adding the universal aspect of WFC:
- c. Association lines do not cross

Thus, tone clustering is determined by language specific rules and not universal conventions. Interestingly, this aspect of WFC which has been accepted as universal by linguist who have adopted the autosegmental framework has recently been challenged saying that too should be considered a language specific requirement. Urua (1990) brought it up while discussing Ibibio morphology within AT framework. Aziza reported Akinlabi and other linguists have represented her data in ways crossing does not occur. Regardless of its weakness however, AT is suitable for this study not because its evolution was due to the inability of the standard (linear) theory to account for tone but more importantly, the framework allows representation of the phonetic and phonology content of tonal languages. Among the scholars who applied AT in their works are Akinlabi (1984), Egbokhare (1990), and Aziza (1997) and a simple derivation from Egbokhare’s analysis is presented below to underscore the representational adequacy of AT

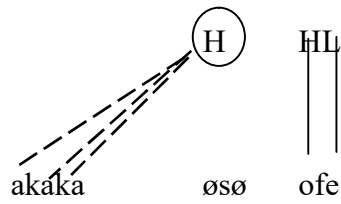
35.



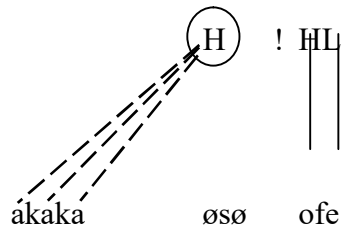
ii) by CPTS (Concord Prefix Tone Spread)



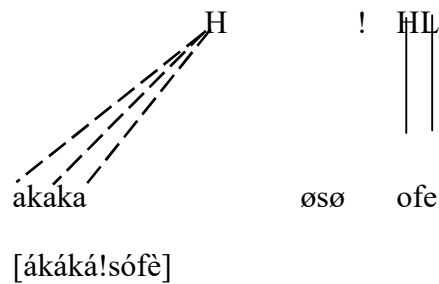
iii) by vowel Elision



iv) by DS Insertion



v) by floating low Deletion



The Skeletal Tier

A language can, for example operate nasal, tonal segmental and vowel harmony tier and so it is important to determine how these tiers relate with each other. Clements and

Keyser (1983) attempted to resolve this by developing a central tier known as *skeletal core or tier*. Although they agree in principle with the need to have a central skeletal tier but Hyman (1983) rejects the CV nature of the skeletal tier. With CV, it was difficult to account for glide formation, is that it is the central tier whose core is the CV elements. Another point that appeared a contradiction of the basic notion of non-linear phonology is linking all other tiers to the segmental tier which imposes, implicitly, a special status on the segmental tiers yet all tiers are supposed to be equal. Besides, in many stress times languages, long vowels and closed syllables constitute heavy syllables and under the CV structure, they are represented as VV for long vowels and VC for a closed syllable but this representation makes the similarity between in both difficult to encode from this skeleton. So, Hyman (1983) suggested the skeleton be represented with Xs so That (a) prosodic structure link will be provided, b) precedence relations will be determined and c) timing relations will be determined for languages where this applies. Presently, according to Oyebade (2018:143) the question “has not been conclusively settled in phonology and individual phonologist operate one or the other model as a matter of personal preference. This study adopts Clements and Keyser (1983) model.

2.10.3 Autosegmental phonology and tone

The fact remains that many of the data that motivated the evolution of autosegmental phonology came from Africa languages like Igbo, Mende, Tiv, Hausa and Margi. The most fundamental characteristic of autosegmental phonology is that phonological representation is non-linear. With its framework, the theory adequately handles the problems of representation which generative phonology, with its linear structure, could not do adequately. Some of these problems addressed includes vowel harmony, nasality, contour tones, melody levels, floating tones, tonal preservation or stability and bi-directional spreading among others. Only those relevant to this study will however be discussed.

2.10.3.1 Contour tone

The two core points raised against linear representation of ST is the existence of contour tone and floating tone. In tone languages, short vowels bear contour tone and these tones are often concatenation of unidentical tones, following some phonological processes. Considering the vowel that bear rising or falling tones have to now bear contradictory values for the same feature in representation, a violation occurs of its own basic tenet occurs in ST. This showed the theory was inadequate in handling this phenomenon within its framework. AT however, explained contour tone with its multi-tier model claiming equal number of segments are not required because tonal segments and vowel segments are autonomous. In the illustration below, linear ordering on the tonal tier shows a low precedes for R and H before L for R but by association lines, both are with a single TBU:

36. (a) Rising tone



1(b) Falling tone



2.10.3.2 Floating tone

A third problematic issue for ST was floating tones and toneless morphemes. According to Goldsmith (1990:20) “no discussion of tonal systems, nor any discussion of autosegmental phonology, could omit a discussion of floating tones”. Explaining a floating tone, Egbokhare (1990) says “in tone languages, instances may be found where tones occur without being associated with a vowel segment. Such tones are commonly referred to as floating tones”. Goldsmith (1976) says floating tone is a mere descriptive device saying floating tones are “a device that has proven useful in working with tone languages but whose theoretical status has always been suspect”. However, beyond its being

theoretically suspect, floating tones exist in tonal languages and the notion was difficult to justify within a uni-linear framework because tones must always co-occur with segments.

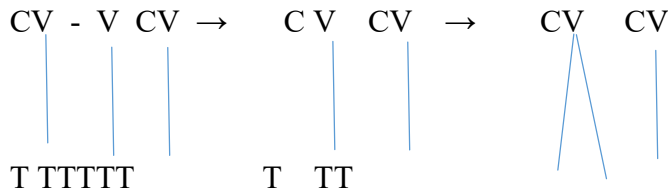
Attempts by Schachter and Fromkin(1968) adopting ST to represent floating tone in Akan as [-segment, +L] sufficed but was still largely inadequate; and since no other feature of segments was represented the same way, “ad hoc”, says Leben (1973). This problem was solved however by AT with its postulation of independent tier. Consequently, morphemes lacking segmental tiers called “toneless morph” and tone without segments called “floating tones” were accounted for by marking them on tonal tier. Since both tonal and segmental tiers are independent of each other, floating tones can “float” without needing segment. Thus, AT accounted for floating tones adequately. This remains one of the biggest appeal this theory holds for this study as will be obvious during the discussion and representation of data where floating tones neutralises lexical tones in Associative constructions.

2.10.3.3 Tonal stability

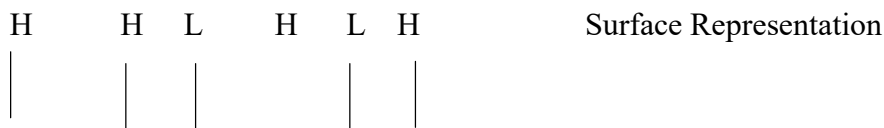
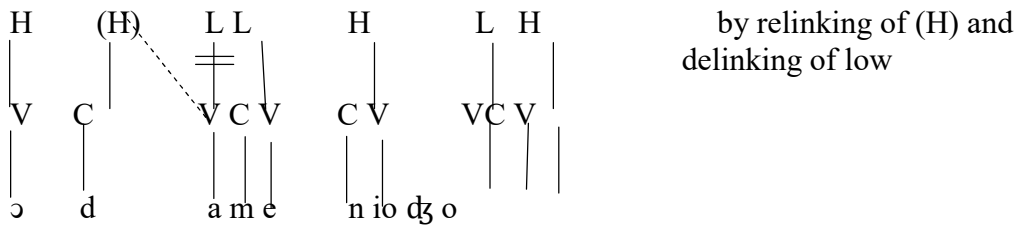
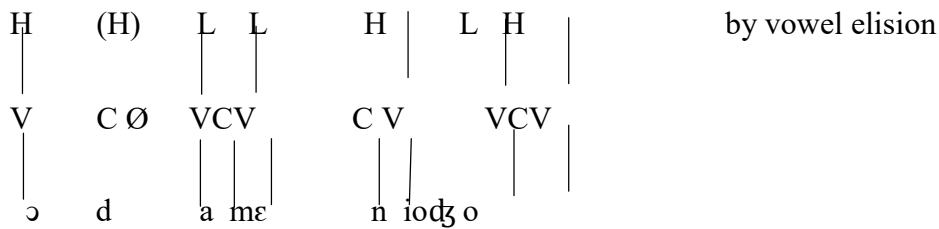
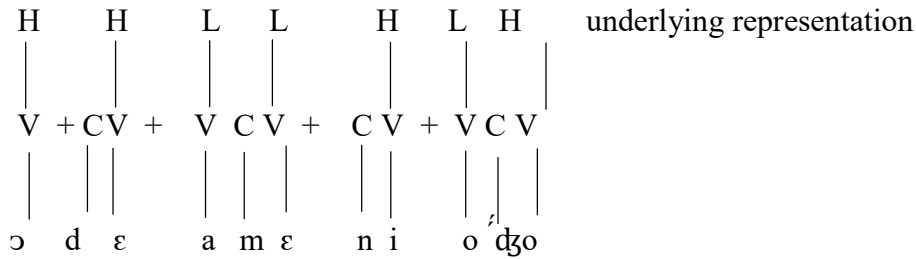
The second core motivating factor for the emergence of AT centres around ‘tone stability. Within the ST framework, tone is considered a feature of its TBU. Consequently, when some phonological processes lead to the deletion of such segments bearing the tone, it elides along with its tone. It was observed however that when segments delete, move, assimilate or there is a reduplication, tones were left behind, indicating that tone did not elide with host segment. What this implies is these features were actually not part of the segment as was considered by the standard theory or they would have elided with the segments. This feature asynchrony in phonological processes resulted into conceptual problems and Leben (1973:135) queried why one type of segmental feature will be able to ‘float’ when no other segmental feature appears to have this property.

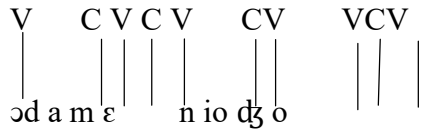
AT was however able to account for this phenomenon by showing it to be a kind of tone “stability” which goes to prove the autonomy of tone from their TBU. Consequently,

Goldsmith (1976) defines tonal stability as “the resistance of the tonal features of a vowel to deletion, even when the vowel that bore the tonal feature is deleted or desyllabified”. This stability is shown in the following derivation where Yip (2002) showed hiatus resolution that deletes the second vowel and spreads the tone to the next vowel:



Further exemplification of tone stability is shown below using token from our data:





[ó dámèní òdʒó] ‘he bought water for ojo’

2.10.3.4 Melody levels in Grammar

Other issues that came up were related to melody levels in the grammar of tonal languages. In some languages like Urhobo, Aziza (1997:24) reported that “a particular verbal construction has its own melody which can simply be hummed without words or consonant and vowel segments and yet make sense” invariably implying that the verbal system of this language has melody levels which are independent of segments. These are linguistically significant levels in the grammar of Urhobo making tonal melodies features of that construction and not morpheme. Members of these category will surface with the same tone pattern in similar grammatical constructions provided they have the same syllable structure. As Goldsmith (1983) rightly observed, if one filters out everything leaving only tone, the melody of these tone remaining can still be grammatically important. Standard theory by its strict association of features with segments was unable to account for melodic levels but AT elegantly accounts for this.

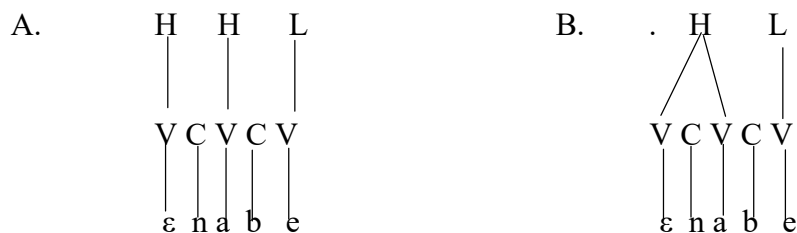
By making phonological representation to be non-linear and providing parallel tiers for sequences of entities, each independent of the other, this fundamental characteristic of the autosegmental phonology marks the biggest appeal of the theory and justification of its adoption as suitable for the goal of this study.

2.10.3.5 Obligatory Contour Principle (OCP)

The obligatory Contour Principle (OCP) prohibits adjacent identical elements in a representation (Crystal, 2002; Trask, 1996; Yip, 2002). Boersma (1998:2) says “the first expression of the OCP is commonly attributed to Leben (1973). In his defence of *suprasegmental phonology*, he demonstrated that tone features and nasality show suprasegmental behaviour in several languages”. Leben (1973) suggested it as part of UG constraint banning identical adjacent tones from lexical representation of a morpheme

but Odden (1986, 1988, 1995) has, however, presented evidence to show that OCP is not a universal principle. According to Odden (1995:464) “The strongest possible version of the OCP at this point is that there may be a dispreference for adjacent identical tones; languages are free to express this dispreference by constraining lexical representations, by adding rules of tone fusion or tone deletion, or by putting conditions on tone spreading rules. Ultimately, languages retain the option of doing nothing about OCP violations.”

Actually, OCP came up as an answer to one of the questions non-linear phonology had to deal with and that was the question of indeterminacy of structure. For example, if in Ósósò, the morpheme [énábè] ‘snake’ were actually a phonetic sequence of H H L (and not H!H L) what should be the right representation?



Following OCP, option B will be the right representation following McCarthy (1988) summary of the principle thus: “adjacent identical elements are forbidden”.

With all the attention OCP has garnered, there still exist differences in the interpretation and application of it. These revolve around these following four major issues:

1. Constraint or rule: is OCP a ‘static’ constraint? In other words, is it the case that by itself it does nothing but rather triggers other processes to apply. Or is it ‘dynamic’? or is it static but when violations occur, it triggers ‘dynamic’ rules to apply?
2. Phonetics or phonology: does OCP apply to underlying representations hence phonology; or to the phonetic components as a constraint on the phonetic realization?
3. Where lies the domain of application: within or across morphemes?
4. Universal or language specific: what is the potential linguistic status of OCP? Is it universal or language specific.

Opponents of this principle have been quick to point out that the implication of such a constraint will be that universally, identical surface sequence of tones will only occur at one edge of the morpheme. Meaning a LHH, LLH, in this language will not be possible. They are in violation of the principle. In summary, OCP, is not an autosegmental primitive, and does not have to be described as a phonological device. This is contrary to McCarthy's (1988) admission of it as one of the primitives saying the only phonological processes that can be accepted as primitives in autosegmental phonology are: *spreading*, *deletion*, and the *obligatory contour principle* (OCP). Goldsmith himself rejects the principle as a primitive of AT and so the argument may yet be over.

2.11 Phonology-Syntax Interface

The phonology-syntax interface topic has garnered plenty attention in the last thirty years. Selkirk (2011:1) says “debate has persisted around a central question: what is the nature of the linguistic representation in terms of which domain-sensitive phenomena of sentence phonology and phonetics are defined?” Earlier, within the context of generative grammar, observation had shown that the presence or absence of various types of phonological phenomena at different locations within a sentence correlates with differences in syntactic structure. For instance, Chomsky and Halle (1968) observed the tendency for local maxima of prosodic stress prominence to fall on the rightmost constituent within a given phrase, for example [[A sènator [from Chicágo]] [wòn [the làsteléction]]]. Selkirk (1974) also reported “the absence of word-final consonant deletion before a following vowel in French, referred to as *liaison*, and that *this* also correlates with syntactic structure, as seen in the pronunciation of the adjective *petit* with final *-t* or without it: [[Le petit âne] [le suivait]] the little donkey him-followed “The little donkey followed him” vs. [[Le petit] [[aime] [le Guignol]], the little one loves the Guignol, “The little one loves the puppet theater”. These show that certain phenomena are domain sensitive.

But the question remains: is it possible for syntactic representation alone to provide the basis on which these domain sensitive phenomena are defined or are there domains for phonology and phonetics that are defined in terms of a distinct prosodic structure which

forms part of phonological representation of the sentence? research has expanded the understanding of proponents of phonology-syntax interface on the types of phonological phenomena that may be domain-sensitive in very general sense and the full set according to Selkirk (2011:1) “includes a broad range of markedness driven tonal phenomena of the sort that may be domain-sensitive... and a broad range of markedness-driven segmental phenomena”. At the same time, it does also seem likely that certain phonological phenomena, like that of French *liaison* (in particular as it involves inflectional endings), are best analyzed as being directly sensitive to morpho-syntactic structure.

Theoretical models interested in accounting for this inter-relationship between phonology and syntax began to emerge. Some of those involved in this theorization include Clements (1978), Kaisse (1985), Odden (1987, 1990, 1995), Nespors and Vogel (1986), Kanerva (1990), Inkelas and Zee (1990), Cheng and Downing (2009, 2012), Seidi (2001), Trukenbrodt (1995, 1999, 2007) and Selkirk (1978, 1986b, 2000, 2011). A central question these different theories seek to answer, as asked by Chen (1990) is: “what must phonology know about syntax?” In response to this question, according to Downing (2013:26) “one finds two leading approaches, which provides two very different answers to this question”, they are the *Direct reference theories* and the *Indirect reference theories*, an illustration of both positions is below:

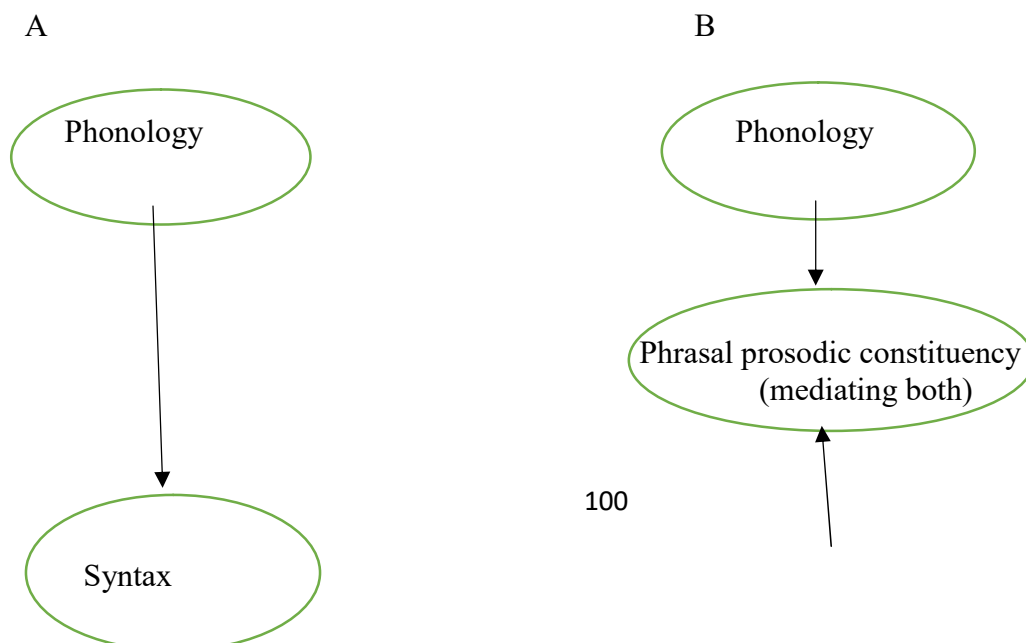




Fig 2.11: authors diagramatic representation of the two leading approaches to phonology-syntax interface

The *Direct reference theories* have linguists like Kaisse (1985), Odden (1995), Seidl (2001) and Pak (2008) and they argue that phonology can and indeed must refer directly to syntactic structure for information but the *Indirect reference theories* with proponents like Selkirk (1986, Nespor and Vogel (1986), Kanerva (1990) and Truckenbrodt (1995) claiming phonology is not directly conditioned by syntactic information, rather, there is an interface and this interface is mediated by phrasal prosodic constituents which do not necessarily have to match syntactic constituents. If any syntactic parameters are however needed to define prosodic constituents, then they are often very limited. The Direct reference theorists have however emphasised that this phrasal prosodic constituent referred to by indirect reference theorists are superfluous, quite unnecessary. Arguments continues in favour of a place in the theory of grammar for prosodic constituents in representation.

Perhaps understanding what prosody and prosodic constituents refers to can provide crucial foundation to this argument, since this study adopts the Indirect Reference Hypothesis (Selkirk 1984, 1986b, 2011). The former refers to rhythm, intonation, stress and every other attributes related to speech that is beyond segments. At a time, prosody was used when discussing rhythm and music speech, Wennerstrom (2001), but this study mean the sound features inherent in a word, phrase or an utterance, not captured by segments. This ‘beyond’ segment approach must have informed the idea of referring to prosodic features sometimes as ‘suprasegment’ in the literature says Clark, Yallop and Fletcher (2007). Prosodic constituent simply mean all functional elements within a given prosody.

Selkirk (2011:2) explaining further says “It does seem likely that the vast majority of domain-sensitive phenomena of sentence phonology as well as all of domain-sensitive phonetic phenomena are defined in terms of a properly phonological prosodic structure representation of domain”. Depending on the language, it can be the case, for example, that the right or left edge of specific prosodic domains (the prosodic domain may be word, phonological phrase, or intonational phrase) may identify the locus or place of local prosodic stress prominence, tonal epenthesis, consonant epenthesis or deletion, or segmental neutralization and so on. In ways similar to the the ‘standard theory’ of generative era, the prosodic constituent representation is defined as a well-formed labeled tree or bracketing, with two fundamental properties: the prosodic hierarchy and strict layering (Selkirk 1978/1981a, 1981b, 1986; Nespor and Vogel 1986; Beckman and Pierrehumbert 1986, Pierrehumbert and Beckman 1988; and others). Both the prosodic hierarchy and strict layering will be discussed next.

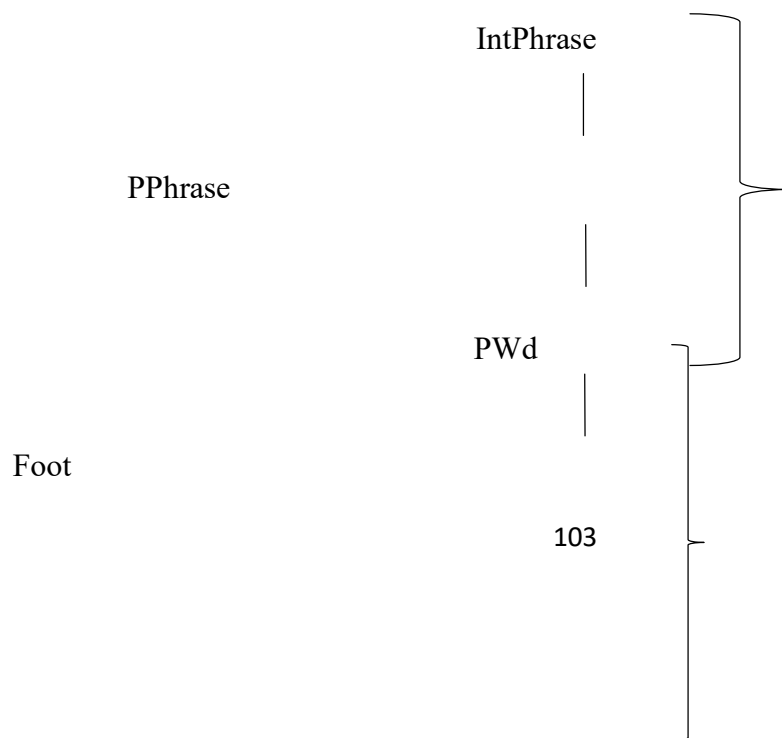
2.11.1 Prosodic Hierarchy

The *prosodic hierarchy* is the name for an ordered set of prosodic category and these prosodic category types constitute possible node labels for prosodic structures stipulated already by phonological theory. Selkirk (1978, 1986), Nespor and Vogel (1982, 1986) elaborate on the proposals earlier made by Liberman and Prince (1977) that there

exists a suprasegmental, hierarchically arranged organization of utterance. The theory of prosodic phonology shows how phonological structure of an utterance is hierarchically organized with each constituent not individual units standing on their own but clustering with each other; each cluster then belongs to another larger cluster and that one belongs to another and so on, until they make up the whole utterance. Each of these units or clustering make prosodic constituent standing for specific prosodic domain.

Although for the organization of prosodic constituents in hierarchy there has been different opinions on what makes a constituent. In works of Inkelas (1989); Nespor and Vogel (2007) versions, the prosodic constituent 'Foot' alongside the constituents it dominates forms a separate hierarchy which is called the Metrical Hierarchy. There is currently a uniform version however and this is what is presented below in fig 2.16.

The prosodic category types in the hierarchy is made up of six domains and these distinct domains are classified into lexical and post lexical sets; depending on the level of the grammar available for rule application. In a bottom-up parsing fashion, lexical set will be:



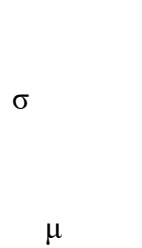


Fig 2.12. The Prosodic Hierachy. This structure is composed of a finite set of universal prosodic constituents; the mora, the syllable, the foot, the prosodic word, the phonological phrase and the intonational phrase. All these are the domains of application of phonological rules and phonetic processes. The phonological word PWd falls on either set.

The strict layer hypothesis

In Selkirk (2011:3) the strict layer hypothesis is said to be “the name given to the idea that a prosodic structure representation is strictly arranged according to the ordered set of categories in the prosodic hierarchy”. Thus, SLH is a purely phonological theory concerned with the formal relations holding between constituents of the different prosodic category types in a prosodic structure. A phonological word cannot be higher than a phonological phrase in the ordering. SLH seeks to establish four principles but the two main principles are:

- a. A given non-terminal unit is composed of one or more units of the immediately lower category.

- b. A unit of a given level is exhaustively contained in the superordinate unit of which it is part

Selkirk (1996) adopting optimality-theoretical terms formulated the four principles as *Headedness, Nonrecursivity, Layeredness and Exhaustivity* constraints. Just as the standard theory provided for which node dominates which node, even so, within the prosodic constituent structure there is also dominance relations within a prosodic constituent. instances of configurations in which a constituent of a particular prosodiccategory type dominates another of the same category type (which is an instance of recursivity) or level skipping occurs where a constituent of category level n dominates a constituent of category n-2 in the prosodic hierarchy, both representations constitute aviolation of the strict layer hypothesis. The strict layer hierarchical quasi-syntactic tree diagram below shows the immediate constituent dominated by another constituent, each of a particular prosodic category type:

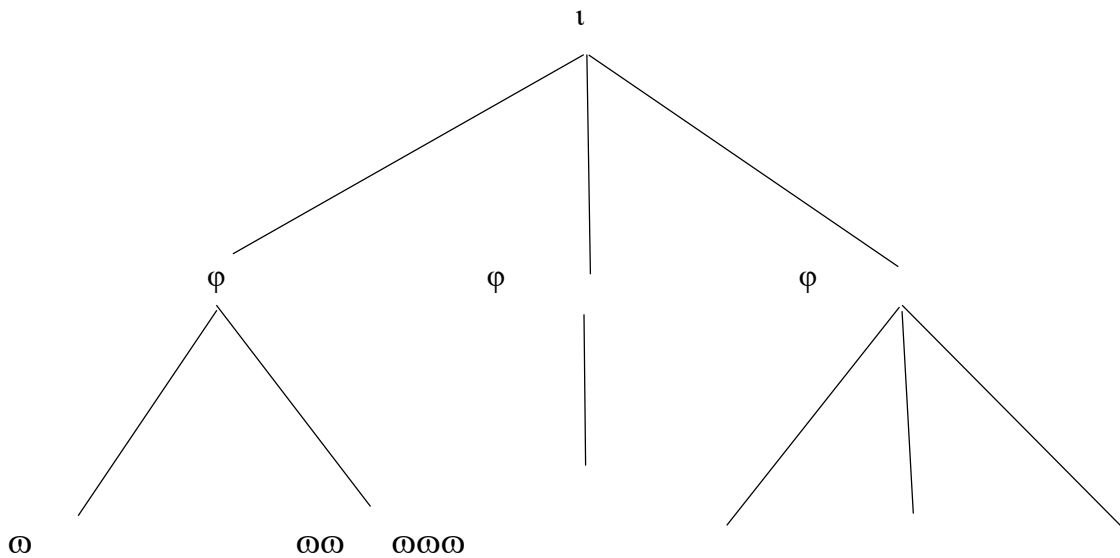


Fig 2.13. The strict layer hypothesis hierarchical quasi-syntactic tree diagram showing the immediate constituent dominated by another constituent, each of a particular prosodic category. It has been criticized as being too strict however as there are times when the status of some lexical items is insufficiently covered with respect to the prosodic word (⊙)

In Avikam, a Kwa language spoken in Ivory Coast, Ahoua (2009) applies the strict layer hypothesis of the indirect reference model of Selkirk to his investigation of tone lowering. He examined tonal rules in nominal and verbal constructions and the interaction of these with prosodic domains and constraints, arguing that the phenomenon is constrained both by syntactic and prosodic domains. This lowering of the tone on the possessor is consistent given certain constraints have not been violated. Of interest to this work is his discussion on tone lowering and High tone neutralisation rule in the possessive or associative construction of the language. According to Ahoua (2009:131) “the rule is straightforward. It applies if a High tone or a sequence of High tones follows a lexical phrase. In an associative or possessive construction, the first High tone becomes Low, depending on the prosodic structure of the word”.

In the language, lowering of the tone on monosyllabic words in possessive constructions occurs but only as non-initial constructions, they are reportedly derived from VCV lexical item that lost the prefix but regardless of the loss, the VCV bear a H H sequence or L H tones. The underlying H is then neutralized, making it phonetically L. He used ‘làvri’ a proper noun to set the following examples:

37. a Low-High tones Possessive Construction

èṅṅlàvri ṅṅ	Lavri’s hair
èbòlàvri bò	Lavri’s hand
èkalàvri kà	Lavri’s place
ègbèlàvri gbè	Lavri’s money

b. High - High tones Possessive Construction

évé	làvri vè	Lavri’s medicine
écú	làvri cù	Lavri’s sea
ésè	làvri sè	Lavri’s fish
èsò	làvri sò	Lavri’s house

Even within words containing two or three syllables, tone lowering also occurs, only it applies on the first syllable starting from the left edge.

c. High - High tones lowering in di/trisyllabic Possessive Construction

lówú	làvri lówú	Lavri’s bone
sáká	làvri sáká	Lavri’s rice
dámá	làvri dàmá	Lavri’s cigarette
básálá	làvri básálá	Lavri’s boy
císálé	làvri císálé	Lavri’s bone

From the foregoing, it is obvious that the associative tonal morpheme did not become Low in trisyllabic words because of their structure. Consequently, understanding the prosody of the language is helped by an understanding of tone lowering operations in the language. It

helps to identify also tonal foot and the recursivity of prosodic words. It helps to confirm the existence of the prosodic phrase and a disyllabic word constrain in Avikram too, thus providing further support for Selkirk hierarchical prosodic structure but recursivity occurs in the language showing a divergence from Selkirk (1990:180) strict Layer Hypothesis which requires that every category must be immediately included into a higher category.

Although the interface between phonology and syntax is not extensive in Ósósò, the Prosodic Hierachy theory is implicitly applied in the discussions of associative constructions and intonation, marked by prosody in Ósósò by this study.

2.12 Summary of chapter

This chapter looked at previous works on Ósósò and Edoid languages. It discussed the tone system and the behaviour of tone in the Edoid languages and the different tonal processes common with the language family. Tone and grammar interface in the Edoid languages were also discussed as well as the intonation phenomenon. The chapter ended with a look into the autosegmental theory, OCP and the interface theories.

CHAPTER THREE

METHODOLOGY

3.0 Preamble

This chapter discusses the methodology that guided this study, starting with research design followed by ethical considerations relevant to the research and other factors like the

area of study, sample size and sampling procedures. It provides details on the data analysing methodology adopted by explaining in subsections: data collection process, data handling and data analysis procedure. The chapter ends with tables showing metadata of consultants.

3.1 Research design

This study adopted the ethnographic design. The people were observed in their setting and adequate description of all phenomena related to the aim of this study provided. It also used the qualitative method which involves observation and face to face key informants' interviews (KII) as well as focus group discussion (FGD). All phonological and tonological processes observed are theoretically and acoustically described in details under relevant subsections in the work.

3.2 Area of study

Ósósò language is spoken only in Ósósò village, under Akoko-Edo Local Government of Edo State. The community was therefore our main source of data. The larger percentage of the corpus was collected over a period of one year, nine months. However, a fair presence of indigenes adjudged competent were found domiciled in Benin, Warri, Ibadan, and Lagos and their help was sort for data collection also. A week was spent in Benin City, with Mr. Giwa, an Ósósò language enthusiast who wrote a premier on the grammar of the language and his wife. Another week was spent with another consultant, Mrs Aiyejuro Margaret, in Lagos and two weeks was also spent in Warri with three other consultants' resident there.

3.3 Data sampling technique

A broad selection was initially made based on community-acclaimed proficiency, as determined by the King and some members of his council present on the day the palace was visited. Final selection of language consultants was made applying purposive sampling technique considering degree of code mixing. The overriding criteria for

inclusion of these informants was therefore competence and proficiency in the language. Age was duly considered in the sample type as the elderly showed tendency to repeat or tire easily. This was my experience with very resourceful Pa Abdullahi, the eldest man in the community who passed on in 2020. Some youths who were found to be easily distracted and impressionistic were also filtered out ultimately. Consultants were deliberately sparsely considering gender and age. All these are in recognition of Chelliah & Reuse's (2011) advice that "data from varied sources can guard against distortions resulting from dressage, the observer's paradox, faulty questioning, or prescriptive influences of one individual idiolect. Working with several speakers will provide the researcher with points of comparison so that he or she can learn to distinguish between reliable and unreliable data". The inclusion and exclusion criteria considered very relevant when aggregated are:

3.3.1.1 Inclusion criteria

1. The consultant must be a native speaker of the Ósósò language, preferably, those who have lived their entire lives at home.
2. The consultant must exhibit high proficiency at the language.
3. The person must be willing to grant consent for every data provided.

3.3.1.2 Exclusion criteria

The following persons were excluded from consultants for the study:

1. The consultant who is not a native speaker, even though he or she lives in Ósósò.
2. The consultant who is not competent even if he is a native speaker and lives in Ósósò.
3. The consultant unwilling to grant consent and unable to voice consent, if illiterate.
4. Few female consultants who proved difficult to elicit data from by their constant disruption of recordings due to chores or trade were also dropped.

3.4 Sample size

This study used fifty-one (51) language consultants made up of 24 females and 27 males whose age range is from 17 to 85 years. With the exception of five of the informants

interviewed in Benin, Lagos and Warri, others were interviewed in the language community over a period of two month and half, broken into three trips.

In view of the dialectal variation mentioned earlier (see section 1.4.1), sample source was divided into two groups. One group represent the ikpena/okhe/Anni variant while the other represents the Egbetua dialect. The grouping was arrived at with assistance from the community and these purposively selected informants formed the research sample size and data relevant to key aspects of investigation were collected with same instrument of elicitation administered. Data collected were constantly crosschecked to ensure true representation of the Ósósò language and a balanced understanding of the minimal dialectal variations involved.

3.5 Ethical consideration

In compliance with standard practice of research involving fieldwork, ethics of fieldwork were observed. On arrival, appointment was sought with the king of the community, the Òlósósò of Ósósò, His Royal Highness, King Anselm Obaitan. He was officially informed of the research and a letter from my department requesting his assistance was handed over. He was very encouraging and interested in the research, acknowledging the importance of mother tongue preservation. In conjunction with members of his council present, an oral list of competent speakers was provided. He thereafter sent the village messenger to bring the village story teller to the palace.

Request was always placed for consent after the reason for the interviews and project has been explained to consultants. Willing consultants were told about the technical intricacies and their expected role. They were informed of their right to withdraw at any point in the course of the research as data was going to be stored in an open access archive for the use of others interested in further research on the language. Literate consultants were documented while those unable to read and write were documented orally before sessions.

3.6 Research tools

The nature of data needed for this study required that data collected must be suitable for pitch tracking analysis in particular and analysis at other levels. Towards this end, research tools employed will be discussed in two brief subsections below.

3.6.1 Instruments

Elicitation was carried out through the instrumentality of 500 wordlist designed from a combination of Swadesh 200 and Ibadan 400 wordlists as well as Dakubu West African Language Data sheet. This was administered to ten (10) competent consultants, four (4) of whom were later brought together in Focus group discussion (FGD) session and discussion proved an invaluable source of data as consultants sometimes engaged in arguments over the authenticity of some Ósósò words provided as equivalent to the words on our English wordlist. Words like snow, cold, spin, smooth, round, are some of such interesting morphemes. For the grammar of the language, the Lingua Descriptive Studies Questionnaire designed by Bernard Comrie and Norval Smith but particularly the Ibadan Syntactic Paradigm, both designed to provide comprehensive insight into the NP, tense, aspects, negation and different sentence types of a language were modified and administered on individuals and in one FGD setting too. Historical, descriptive and procedural narratives were also collected from ten (10) competent indigenes. All these were considered necessary in the light of the research questions.

3.6.2 Equipment

The technical equipment used for audio recording is the ZOOM H1N digital handy recorder whose attractive features included capacity for 10 hours straight recording on 2 AAA batteries and ability to record on micro-SD cards of up to 32GB was employed. All recordings were set at 24-bits/96kHz wav format for high stereo quality, essential for clear pitch needed for acoustics analysis. A Lapel microphone was also taken as well as a b19 model of Zealot 3.5mm Standard Stereo wireless headphone used to listen and verify recordings on field and subsequent transcriptions. All recordings were saved in the 32GB SD card inserted in the recorder. A 750MB hard drive was also taken to field for data storage backup. A Folio 9470m HP computer laptop with battery power of six hours

minimum was also taken to the field, with an extra battery with power of equal hours. This was necessary in the face of epileptic power supply to the villages.

3.7 Data collection method

Some data were elicited in controlled environment while often, others were spontaneous. Appointments were sought from consultants already adjudged competent and upon arrival, these consultants were told the purpose of the visit in detail and consent taken. Thereafter, the recording sessions begins. Lapel mics are attached as close to the mouth as possible and preliminary recording in form of banter is taken. This is replayed and when proper setting is gotten, data collection begins.

The stories were mostly monologue-like. Noise from chirping birds, family dog, cats, neighbours greeting or other forms of interferences like cooking utensils led to several pauses. It extended recording hours unnecessarily but the problem was later solved by the King who provided secluded spot in the palace for meetings with some of the consultants. Audio recording moved smoothly afterwards. Helpful additional data came from Prof. Francis Egbokhare who had studied virtually all the languages in Edo North. His bank of data included Ósósò and he graciously made it available to this study alongside his fieldnotes. A few metadata were retrieved from the recording.

Prior to the data elicitation days, two research assistants, undergraduates at home on holiday, had been co-opted into the research and trained on data collection and handling of equipments and instruments of elicitation like the word list and syntactic paradigm, how to help carefully turn pages without causing paper crackling noise that the digital recorder can pick. They also helped control curious intruders, especially children. Two of our consultants were later brought to the Phonetic Laboratory of the Linguistics department, University of Ibadan, for sound proof recording. Also, to ensure participants did not unduly influence the state of their voice and consequently affect tone and intonation of utterances, oftentimes, appointments had to be rescheduled, especially with the elderly

consultants who proved very resourceful with the stories and historical cum procedural narratives.

3.8 Data analysis method

The method adopted by this study is the descriptive research methodology. The recorded data were analysed at two levels. The first analysis was done at the acoustic level, with software suitable for the aim and objectives of study. The second concerns key issues in tone and morphology/syntax interface and these were captured in frames designed towards the analyses of the tone-grammar interface context in Ósósò grammar.

3.8.1 Analytical software

All audio data were first edited with the aid of an editing software called audacity. This software proved invaluable in separating noise and lengthy portions of silence from reording. It was also very useful for playbacks and with chunking data into morphemes, phrases and sentences. The edited files were then segmented, annotated, transcribed and translated using another software called ELAN. Among the usefulness of this software is that segmentation can be automatic and the tier when created, can be copied from the segmental tier to the other created tiers relevant to analysis. It also has the advantage of playing the data at the background while glossing is done simultaneously. This made glossing faster and more accurate, especially the tone marks. A sample of audacity software editing a wordlist to cut out interruptions and noise portions to arrive at a clean recording is shown below along with ELAN sample:

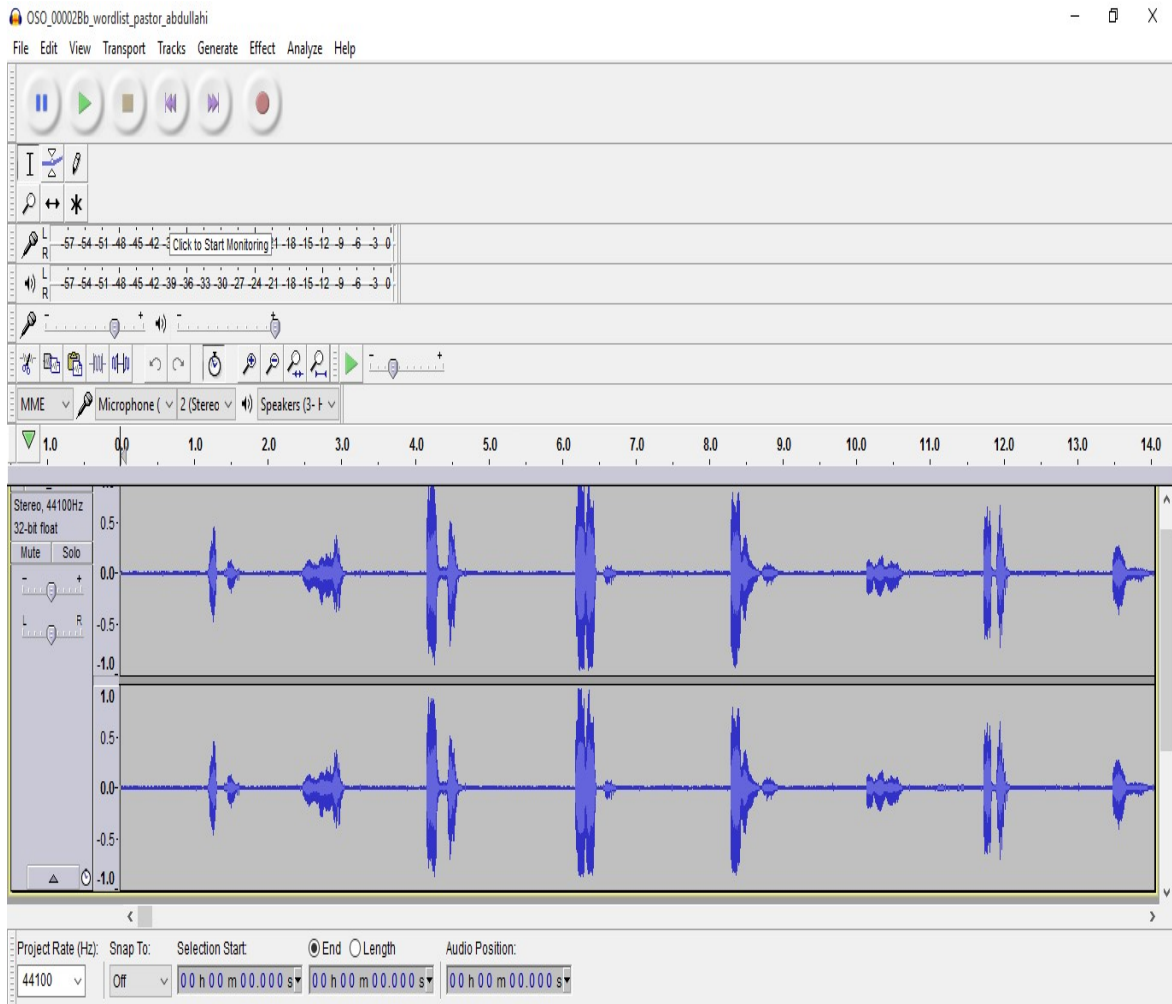


Fig 3.1. Sample editing of a wordlist using audacity software to cut out interruptions by consultants’s domestic animals and noise portions.

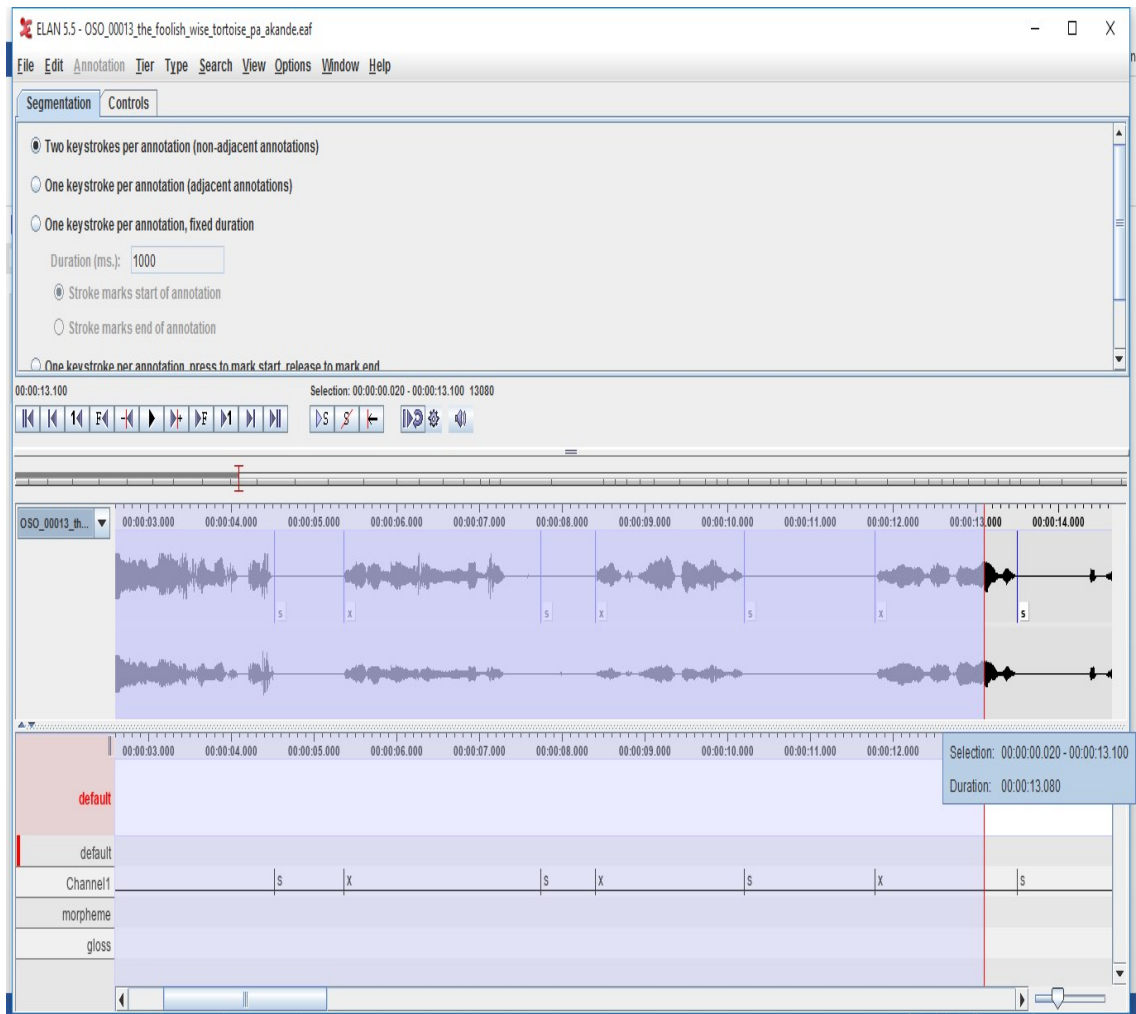


Fig 3.2. A sample of ELAN computer software used for segmentation, transcription, translation and glossing of data. The software was used by the study based on its tier-based data model that display time aligned speech and their annotations which can be played and replayed for accuracy of tone marks and transcription.

For acoustic pitch tracking, an invaluable software to this study is PRAAT (version 6.0.23). It is a free speech analysing software developed by Boersma and Weeniks accessible on www.praat.org. Its biggest feature is the availability of visual display of data as waveform and spectrograms. With this, it becomes easy to support perception of vowel and consonants by studying their different formants and thereafter label the segments and words in the tiers created on textgrid. Beyond segments, its prime relevance to study came through the analysis of suprasegments. Difference in pitch determined perceptually was easy to validate instrumentally using PRAAT. Fundamental frequency (F₀) values are always displayed, in blue, on the right side of the window or calculated based on one circle zoomed on and highlighted in the waveform or manually gotten. Also, the difference in the pitch of female and male speakers, the downtrend phenomena of downstep and downglide became easy to establish instrumentally using pitch measurements fetched automatically by PRAAT. F₀ contour graph of intonation were also plotted in PRAAT picture window with all analyses, in visual displays, exported as word document to relevant sections of the study.

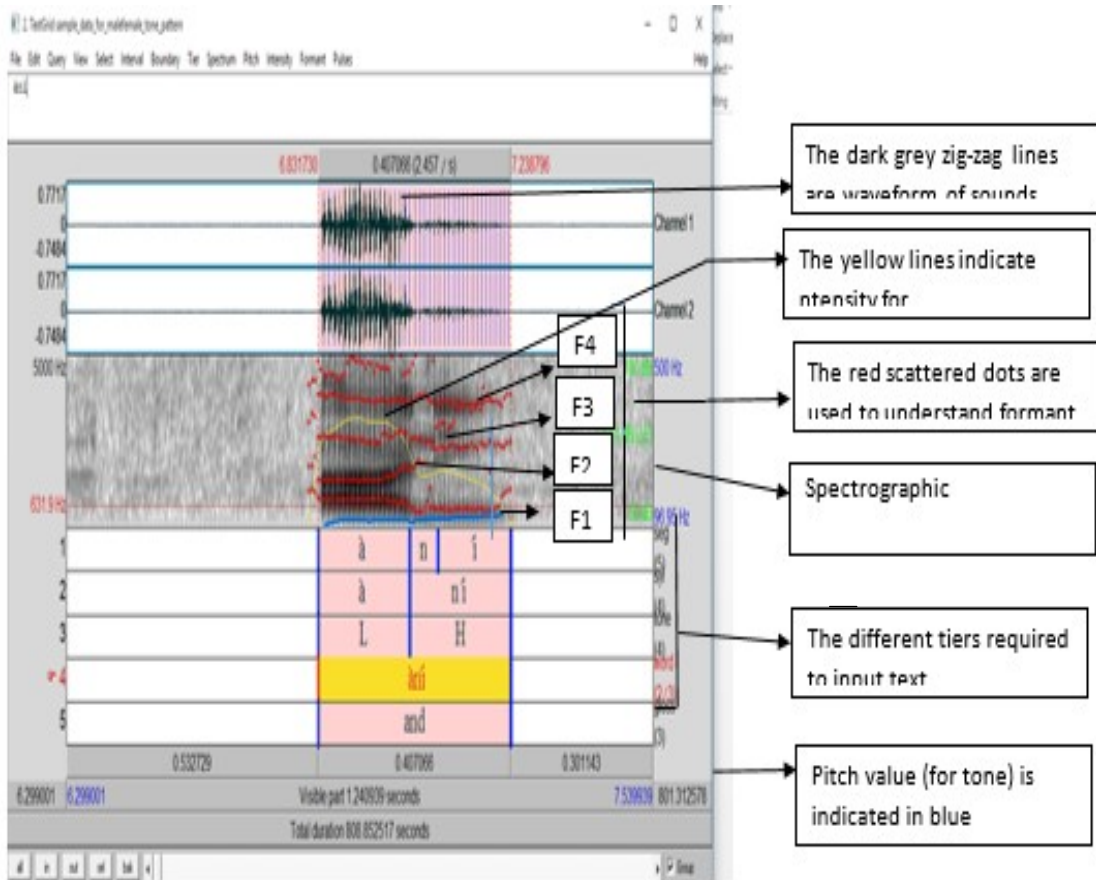


Fig 3.3. PRAAT sample showing acoustic cues employed by the study for pitch analysis. The software provides visual display of data as waveform and spectrograms needed for the identification and/or support of vowels, consonants and pitch perception. Labelling has been provided in the sample object screenshot of the word [àni].to explain the acoustic cues used by the study.

Fig 3.4. A sample of how PRAAT help distinguished male and female articulation of five tokens purposively selected from data to show all tonal possibilities in Ósósò

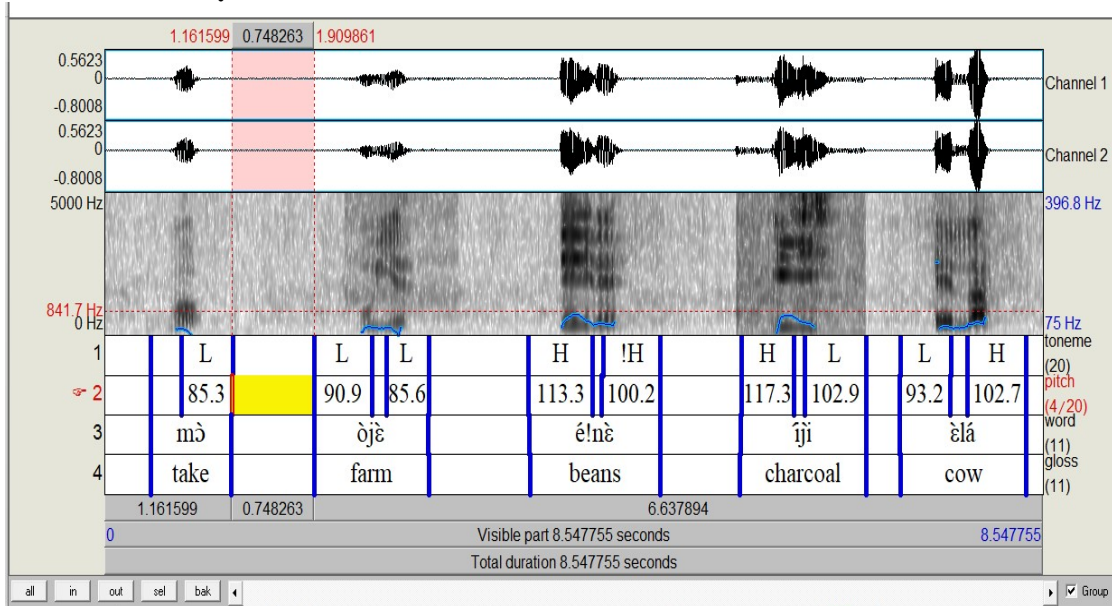


Fig 3.4a. Male articulation of five tokens showing all tonal possibilities in Ósósò

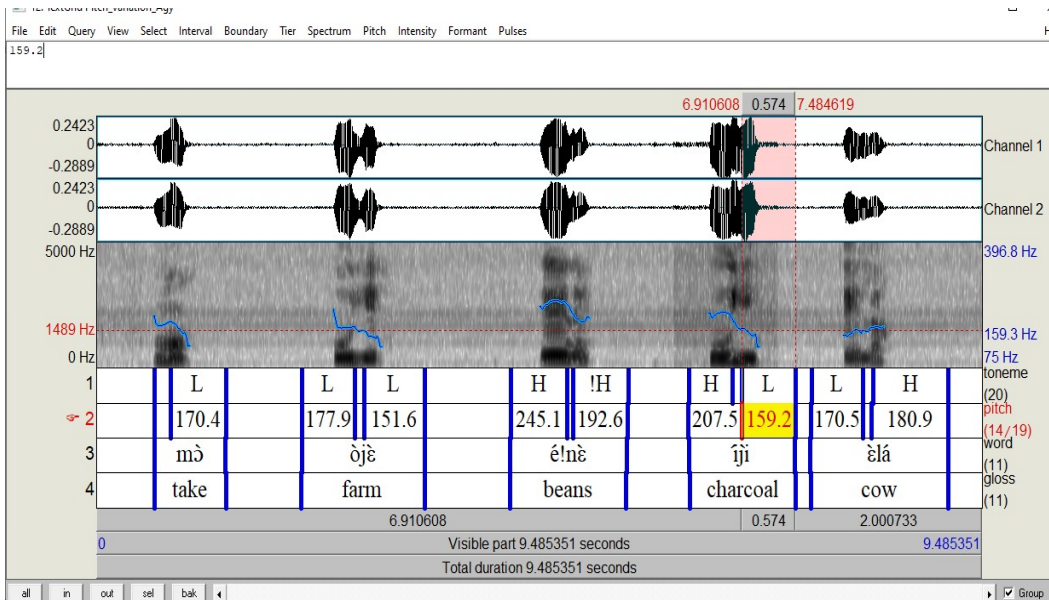


Fig 3.4b. Female articulation of five tokens showing all tonal possibilities in Ósósò

3.8.2 Data schema

Data elicited were broken into three types: data set one focused on phonology and processes relevant to tone analysis and intonation. Data set two accounted for morphological and syntactical issues and the last data set, self-generated, specifically targeted at eliciting NP, VP frames and diversity of other frames accounted for ton-grammar interface in the NP, VP and other sentence types. Some of the corpus used for this study, which includes wordlist, narratives, folktales and a syntactic paradigm session are attached to this work as Appendix.

3.9 Database record

Data comprises 21 hours of digital audio data collected and stored both electronically and in hard drives. These consist of:

1. 19 stories, and 10 narratives covering procedural and historical discourse.
2. 2 focus group discussions and interviews conducted in the language.
3. 6 different vocabulary elicitation sessions recordings using the Ibadan 500 wordlist and the West African language data sheet
4. 18 recordings of syntactic paradigm collected using Ibadan syntactic paradigm.
5. Metadata of language consultants
6. Manual transcription of recordings and field notes.
7. Pictures taken with the king, some informants and community monuments.

For proper labelling of data, the study created 'ÓSÓSÒ DATABASE RECORD' and labelled all sound files (2017-2021) using acronym OSO and five-digit figures in this manner: OSO_00001. Available data record is attached as appendix to this study.

3.10 Metadata of language consultants

As mentioned earlier, the data used in this study were collected from indigenes who have lived a greater part of their lives in the community. Although yet to access the metadata of most consultants used in the nineties in the invaluable data Prof Egbokhare graciously granted, a total of 35 consultants who participated as primary informants are presented in the metadata below in table format.

Table 3.1: Metadata of Ósósò consultants

S/N	NAMES	SEX	AGE	OCCUPATION	EDUCATION	YEARS OF STAY	L1, L2, L3
OS0001	Pa Abu James Oree (Ósósò)	M	75+	Farmer	PRY	Entire life	Ósósò, Yoruba, Eng
OS0002	Mr. Joseph Giwa (Benin)	M	60+	Mechanic	SEC	off & on entire life	Ósósò, Yoruba, Eng
OS0003	Mrs. Giwa (Benin)	F	60+	Trader and housewife	SEC	Off & on entire life	Ósósò, Yoruba, Eng
OS0004	Mr. Emmanuel Audu (Ósósò)	M	70+	Catholic catechist	SEC	Entire life	Ósósò, Yoruba, Eng
OS0005	Mrs. Monica Audu (Ósósò)	F	65+	Trader and housewife	PRY	Entire life	Ósósò, Yoruba, Eng
OS0006	Mr. Samson J. Afeso (Ósósò)	M	25+	Student	Tertiary	Off & on entire life	Ósósò, Eng
OS0007	Mrs Patricia Ogedengbe	F	50+	Teacher	Tertiary	off & on entire life	Ósósò, Igbira, Eng
OS0008	Mr Eveshoyan Bethel Micheal (Ósósò)	M	40+	Teacher & author	Tertiary	off & on entire life	Ósósò, Hausa Eng
OS0009	Mr. Lawrence Akinyesi (Ósósò)	M	70+		SEC	Entire life	Ósósò, Yoruba, Eng
OS0010	Pa Olatunde Abdullahi (Ósósò)	M	85+	Oldest man	PRY	Entire life	Ósósò, Yoruba, Eng
OS0011	Pastor Robert Abdullahi (Ósósò)	M	55+	Clergy	SEC	off & on entire life	Ósósò, Hausa, Eng
OS0012	Miss Titilayo Patrick (Ósósò)	F	18+	Student	SEC	Entire life	Ósósò, Eng
OS0013	Pa Akande (Ósósò)	M	75+	Farmer	None	Entire life	Ósósò only

OS0014	Mrs Abiodun Akande (Ósósò)	F	70+	Trader and housewife	None	Entire life	Ósósò, Yoruba
OS0015	Mr. Patrick (Jango) Aiyejuro(Ósósò)	M	60+	Business	SEC	Entire life	Ósósò, Eng
OS0016	Mrs Margaret Aiyejuro	F	70+	Trader and housewife	PRY	Entire life	Ósósò, Yoruba, Eng
OSO017	Mr Alex Akao (UI phonetic Lab)	M	60+	Media consultant	Tertiary	Off & on	Ósósò, Yoruba, Eng
OSO018	Mr Murphy Aiyebelehin (UI phonetic lab)	M	55+	Travel Agent	Tertiary	Off & on	Ósósò, Yoruba, Eng
OSO019	Barrister Jimmy Omoluabi (Ósósò)	M	60+	Barrister	Tertiary	Off & on	Ósósò, Eng, Yoruba
OSO020	Mr Sammy OdafheBuoro (Ósósò)	M	55+	Civil Servant	Tertiary	Most of entire life	Ósósò, Eng
OSO021	Mrs OrilowaOsuji	F	35+	Self employed	SEC	most of entire life	Ósósò, Eng
OSO021	Mrs Patricia Oyanni Lawani (Ósósò)	F	50+	Civil servant	Tertiary	off & on entire life	Ósósò, Eng
OSO022	Rev Edor Goodness	M	55+	Clergyman	Tertiary	off & on entire life	Ósósò, Hausa, Eng
OSO023	Mr. Friday Emmanuel (Ósósò)	F	30+	Student	Tertiary	Most of Entire life	Ósósò, Eng
OSO024	Dr Aina Odion-Akhaine (Lagos)	F	55+	Medical doctor	Tertiary	off & on entire life	Ósósò, Eng Yoruba,
OS0025	Mr. Jerumeh Sunday (Ósósò)	M	35+	Translator	Tertiary	Entire life	Ósósò, English
OS0026	Mrs Aiyejuro (Jango) (Ósósò)	F	60	Business	SEC	Entire life	Ósósò, Eng
OS0027	Mrs Josephine Oshotameh	F	70+	Business and housewife	SEC	off & on entire life	Ósósò, Yoruba, Eng
OS0028	Dr. Mrs. Evelyn Idiodi	F	65+	Chief Liberian	Tertiary	Off & on	Ósósò, Yoruba, Eng

OSO029	Mrs BosedeAijejuro (Lagos)	F	55+	Business and housewife	PRY	Off & on	Ósósò, Yoruba, Eng
OSO030	Mrs Sarafina Balogun	F	40+	Lecturer	Tertiary	Off & on	Ósósò, Hausa, Eng
OSO031	Madam Aluko	F	65+	Civil Servant	Tertiary	Off & on	Ósósò, Eng, Hausa Yoruba
OSO032	Mrs Blessing	F	36	Self employed	SEC	Off & on	Ósósò, Eng
OSO033	Mrs KateAijejuro	f	40	Civil Servant	Tertiary	Off & on	Ósósò, Eng Yoruba
OSO034	Mrs Beatrice Buoro	F	70+	Business	Tertiary	Off & on	Ósósò, Eng Yoruba
OSO035	Mrs Comfort Ajamah	F	50+	Business	Tertiary	Off & on	Ósósò, Eng

3.11 Summary of chapter

In this chapter, research design, data elicitation method, sample size and sample techniques were discussed. Samples of tools employed and how it helped analysis were shown. Also discussed were the method of analysis and information about the analysis. Metadata of consultants have also been included in this chapter. The next chapter presents data analysis that answers research questions.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION OF FINDINGS

4.0 Preamble

This chapter is divided into six parts. Each part addresses the research questions raised by this study. The first part focuses on describing the sound system of the language with ample data and instrumental evidence while the second establishes the syllable structure and the different phonological processes within and across morpheme boundaries capable of affecting tones in Ósósò. The third determines the distinct tonal units and the allotones in the language and situates the tone system of Ósósò within the Edoid tone system typology. Various tonal processes in the language are examined in section four. The NP and VP in Ósósò that manifest grammatical tones is investigated in section five. In the last section, the prosodic constituents and intonation patterns in Ósósò polar questions are discussed.

4.1 Ósósò sound system

In line with the first research question, this section discusses the sound system of Ósósò, using the articulatory parameters of place, manner and phonation. Based on phonological contrast, attested phonemic consonants in Ósósò are twenty-nine (29): 9 plosive stops which includes 1 bilabial lenis; 4 nasals (one is a bilabial lenis); 8 fricatives; 3 affricates and 5 approximants. There are seven phonemic vowels with each vowel having a nasalized allophonic variant. Consequently, the total number of phonemic speech sounds in Ósósò are thirty-six (36). These are discussed below with instrumental evidence provided where necessary. Discussion shall begin with a detailed description of the consonants which

will follow Elugbe's (1973, 1989) analysis of Edoid consonants under nasals, stops, approximants, fricatives and central/lateral sub sections in his work.

4.1.1 Nasals

Although Ósósò lacks breathy-voiced (murmured) nasal: /ṃ/ and /ṅ/, found in Emalhe and Isoko and also lacks the labio-velar nasal [ṅm] common in Edoid languages like Etsako, Emai, Edo, and Urhobo, like the typical Edoid languages said to be rich in nasals by Elugbe (1989:31), Ósósò, has /n, m, ɲ/ in common with the Edoid family and a bilabial lenis nasal [mh]. On the status of velar nasal [ŋ] in Edoid, according to Elugbe (1977:343) "...we may presume that Proto-Edo CṼ and CṼV roots which at an early – or Pre- Proto-Edo level had a nasal different from –mh- and –nh- are highly liable to be lost, -ŋ- is just such a nasal". Implicationally, the occurrence of [ŋ] anywhere in an Edoid language may be residual. In my entire data, it occurred only in [òkòṅá] 'well (water)'. Another interesting feature of nasals in Edoid family is that some Edoid languages like Isoko and Urhobo have [l] and [n] in allophonic relation, even borrowed words like 'play' become [pnei], 'look' becomes [nuk] but in Ósósò, [l] and [n] are not in allophonic relations at any point, they are distinct.

Unlike most Edoid languages, there are no inherent nasal vowels in Ósósò. However, there are contextual nasals as an oral vowel occurring adjacent any of the four nasal consonants in the language [n, m, ɲ, mh] gets nasalized. Such nasalization is not blocked even when there is an intervening phonetic consonant resulting from the application of the glide formation rule. What often happens is that nasality spreads from the nasal consonant to both the glide and the vowel that make up the syllable. This was confirmed perceptually and instrumentally comparing near minimal pairs with and without GF:

38. /ámùè/ → [amṽḗ] 'knife' and /ámè/ → [amḗ] 'water'
 /è múè/ → [èṽḗ] 'ashes' and /è mè/ → [èṽḗ] 'me'
 /ì mí è mi è/ → [ìṽḗ mṽḗ] 'agree' and /ì n è n è/ → [ìṽḗ nḗ] 'knowledge'
 /mì è/ → [mṽḗ] 'get' and /mè/ → [mḗ] 'tell'

Spectrographic evidence is presented below to show nasality spreading from the nasal consonant in the syllable across the contoid to the vocoid. This spread applies only to semivowels, as obstruents do not form clusters in the language:

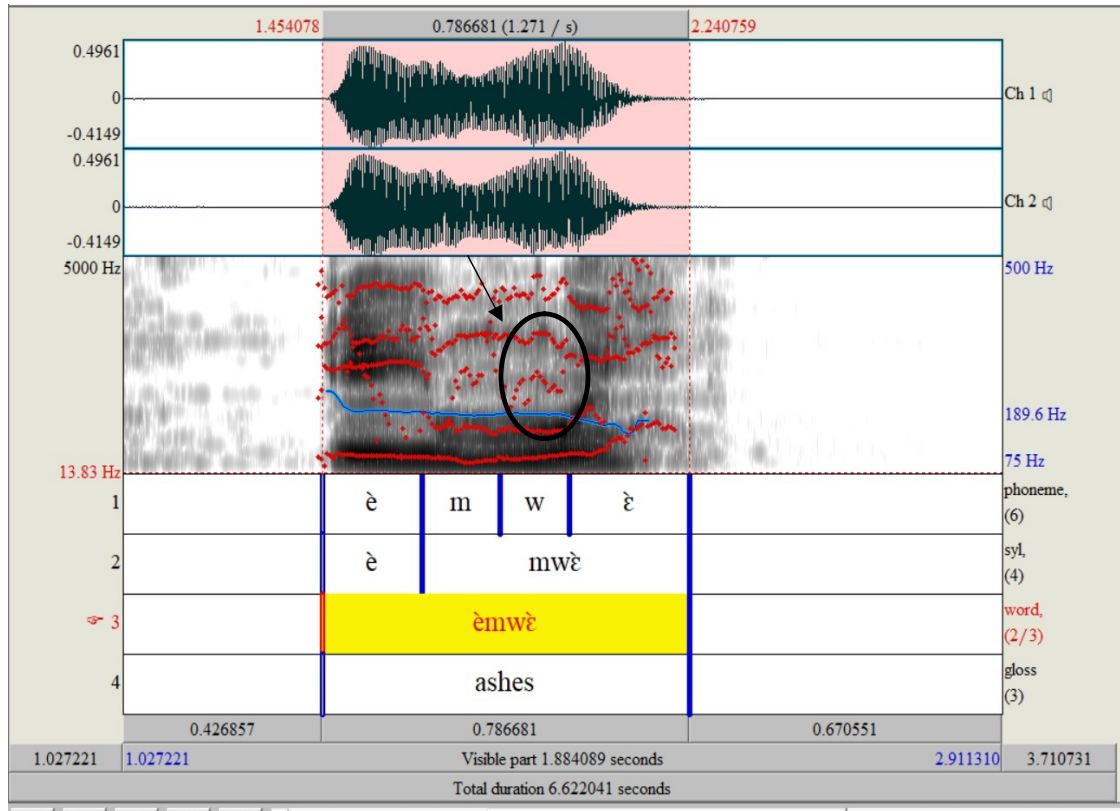


Fig. 4.1. Spectrogram showing nasal spread across a glide to a vowel in a syllable. This means that nasalization is unblocked even when an intervening phonetic consonant resulting from the application of the glide formation rule results into a CwV sequence. Notice the circled faint formants, it indicates nasality caused by the preceding nasal consonant.

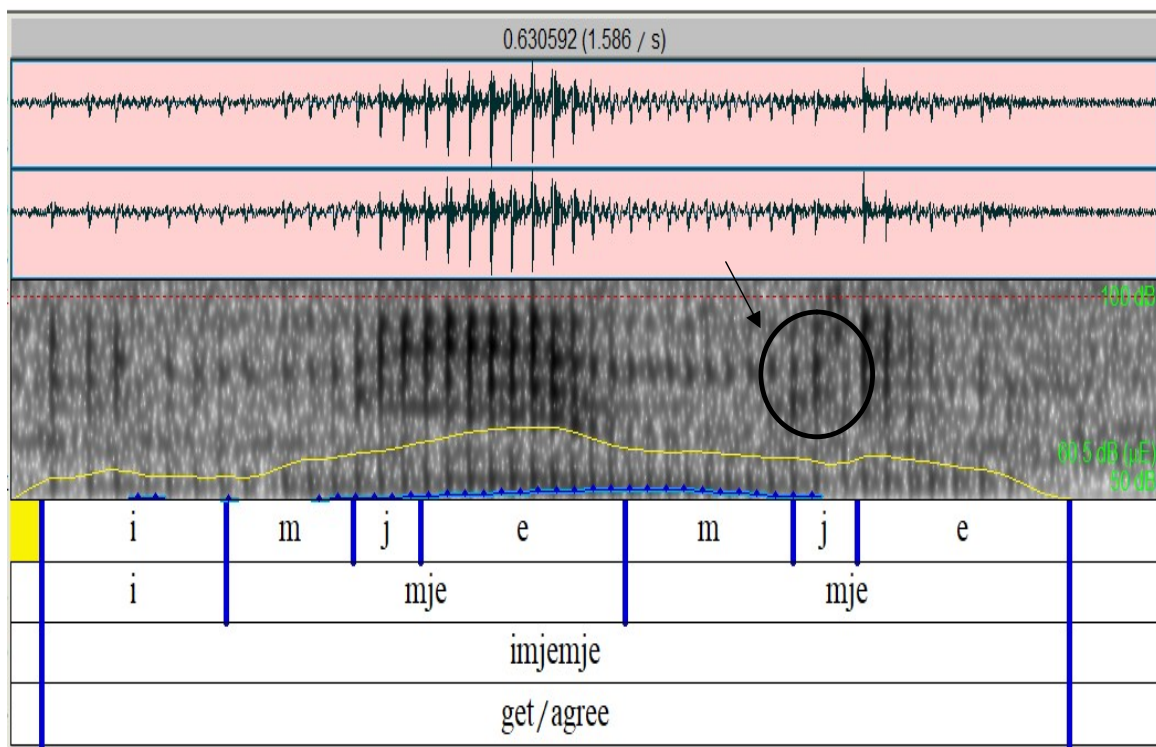


Fig. 4.2. Spectrographic evidence showing nasalization unblocked by glide formation. When an intervening phonetic consonant results from the application of the glide formation rule and results into a CjV sequence, nasalization still occurs. Faint formant of nasal feature on the contour is caused by the preceding nasal consonant.

Ósósònasal consonants:

39. [m] – the voiced bilabial nasal, has only one allophone, [m]
- | | | | |
|----------------------|-----------|-------------------|---------|
| (a) /mime/ - [mìmhè] | ‘talk’ | (b) /amε/ - [àmè] | ‘water’ |
| (c) /ema/ - [èmà] | ‘clothes’ | (d) /ómò/ - [ómò] | ‘child’ |
| (e) /fìmi/ - [fìmi] | ‘dance’ | (f) /mò/ - [mò] | ‘take’ |
40. [n] - the voiced alveolar nasal, has only one allophone [n]
- | | | | |
|---------------------|---------|-------------------|---------|
| (a) /únò/ - [únò] | ‘snail’ | (b) /únù/ - [únù] | ‘mouth’ |
| (c) /búnù/ - [búnù] | ‘break’ | (d) /ènè/ - [ènè] | ‘four’ |
| (e) /àní/ - [àní] | ‘and’ | (f) /nè/ - [nè] | ‘know’ |
41. /ɲ/ - the voice palatal nasal, has only one allophone [ɲ]
- | | | | |
|-----------------------|----------|-------------------------|--------|
| (a) /àkàɲà/ - [àkàɲà] | ‘work’ | (b) /ɲómìsè/ - [ɲómìsè] | ‘hot’ |
| (c) /íɲò/ - [íɲò] | ‘mother’ | (d) /ɲè/ - [ɲè] | ‘cook’ |
| (e) /íɲèɲè/ - [íɲèɲè] | ‘eight’ | | |
42. [mh] - voiced bilabial lenis nasal, has only one allophone [mh]
- | | | | |
|---------------------|--------|----------------|---------|
| (a) /ìmhè/ - [ìmhè] | ‘word’ | (b) - [ímháβi] | ‘and’ |
| (c) - [ímhá mòtè] | ‘bark’ | (d) - [mìmhè] | ‘speak’ |

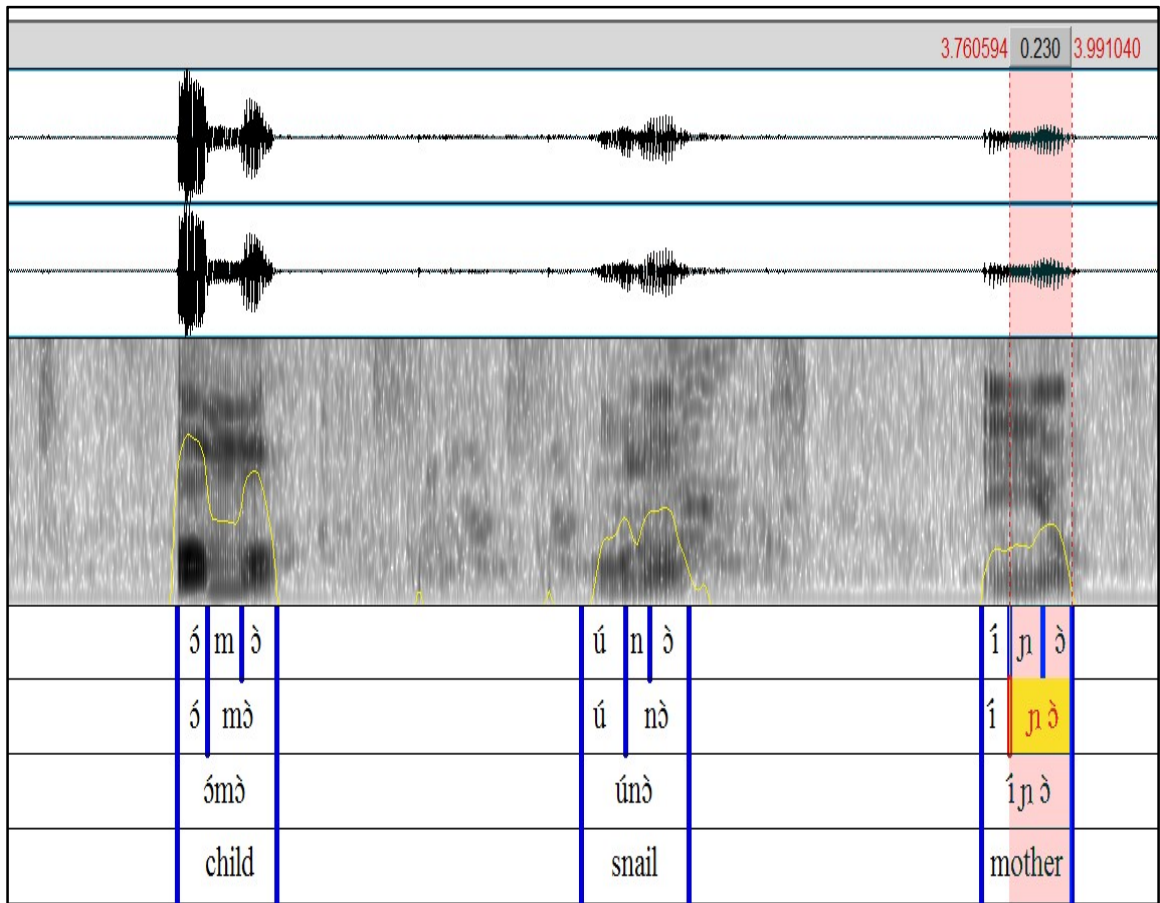


Fig. 4.3. Acoustic evidence showing the difference between the three nasals /m, n, ɲ/ in different disyllabic environments in Ósósò. Note that the formant lines of the nasals are typically faint, in contradistinction from the vowels.

4.1.2 Plosives

Ósósò shares the four sets of plosives produced at the bilabial, alveolar, velar and labio-velar places of articulation with other Edoid languages with studies. Each of these sets are symmetrical. Among the issues involving the plosives in Edoid is the limited occurrence of the voiceless bilabial sound /p/ in their lexicon. This study finds only five occurrences in the entire data used for the study while Egbokhare (1990:13) on his part reported just two in his Emai data. Accounting for this rarity, Elugbe (1989:102), based on the evidence from Proto-Edoid, claim a general merger of /p/ with /f/ has occurred in most of the Edoid languages. The voiced counterpart /b/, however has higher occurrence frequency.

Another interesting set of plosives in Edoid languages are the labio-velar [kp] and [gb]. Auditorily, these sounds suggest they may be implosives but in actual fact, the implosion heard at the lips is as a result of the ingressive velaric airstream involved in the production of the doubly articulated sounds. In some Edoid languages like Ègèṅè, the pulmonic egressive airstream, the velaric and the glottalic ingressive airstream combine in the production of its labiovelars. Ladefoged (1968) in his account of labio-velars in Èdo, recorded glottalic airstream as involved in its production. In Ósósò however, labio-velar stops are produced with suction at the lips, resulting from velaric ingressive airstream, and explosion at the velum, resulting from the pulmonic egressive mechanism. This conclusion is, at the moment, based on perceptual and articulatory evidence.

In Ósósò, there are no inherent nasal vowels, pre or post nasalized plosives and nasal vowels, discussed in some Edoid literature on languages like Emai and Urhobo, will not be discussed.

The five plosives in Ósósò are presented in the following examples:

43. /p/ - voiceless bilabial plosive, has one allophone [p].
(a) /òpèré/ - [òpèré] 'cap' (b) /òpià/ - [òpjà]-'cutlass'

- (c) /ɔ̀pɔ̀bɔ̀/ – [ɔ̀pɔ̀bɔ̀] ‘corn’ (d) /pètèpètè/ – [pètèpètè] - ‘flat’
 (e) /ípò / – [ípò] ‘river’

43. /b/ - voiced bilabial plosive, has one allophone [b].
 (a) /àbí/ – [àbí] ‘mat’ (b) /ɔ̀bíá/ – [ɔ̀bjá] ‘gave birth’
 (c) /énábiè/ – [é!nábjè] ‘snake’ (d) /ébè / – [ébè] ‘leaf’
 (e) /óbìbì / – [óbìbì] ‘black’ (f) /bà/ – [bà] ‘vomit’
44. /t/ - voiceless alveolar plosive, has one allophone [t]
 a) /ótè/ – [ótè] ‘stick’ (b) /àtò/ – [àtò] ‘drink’
 (c) /òtè/ – [òtè] ‘arrow’ (d) /ítà/ – [ítà] ‘father’
 (e) /àtí/ – [àtí] ‘at’ (f) /tèkè/ – [tèkè] ‘short’
45. /d/ - voiced alveolar plosive, has one allophone [d]
 (a) /òdé/ – [òdé] ‘cloth’ (b) /àdò/ – [àdò] ‘meat’
 (c) /ódàfè/ – [ódàfè] ‘king’ (d) /ódùviè/ – [ódùvjè] ‘hunter’
 (e) /dènè/ – [dènè] ‘thin’ (f) /dà/ – [dà] ‘drink’
46. /k/ - voiceless velar plosive, has one allophone [k]
 (a) /ìkù/ – [ìkù] ‘medicine’ (b) /òkà/ – [òkà] ‘play’
 (c) /ítókò/ – [ítókò] ‘plant’ (d) /úkùrù/ – [úkùrù] ‘plate’
 (e) /kùrù/ – [kùrù] ‘cut’ (f) /sàkí/ – [sàkí] ‘if’
47. /g/ - voiced velar plosive, has one allophone [g]
 (a) /àgùrù/ – [àgùrù] ‘dress’ (b) /ágùlè/ – [ágùlè] ‘vulture’
 (c) /ógòlò/ – [ógòlò] ‘long’ (d) /ìbégà/ – [ìbégà] ‘begin’
 (e) /ùgwé/ – [ùgwé] ‘lie’ (f) /òguò/ – [ògwò] ‘one’
48. /kp/ - voiceless labiovelar plosive, has one allophone [kp].
 (a) /ókpà/ – [ókpà] ‘old’ (b) /ìkpó/ – [ìkpó] ‘knee’
 (c) /ákpò/ – [ákpò] ‘others’ (d) /èkpè/ – [èkpè] ‘leopard’
 (e) /kpà/ – [kpà] ‘carry’ (f) /kpéná/ – [kpé!ná] ‘few’
49. /gb/ - voiced labiovelar plosive, has one allophone [gb].
 (a) /ɔ̀gbɔ̀/ – [ɔ̀gbɔ̀] ‘person’ (b) /ìgbé/ – [ìgbé] ‘ten’

- (c) /égbè/ – [égbè] ‘body’ (d) /gbè/ – [gbè] ‘beat/hit’
 (e) /ífigbé/ – [ífigbé] ‘two hundred’

4.1.3 Affricates

As with plosives, the affricates are also produced with the articulators coming together to cut off air but unlike plosives where manner of release is sudden, it is gradual for affricates. In his work, Elugbe (1989:28) recognized the alveolar and the palato-alveolar affricates as the only affricates in Edoid language. Contrary to the account of affricates in Ósósò by previous studies, including Legbeti (2015), the alveolar affricate /ts/ is here identified for the first time by this study with acoustic evidence presented in fig4:6. It is also granted phonemic status as it was found to contrast in minimal pair and near minimal pairs with the alveolar fricative. Data below illustrates occurrence in different words:

50. /tʃ/ - voiceless palato-alveolar affricate, has only one allophone [tʃ]
- (a) /éʃɛ̃/ – [éʃɛ̃] ‘stone’ (b) /òʃà/ – [òʃà] ‘hunger’
 (c) /áʃɛ̃/ – [áʃɛ̃] ‘pepper’ (d) /íʃè/ – [íʃè] ‘abuse’
 (e) /óʃèʃè/ – [óʃèʃè] ‘good’ (f) /ʃà/ – [ʃà] ‘walk/move’
51. /dʒ/ - voiced palato-alveolar affricate. It has only one allophone [dʒ].
- (a) /òdʒì/ – [òdʒì] ‘rat’ (b) /ìmámà/ – [ìmámà] ‘build’
 (c) /ìdʒímà/ – [ìdʒímà] ‘far’ (d) /údʒì/ – [údʒì] ‘steal’
 (e) /ìdʒì/ – [ìdʒì] ‘vagina’ (f) /dʒɛ̃/ – [dʒɛ̃] ‘choose’
52. /ts/ - voiceless alveolar affricate with one allophone [ts].
- (a) /ùtsè/ – [ùtsè] ‘bow’ (b) /ètsè/ – [ètsè] ‘fish’
 (c) /ìtsútsù/ – [ìtsútsù] ‘flow’
 (d) /òtsòtsò/ – [òtsòtsò] ‘bag’ (taken to farm)

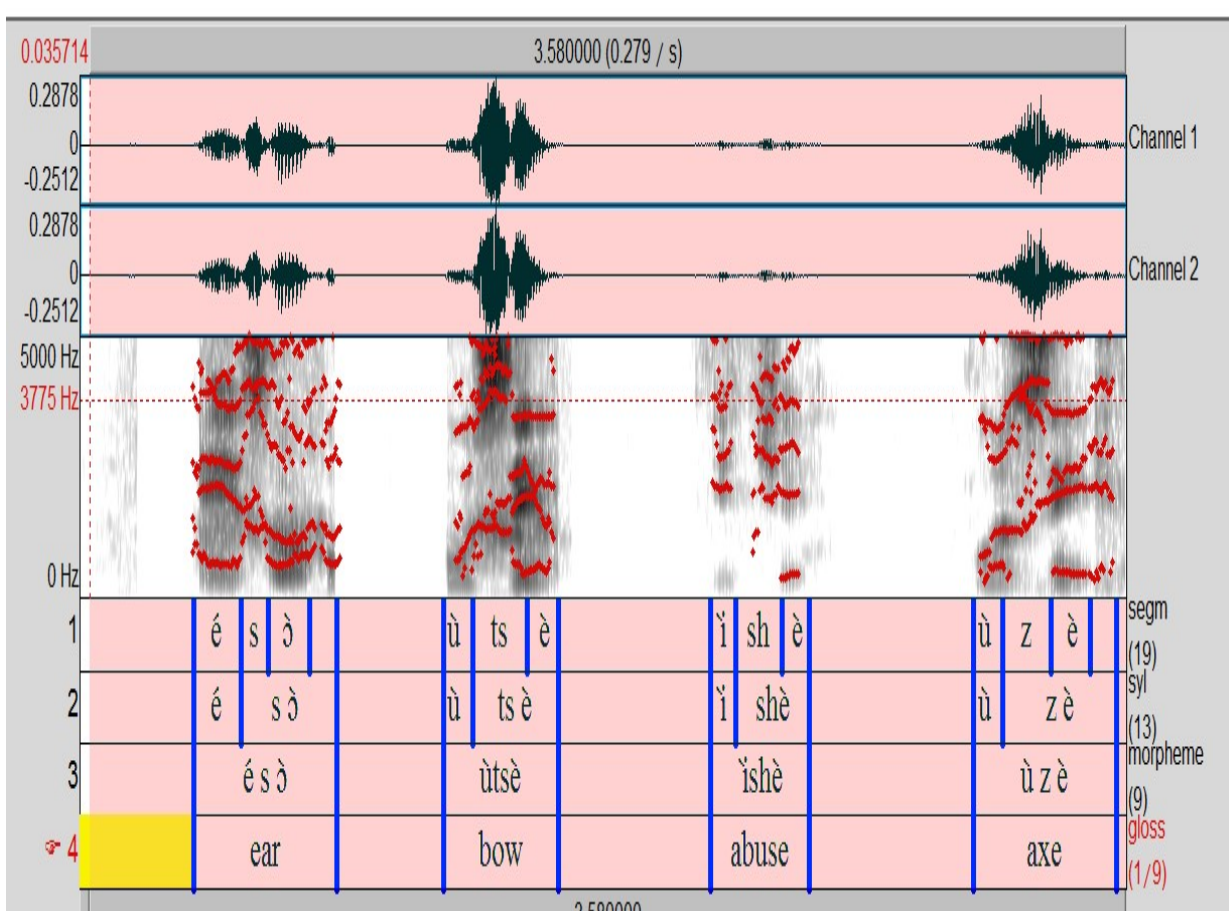


Fig 4.4. Spectrogram showing the difference between [s] [ts], [ʃ] and [z] in disyllabic

forms. Observe that total closure is followed by a widening typical of double articulation while the spiky waves of the fricatives are lighter.

4.1.4 Fricatives

This work recognizes the voiced and voiceless two-way phonation among the four sets of fricatives attested in Ósóso, unlike the voice, voiceless and breathy-voice state of the glottis three-way distinction reported by Elugbe (1989:31) for Ibilò, Isokò and Emalhe. Also, unlike Urhobo which utilizes only the voiced bilabial fricative, Ósóso, like Emai and Edo, utilizes the voiceless counterpart /β/only. Based on articulatory evidence therefore, /β/, /x/ and /ɣ/ are recognized as fricatives in Ósóso and not approximants. This result aligns with Aziza's (1997) findings that recognizes these sounds as fricatives in Urhobo also, based on the articulatory description which corresponds with the articulatory features of other fricatives in the language than approximants.

This position differs slightly from Omozúwa (2010:15) who included [β] with the approximants [j] and [w] in Edo but reported /x/ and /ɣ/ as fricative, on the basis of relatively high friction noise versus greatly reduced noise. In Emai however, Egbokhare (1990:29) treated /x/ and /ɣ/ sounds as approximants and not fricatives. His position is contrary to Uzochukwu (1987) and Egbokhare supports his position with the fact that in the articulation of these voice and voiceless velar, local friction characteristic of fricatives is absent. Besides, he said the /x/ and /ɣ/ are nasalized before nasal vowels whereas fricatives in the language do not get nasalized before nasal vowels, only approximants. The argument persists largely and with no tool to provide instrumental evidence for positions of scholars, the end may yet be distant.

This study attests to nine (9) fricatives in Ósóso presented in different words below:

53. /f/ - voiceless labiodental fricative with one allophone: [f]
- | | | | | | |
|-------------|-----------|------------|-------------|-----------|------------|
| (a) /àfɛ̀/ | - [àfɛ̀] | 'home' | (b) /éfià/ | - [éfià] | 'finger' |
| (c) /árófè/ | - [árófè] | 'bird' | (d) /áfèsè/ | - [áfèsè] | 'compound' |
| (e) /úfuè/ | - [úfwè] | 'mosquito' | (f) /ifuè/ | - [ifwè] | 'nose' |
54. /v/ - voiced labiodental fricative with one allophone: [v]
- | | | | | | |
|-----------|---------|-----------|------------|----------|---------|
| (a) /ùvù/ | - [ùvù] | 'stomach' | (b) /òviè/ | - [òvjè] | 'chief' |
| (c) /èvá/ | - [èvá] | 'two' | (d) /óvà/ | - [óvà] | 'name' |

- (e) /òvò/ – [òvò] ‘sun’ (f) /óvié/ – [óvjé] ‘tears’
55. /s/ - voiceless alveolar fricative with one allophone: [s]
 (a) /èsò/ – [èsò] ‘ears’ (b) /isò/ – [isò] ‘faeces’
 (c) /ókàsè/ – [ókàsè] ‘drycleaner’ (d) /isùsù/ – [isùsù] ‘flow’
 (e) /èsà/ – [èsà] ‘female’ (f) /èsè/ – [èsè] ‘fish’
56. /z/ - voiced alveolar fricative, with one allophone: [z]
 (a) /òzè/ – [òzè] ‘blood’ (b) /ùzè/ – [ùzè] ‘axe’
 (c) /izòbò/ – [izòbò] ‘fetish’ (d) /ázù/ – [ázù] ‘guinea corn’
 (e) /zàmi/ – [zàmì] ‘ask’ (f) /zò/ – [zò] ‘throw’
57. /β/ - voiced bilabial fricative, with one allophone [β] orthographically written as ‘vb’
 (a) /óβiri/ – [óβiri] ‘oil’ (b) /óβilà/ – [óβilà] ‘yam’
 (c) /ùβèrè/ – [ùβèrè] ‘calabash’ (d) /ùtùróβi/ – [ùtù!róβi] ‘because’
 (e) /ímáβi/ – [í!máβi] ‘with’ (f) /βárò/ – [βárò] ‘there’
58. /ʃ/ - voiceless post alveolar fricative, has one allophone [ʃ]
 (a) /ùrùfi/ – [ùrùfi] ‘fear’ (b) /áwùfi/ – [áwùfi] ‘crab’
 (c) /évéfò/ – [évéfò] ‘God’ (d) /ìkòfé/ – [ìkòfé] ‘mountain’
 (e) /ówàfi/ – [ówàfi] ‘sand’ (f) /ífi/ – [ífi] ‘skin’
59. /x/ - voiceless velar fricative, has one allophone [x].
 (a) /óxò/ – [óxò] ‘fight’ (b) /èxè/ – [èxè] ‘eggs’
 (c) /óxòxò/ – [óxòxò] ‘fowl’ (d) /òxiò/ – [òxiò] ‘he-goat’
 (e) /òxià/ – [òxià] ‘hunger’ (f) /èxà/ – [èxà] ‘monkey’
60. /ɣ/ - voiced velar fricative, has one allophone [ɣ].
 (a) /ìɣóɣò/ – [ìɣóɣò] ‘heavy’ (b) /àɣùrú/ – [àɣùrú] ‘cloth’
 (c) /ìɣàrà/ – [ìɣàrà] ‘proud’ (d) /àɣùlé/ – [àɣùlé] ‘eagle’
 (e) - [jàɣé] - ‘went’

4.1.5 Approximants (lateral and central)

These sounds are produced without audible friction as articulatory organs are in open approximation. According to Elugbe (1989:34), the palatal and labio-velar are the most common in the Edoid languages. The labio-velar approximant [w] is a doubly articulated

sound with a simultaneous raising of the back of the tongue towards the velum and a lip rounding projection that allows air unimpeded passage. All approximants are voiced:

61. /l/ - voiced lateral approximant, has one allophone [l]
- | | | | |
|-------------|---------------------|-------------|---------------------|
| (a) /èlá/ | - [èlá] ‘cow’ | (b) /úlú/ | - [úlú] ‘thread’ |
| (c) /ílèlè/ | - [ílèlè] ‘feather’ | (d) /àlótà/ | - [àlótà] ‘cassava’ |
| (e) /àgúlè/ | - [àgúlè] ‘vulture’ | (f) /ógòlò/ | - [ógòlò] ‘long’ |
62. /j/ - voiced palatal central approximant, has one allophone [j]
- | | | | |
|-------------|---------------------|-------------|---------------------|
| (a) /ìjémè/ | - [ìjémè] ‘breathe’ | (b) /èjìgì/ | - [èjìgì] ‘buffalo’ |
| (c) /ìfèjè/ | - [ìfèjè] ‘rub’ | (d) /ìkèjà/ | - [ìkèjà] ‘rotten’ |
| (e) /ùjì/ | - [ùjì] ‘charcoal’ | (f) /òjè/ | - [òjè] ‘farm’ |
63. /w/ - voiced labio-velar central approximant, has one allophone [w].
- | | | | |
|--------------|---------------------|-------------|-------------------|
| (a) /òwè/ | - [òwè] ‘legs’ | (b) /ìwò/ | - [ìwò] ‘liver’ |
| (c) /ìrébuè/ | - [ìrébuè] ‘breast’ | (d) /áwùfì/ | - [áwùfì] ‘crab’ |
| (e) /òwàfì/ | - [òwàfì] ‘sand’ | (f) /ìwéwé/ | - [ìwéwé] ‘smell’ |

4.1.6 Trill

The trills in Ósósò are the voiced /r/ and its voiceless counterpart /r̥/. As reported by Elugbe (1989:33) “every Edoid has at least one rhotic which may be a trill, r̥ or r; a tap ɺ or an approximant ɹ”. Trills are said to be different from tap as the former is produced with very short but repeated closure while closure is also short for tap but the closure is not repeated.

64. [r] - voiced alveolar trill, has one allophone.
- | | | | |
|-------------|-------------------|-------------|-------------------|
| (a) /órè/ | - [órè] ‘road’ | (b) /ìràmi/ | - [ìràmi] ‘fry’ |
| (c) /ìrèvò/ | - [ìrèvò] ‘thigh’ | (d) /ìrèkò/ | - [ìrèkò] ‘tooth’ |
| (e) /úrìrì/ | - [úrìrì] ‘cold’ | (f) /órèrè/ | - [órèrè] ‘big’ |
65. [r̥] - voiceless trill, has one allophone
- | | | | |
|-------------|--------------------|-------------|--------------------|
| (a) /ìrèrè/ | - [ìrèrè] ‘tongue’ | (b) /ìrèrò/ | - [ìrèrò] ‘eye’ |
| (c) /èrè/ | - [èrè] ‘belly’ | (d) /ùròrò/ | - [ùròrò] ‘flower’ |
| (e) /énèrè/ | - [énèrè] ‘food’ | (f) /ìràrò/ | - [ìràrò] ‘lick’ |

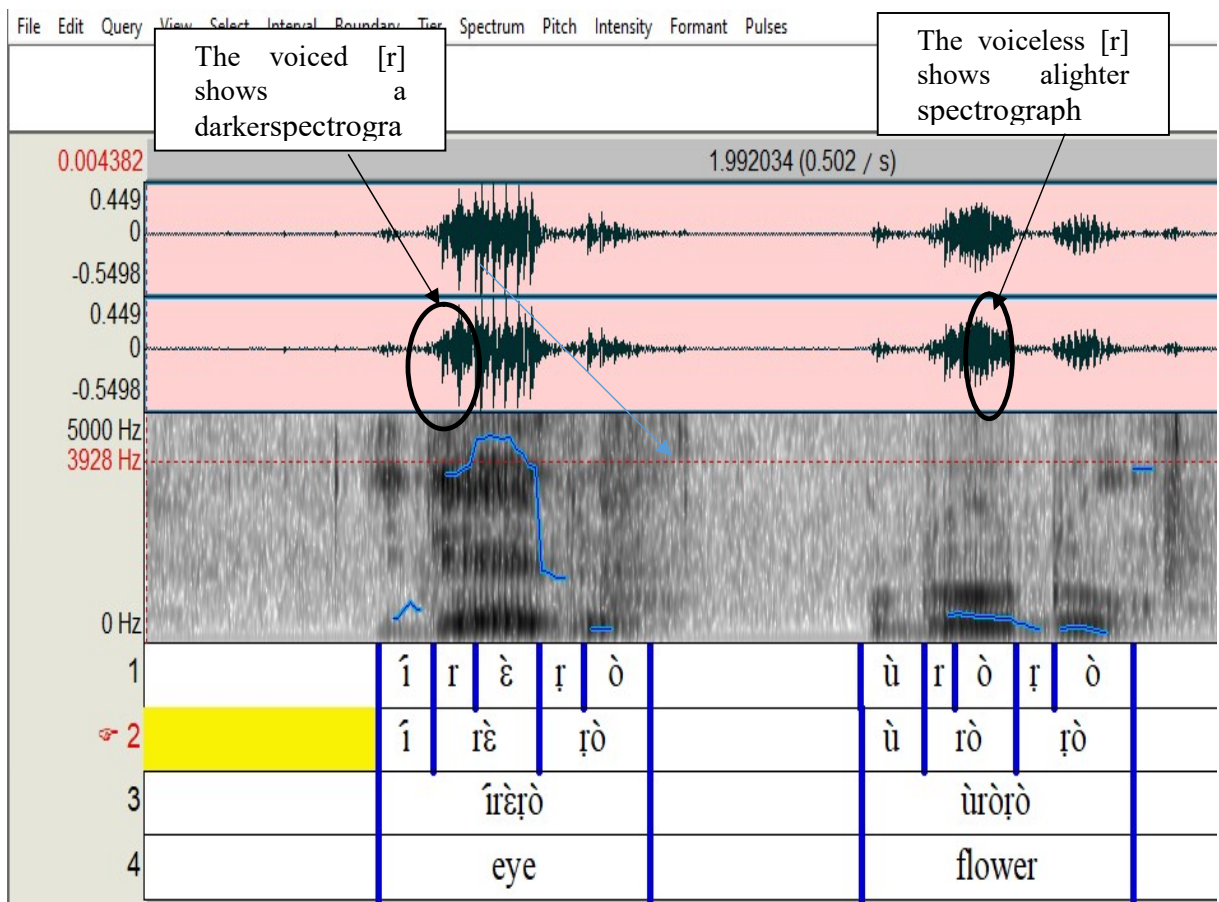


Fig 4.5. Spectrogram of voiced [r] and voiceless trill [r̥]. The formant of the voice is darker than the voiceless, indicative of adduction. Spikes are also wider in the waveform for the voiceless than the voiced.

4.1.7 Lenis

Of lenis feature Elugbe (1980:3) says 'a lot has been written about the fortis/lenis distinction. Still, it remains one of the less understood features of speech sounds. This section, therefore, particularly discusses this feature because it is one of the outstanding features of consonants of Ósósò. Lenis is more prevalent in the consonants of South-Western, North-Western and North Central Edoid languages, it is not in Isoko, Urhobo, Eruwa, Dẹgẹma and a few others. What happens with these other languages however, is the occurrence of stop versus fricative; and implosive versus plosive. Laver (1967,1969) studied Aviele and used tense to mean fortis and lax for lenis consonants, his conclusion suggested greater and less muscular tension as the distinctive feature in the lenis versus non lenis pairs he found in the language. Laniran (1979) also observed short duration and weak articulation as the common phonetic feature of lenis consonants in Emalhe. From the foregoing therefore, it can be said that phonetically, the distinction between the Lenis and non-lenis consonants can be made based on how either of these features applied:

- i. Duration: long versus short duration (timing articulation),
- ii. Strength: weak versus strong articulation,
- iii. Muscular tension: greater versus less muscular tension during articulation
- iv. Glottal: voiceless versus voiced; Elugbe (1989:37)

There is sufficient justification to conclude, based on perceptual and acoustic evidence when lenis words were paired with non-lenis words (close enough) in the data that the lenis segments are shorter, weaker and take less muscular tension to articulate than the non-lenis. Duration/length however rank first and it is the foremost mark of distinction. In all his works about lenis, Elugbe (1973, 1978, 1980, 1989), specifically mentioned duration as the most consistent differentiating factor between the lenis consonants and its non-lenis counterpart. Elimelech (1976:7) in the light of the spectrograms of the pair of lenis and non-lenis: kph:kp, gbh:gb, mh:m, found in Ekpeli, a dialect of Yekhee, says 'in the case of the four labio-velar stops and the two bilabial nasals, the only differentiating

factor between the pair as shown by spectrographic analysis is that of length'.As the marked, frequency of occurrence is however low unlike its non-lenis

Data below illustrates its occurrence in different words:

66. /bh/ - voiced bilabial lenis plosive, has one allophone, [bh].
(a) /ábhò/ - [ábhò] 'hands' (b) /óbhò/ - [óbhò] 'doctor'
(c) /óbhòfì/ - [óbhòfì] 'lefthand' (d) /ìbhóbhò/ - [ìbhóbhò] 'pull'
67. /mh/ - voice bilabial lenis nasal, has one allophone, [mh].
(a) /ìmhè/ - [ìmhè] 'trouble' (b) /mìmhè/ - [mìmhè] 'speak/talk'
(c) /ìmháβí/ - [ì!mháβí] 'and'

At the phonetic level, all plosives are labialized if they are followed by any of the [+back] vowels and palatalized if preceded by the [+ high], [+front] vowel in progressive palatalization.

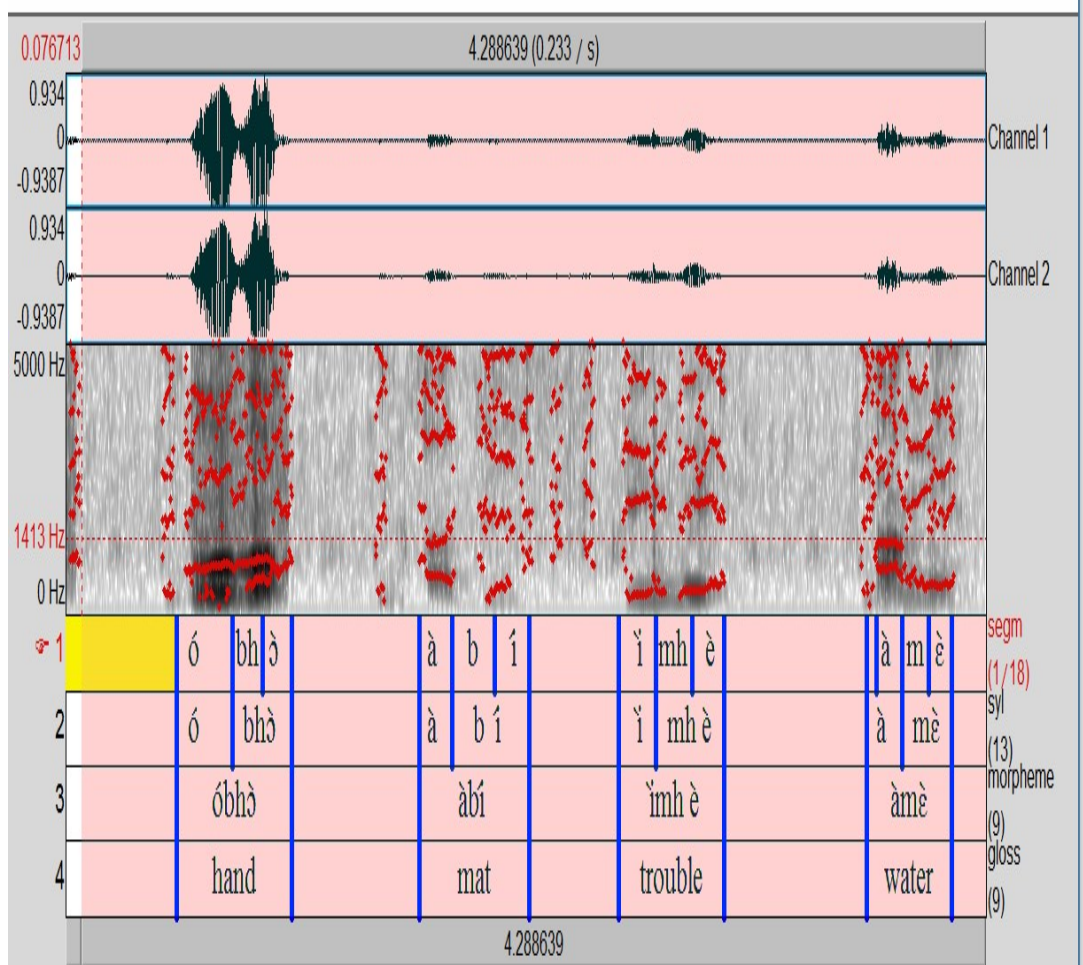


Fig 4.6. Acoustic evidence showing spectrogram of the lenis plosives [bh] and [mh] as different from the non-lenis plosive [b] and [m].

	bilabial	labio- dentals	Alveola r	palato- alveolar	palatal	velar	labio- velar
Plosives	p b		t d			k g	kpgb
Lenis plosive	bh						
Labialized plosives	p ^w b ^w		t ^w d ^w			k ^w g ^w	
Palatalized plosives	p ^j	b ^j	t ^j d ^j			k ^j g ^j	kp ^j gb ^j
Affricate			ts	tʃdʒ			
Nasal		m		n		ɲ (ŋ)	
Lenis Nasal	mh						
Fricative	β	f v	s	z ʃ		x ɣ	
Trill			r				
Approximant			r			j	w
Lateral				l			

Chart 4.1. Ósósò Phonetic Consonants

Source - Chart is based on researcher's analysis in section 4.1: Ósósò sound system

4.1.8 Phonemic Consonants

Within available data, in contrastive distribution using minimal and near minimal test procedure, twenty-nine (29) consonants of the forty-four (44) segments in the phonetic chart are phonemic.

68. Minimal and Near Minimal Pairs –Consonants

/p/ and /b/

/p/	-	/ɔ̃pjà/	‘cutlass’
/b/	-	/ɔ̃bjá/	‘gave birth’

/t/, and /d/

/t/	-	/ùtè/	‘creditor’
/d/	-	/ùdè/	‘stool’

/k/, and /g/

/k/	-	/ókò/	‘soap’
/g/	-	/ógó/	‘in-law’

/kp/ and /gb/

/kp/	-	/úkjà/	‘star’
/gb/	-	/úgbà/	‘thorns’

/n/ and /ɲ/

/n/	-	/iñ/	‘snails (plural)’
/ɲ/	-	/iɲ̃/	‘mother’

/m/ and /mh/,

/mh/	-	/ìmhè/	‘trouble’
/m/	-	/ímè/	‘to be pregnant’

/b/ and /bh/

/b/	-	/óbè/	‘leaf’
/bh/	-	/óbhò/	‘hand’

/tʃ/ and /dʒ/			
/tʃ/	-	/úʦí/	‘pot’
/dʒ/	-	/údʒì/	‘basket’
/s/ and /z/			
/s/	-	/òsɛ́/	‘spittle’
/z/	-	/òzɛ́/	‘blood’
/f/ and /v/			
/f/	-	/ufí/	‘bell’
/v/	-	/úvì/	‘kernel’
/β/ and /p/			
/β/	-	/úβèrè/	‘calabash’
/p/	-	/òpèrè/	‘cap’
/x/ and /ɣ/			
/x/	-	/óxòxò/	‘hen’
/ɣ/	-	/òɣóɣò/	‘heavy’
/j/ and /w/			
/j/	-	/íjè/	‘going’
/w/	-	/íwè/	‘stinking’
/l/ and /n/			
/l/	-	/èlá/	‘cow’
/n/	-	/énà/	‘goat’
/r/ and /r̄/			
/r̄/	-	/írárò/	‘licking’
/r/	-	/íròrò/	‘thought’
/ts/ and /s/			
/ts/	-	/òtsòtsò/	‘farm bag’
/s/	-	/ósósò/	‘name of the language’
/ts/ and /ʃ/			
/ts/	-	/etse/	‘fish’

/ʃ/ - /ije/ 'five'

Whether all plosives have lenis counterpart and if they are phonemic remains unclear as due to data limitation, however, from the foregoing contrastive analysis, the twenty-nine (29) phonemes discovered are presented in the phonemic chart below:

	Bilabial		Labio-dentals		Alveolar		Palato-alveolar		Palatal	Velar	Labio-velar	
Plosives	p	b			t					k	g	kpgb
					d							
Lenis plosive	bh											
Affricate					ts		tʃdʒ					
Nasal		m				n			ɲ			
Lenis Nasal	mh											
Fricative	β	f	v	s	z	ʃ			x	ɣ		
Trill					ʀ	r						
Approximant									j			w
Lateral						l						

Chart 4.2.Ósósò Phonemic Consonants Source: Chart is based on researcher's analysis in section 4.1.8 Phonemic Consonants

4.1.9 Ósósò Vowels

Ósósò has seven phonemic oral vowels: /i, u, e, o, ε, ɔ, a/ and no phonemic nasal vowels but when these oral vowels occur in the environment of any of the nasal consonants in the language, they get nasalized /ĩ, ù, ẽ, õ, ẽ, ỹ, ã/. With regards to vowels in the Edoid family, Elugbe (1989:40) says ‘no Edoid language employs less than seven vowels in its oral vowel system’. These seven vowels were said to have been reduced from a proto-Edoid ten vowel system, having lost /ɪ, ə, ʊ/.

4.1.10 Phonemic vowels

Minimal pairs showing contrastive evidence for the seven vowels are:

69. Minimal pairs of vowels in

/i/ and /u/

/i/ - [ìdè] ‘chair’

/u/ - [ùdè] ‘stool’

/e/ and /o/

/e/ - [ógbè] ‘outside’

/o/ - [ó!gbó] ‘thanks’

/ε/ and /ɔ/

/ε/ - [ésà] ‘female’

/ɔ/ - [òsà] ‘wife’

/ε/ and /a/

/ε/ - [dè] ‘buy’

/a/ - [dà] 'drink'

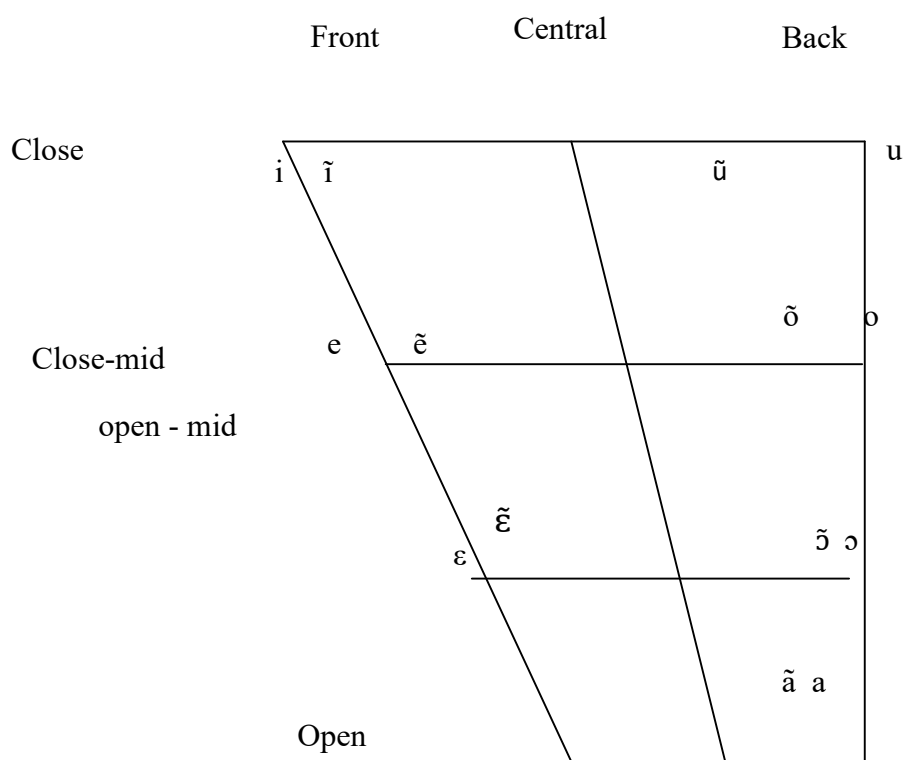


Chart 4.3. Vowel Chart of Ósósò showing oral and nasalized vowels

Source: Chart is based on researcher's analysis in section 4.1.9 Ósósò Vowels

4.1.11 Status of nasal vowels in Ósósò

This study establishes the absence of inherent nasal vowels in Ósósò based on available data, rather, nasalized vowels are environmentally conditioned. Oral vowels become nasalized if preceded by a nasal consonant, even if it is slightly so. This is a phenomenon regarded as one of the phonetic universals. Contrary to the vowel system common with all Edoid languages bordering Ósósò with available studies, the language differs with its system of '7 oral and no nasal' vowel system common with most Edoid languages as only the 7 oral vowels contrast. It is difficult to be specific on the possible explanation for this lack of nasal vowels in Ósósò, but based on Rolle's (2013:226) study and his conclusion that the equal distribution of Edoid languages with and without contrastive nasal vowels 'strongly suggests

- [1] areal spread introducing/initiating contrastive nasal vowels or nasal loss,
- [2] independent innovation/loss of contrastive nasal vowels, or
- [3] both',

it would seem Ósósò manifest an independent loss of nasal vowels. The data below shows that in all the environments nasalized vowels occurred, one of these four (4) phonemic nasal consonants (1) /m/, (2) /mh/, (3) /n/, (4) /p/ always precedes it, resulting in progressive nasal assimilation:

70) /m/

i)	/èmə/	→	[èmə̃]	→	'cloth'
ii)	/ímè/	→	[ímè̃]	→	'pregnant'
iii)	/úrumè/	→	[úrumè̃]	→	'needle'
iv)	/íjímìnà/	→	[íjímìnà̃]	→	'weep'
v)	/ómò/	→	[ómò̃]	→	'child'

	vi)	/ómù/	→	[ómũ]	→	'to be sweet'
	vii)	/ímámà/	→	[ímámã]	→	'Mould'
	viii)	/òsùmà/	→	[ósùmã]	→	'sheep'
	ix)	/ìrámì/	→	[ìrámĩ]	→	'fry'
	x)	/zàmì/	→	[zàmĩ]	→	'ask'
71.	/n/					
	i)	/énà/	→	[énã]		'these'
	ii)	/dènè/	→	[dènẽ]		'narrow'
	iii)	/ínénè/	→	[inénẽ]		'to know'
	iv)	/ímónì/	→	[imõnĩ]		'hold/take'
	v)	/únò/	→	[únõ]		'snail'
	vi)	/úmínòtè/	→	[úmínõtè]		'root'
	vii)	/únù/	→	[únũ]		'mouth'
	viii)	/énèrè /	→	[énèrè]		'food'
	ix)	/énébiè/	→	[é!nèbjè]		'snake'
	x)	/zàmìna/	→	[zàmĩnã]		'forget'
72.	/ɲ/					
	i)	/àkàɲà/	→	[àkàɲã]		'work'
	ii)	/ìɲò/	→	[ìɲõ]		'mother'
	iii)	/ìɲèɲé/	→	[ìɲèɲẽ]		'eight'
	iv)	/ɲè/	→	[ɲè]		'cook'
	v)	/ì!ɲómìsè/	→	[ìɲó!mĩsè]		'hot'
	vi)	/ìɲèɲéantigbe/	→	[ìɲèɲãntigbè]		'eighteen'
	vii)	/ómìɲò/	→	[ómìɲõ]		'name of person'
73.	/mh/					
	i)	/ímhé/	→	[ímhè]		'word'
	ii)	[í!mháβì]	→	[í!mháβì]		'and'/
	iii)	/mìmhè/	→	[mìmhè]		'speak'

In the entire data used for this study, only these two words; [ídànkòlò], name of a place in the community and [òkpàndzè] ‘groundnut’, seems to suggest the presence of inherent nasal vowel [ã] in Ósósò. However, it seems diachronically, the words were /í.dà.ni.ko.ló/ and /ò.kpà.nì.dzè/ but syllable reduction process motivated by economy led to the deletion of [ni] with the nasal feature from the deleted nasal consonant left behind. This feature then links with the oral vowel [a] to become [ã] in a case of regressive assimilation.

74. /í.dà.ni.kò.ló/ → /í.dà. kò.ló/ → [ídākòlò] ‘name of a place’
 underlying syl.reductionsurface

/ò.kpà.nì. dzè/ → /ò.kpà. dzè/ → [òkpãdzè] ‘groundnut’
 underlying syl.reduction surface

Though not exhaustive, this relative non-existence of nasal vowels in the broad database used for this study, suggest near total loss of nasal vowels– if they ever existed in its system. The data below shows each of the seven oral vowels occurring also as nasalized within the same words, as additional evidence to prove nasalized vowels are conditioned by adjacency to nasal consonants.

75. Nasalized vowels in allophonic relations with oral vowels in ósósò:

					Oral	nasalized
i.	[ĩ]	[íḡmĩ]	‘dance’	→	[i] vs	[ĩ]
ii.	[ũ]	[úḡũ]	‘mouth’	→	[u] vs	[ũ]
iii.	[ẽ]	[èḡẽ]	‘four’	→	[e] vs	[ẽ]
iv.	[õ]	[óḡõ]	‘palmwine’	→	[o] vs	[õ]
v.	[ɛ̃]	[ɛḡmɛ̃]	‘see’	→	[ɛ]	vs [ɛ̃]
vi.	[ɔ̃]	[óḡmɔ̃]	‘child’	→	[ɔ] vs	[ɔ̃]
vii.	[ã]	[áḡã]	‘here’	→	[a] vs	[ã]

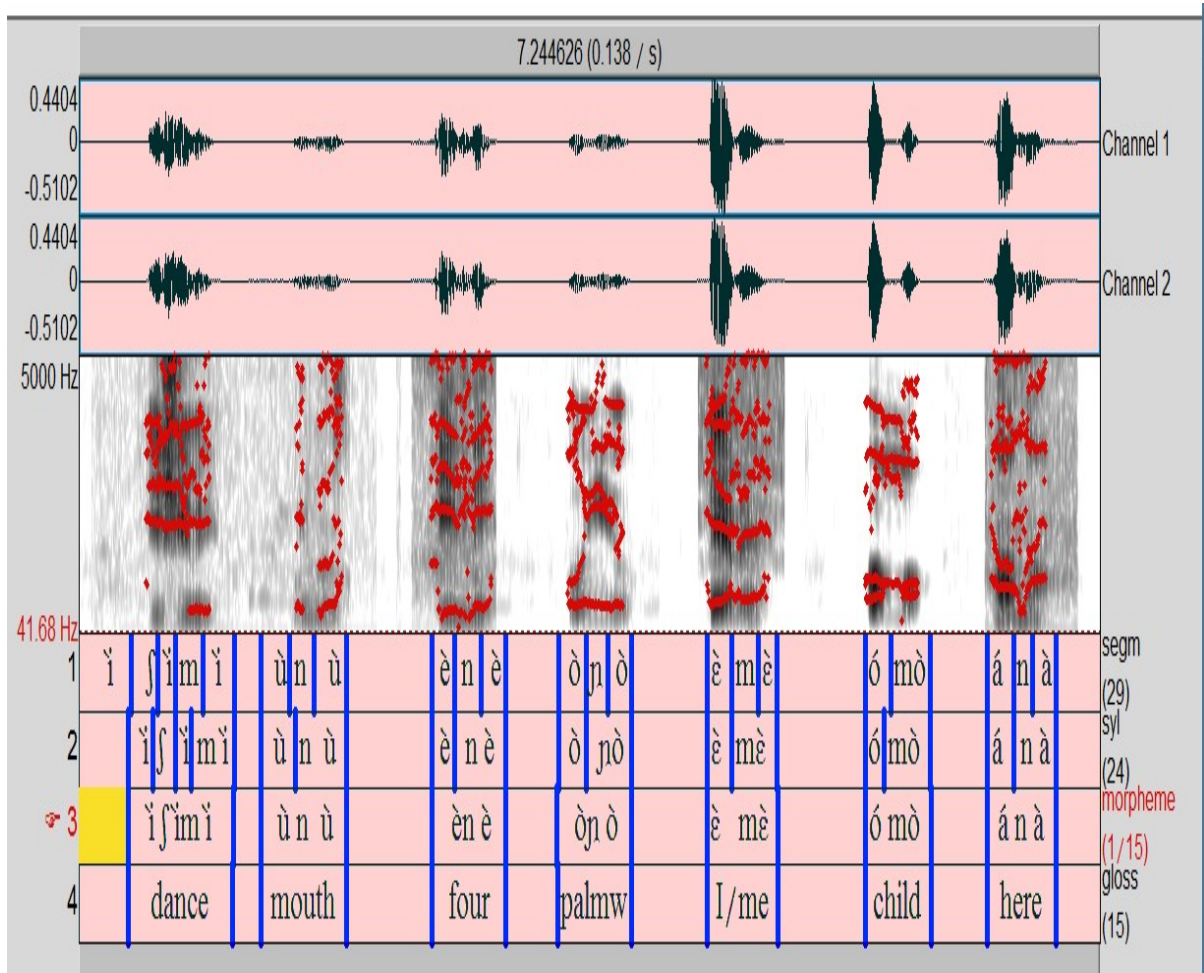


Fig. 4.7. Spectrogram showing oral vowel and nasalized counterpart in selected VCV morphemes in Ósósò

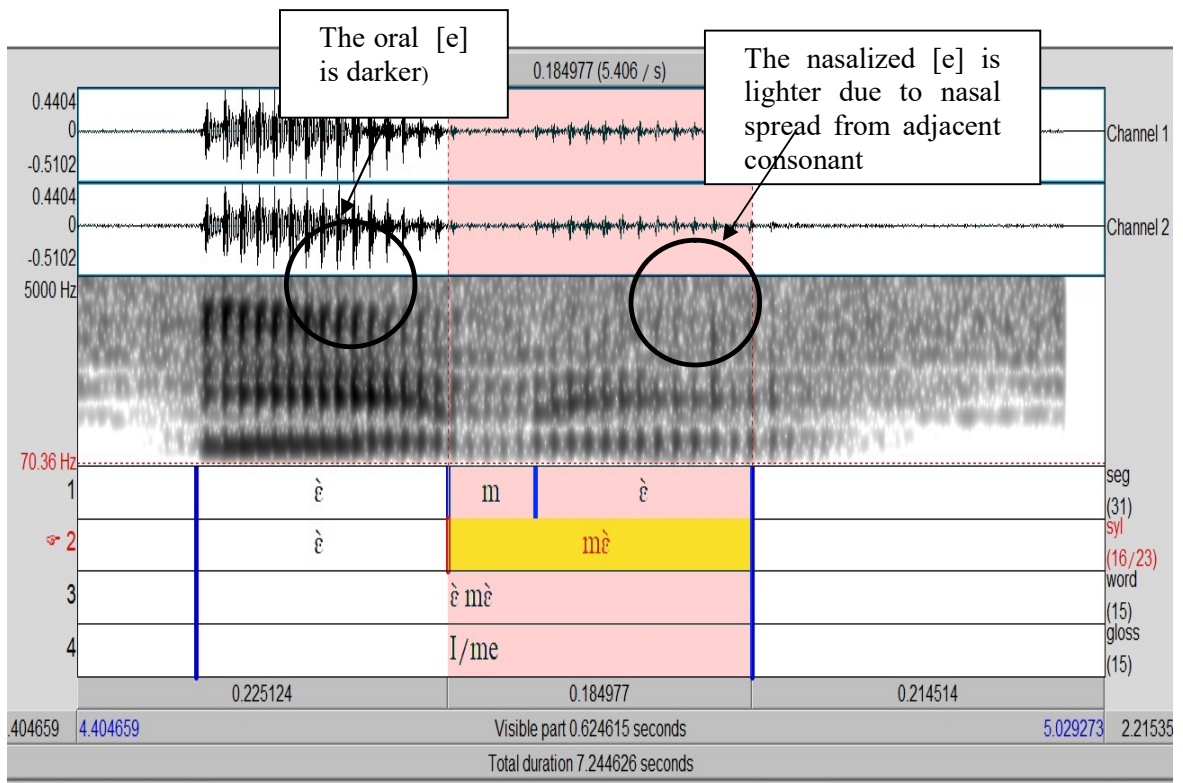


Fig. 4.8. Spectrogram showing F1 and F2 of oral and nasalized vowel ϵ . In the words $[\epsilon m \epsilon]$ 'i/me', (one of the seven word from 4.7a.) the F1 and F2 of oral $[\epsilon]$ is different from its nasalized counterpart which is faint, with duration of articulation longer.

4. 2 Syllable structure in Ósósò

This section addresses thesecond research question by presenting the syllable structure of Ósósò and some phonological processes. This is imperative considering the importance of the syllable to phonological analysis and studies in tonology.

4.2.1 The Phonemic and Phonetic syllable

At the phonological level, word in Ósósò exhibit simple pattern of V and CV with V being the indispensable element in a syllable as shown in the following examples:

76. phonemic syllable structure

V- Syllable type

- | | | | |
|----|----------|------|-----------|
| i. | /é. na/ | V.CV | ‘goat’ |
| | /í. tà/ | V.CV | ‘father’a |
| | /ò. gbò/ | V.CV | ‘person’ |

CV- Syllable

- | | | | |
|-----|------|----|---------|
| ii. | /mò/ | CV | ‘take’ |
| | /dà/ | CV | ‘drink’ |
| | /jà/ | CV | ‘pay’ |

44. Phonetic syllable structure

At the phonetic level, the language has a V , CV and a CCV syllable caused by either rapid speech which leads to the deletion of V1 or the implementation of the glide formation rule. Both are presente below:

77. *CCV- Syllable type (/r/ deletion due to rapid speech)

- | | | | | | |
|------|------------|---|----------|--------|-------------|
| iii. | /vi.rà.sé/ | → | [vrà.sé] | CrV.CV | ‘wake up!’ |
| | /vù.rè.ǰí/ | → | [vrɛ.ǰí] | CrV.CV | ‘lie down!’ |
| | /vi.râ/ | → | [vrâ] | CrV | ‘go away!’ |

*CCV- Syllable type (due to glide formation in words)

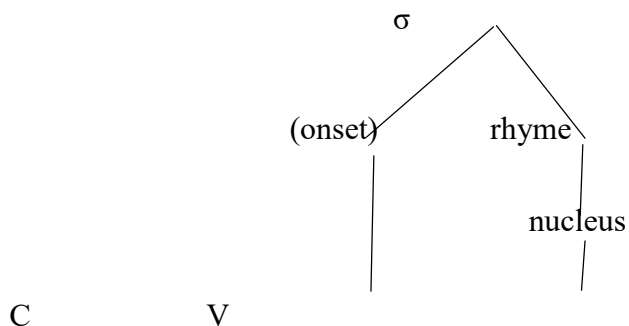
- | | | | | | |
|-----|---------|---|----------|-----------|--------|
| iv. | /ífújè/ | → | [ífwéjè] | V. CwV.CV | ‘wash’ |
| | /úkùè/ | → | [úkwê] | V.CwV | ‘head’ |

/ámúè/ → [ámwê] V.CwV ‘knife’

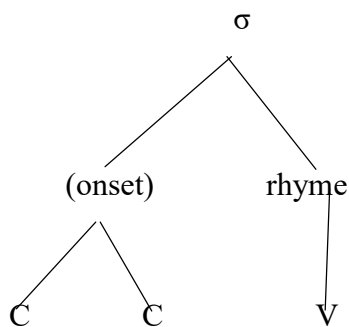
***CCV- Syllable type (due to glide formation across morpheme boundary)**

v. /ifi # èvá/Twenty # two → [ifjéva] V.CjV.CV ‘forty’

/kù # àmè/ Pour #water → [kwàmè] CjV.CV ‘to bath’



Phonological syllable structure



Phonetic syllable structure (complex onset)

Based on analysis, the following claims are made by this study about the syllable in Ósósò:

- i. In Ósósò, two syllable types are identified: V and CV at the phonemic level, and V, CV and CCV, at phonetic level.
- ii. At phonetic level, typical of most Edoid languages, oral vowels become nasalized in Ósósò when it occurs as CNV sequence. Therefore, both the oral and nasalized vowels occur as nuclei of a syllable.
- iii. In Ósósò, syllabic nasal consonants are not attested.
- iv phonologically, there are no consonant clusters in Ósósò, they exist only at the phonetic level and the number of Cs within a syllable can not exceed two.

- v. Both the onset and rhyme cannot be complex simultaneously.
- vi. Instances of C₁C₂V syllable type are usually C₁V₁C₂V₂ underlyingly. Instances of V1 deletion result from rapid speech and the resultant sequence is usually C₁CrV.
- vii. The syllable in Ósósò is an open syllable type with morphemes ending with a V.

From the foregoing, the syllable structure of Ósósò can be captured as:

Phonetic - ((C)V) (C)CV) CV)

Phonemic- ((V) (C)) (V) CV)

By this formula, a minimum word, phonetically and phonemically, is of a CV structure while the maximum is a VCVCV. Any structure longer than this is largely either a compound word or a reduplicated form.

4.2.2 Syllable structure processes in Ósósò

In Ósósò, syllable structure processes affect the relative distribution of consonants and vowels within a syllable because sequences are disallowed within and across morpheme boundaries. In the underlying syllable structure, forbidden clusters are resolved either through insertion, deletion, or feature changes that can lead to glide formation. Two hiatus resolution processes identified in Ósósò will be discussed with ample data below.

4.2.2.1 Glide formation in Ósósò

A glide is a transitional sound created by the glide formation (GF) rule for the avoidance of hiatus. As a modification characteristic of Edoid languages, Elugbe (1989:44) says 'I have not found an Edoid language in which this rule or modification and/or expansion of it do not occur: ...if a close vowel is followed by another non-close vowel, the close vowel is realized as its approximant counterpart'. Thus, [j] and [w] are allophones of /i/ and /u/ based on position of occurrence. According to Skandera and Burleigh (2005:26) 'even though they are vowel-like in articulation, glides pattern as consonants. ... Since glides show properties of both consonants and vowels, the term *semivowel* and *semiconsonant* may be used interchangeably with the term *glide*.'

In Ósósò, if the GF rule must apply either within or across morpheme boundaries, the following structural and grammatical conditions must be satisfied;

1. The close high unrounded and rounded vowels /i/ and /u/ must be followed by a non-identical vowel.
2. The morpheme must have the minimal morpheme structure of the lexical category it belongs to; morpheme structure have been discussed under the different lexical categories.
3. A consonant must precede the V V sequence otherwise the glide formation rule will not apply. This is similar to Emai as reported by Ajani (2015:53) ‘glide formation does not occur in the language when two vowels only make a word’
4. V₂ must not be grammatically redundant if glide must occur across morpheme boundary otherwise elision would have resolved the hiatus.
5. GF does not apply across constituent boundaries; it applies within constituent. It does not cross from NP to VP, PP for instance.

⁶
Owing to the nature of a glide, in languages where a CGV (‘G’ meaning glide; either /i/ or /u/) cluster occurs in a syllable, three possible interpretations come to mind hence the need to clarify how the glide in Ósósò is a full glide and not an offglide. These possibilities are:

- (a) the sequence may be instances of diphthongs in the language;
- (b) the cluster can be instances of palatalization or labialization;
- (c) they may be sequence of consonant cluster,

To clarify the first possibility, although diphthongs ‘glide’ like the glides formed by GF rule in Ósósò, the movement from one vowel to the other in a diphthong is more rapid perceptually than in glides and the blend is swifter also, compared to glides. The cluster can also not be taken as instances of palatalisation because the environment for palatalisation is not before a front vowel, and so to palatalise the preceding consonant, the close front vowel becomes a palatal glide [j] first, then, palatalisation occur. Besides, the environment required for palatalization is not before a sequence of iV and uV.

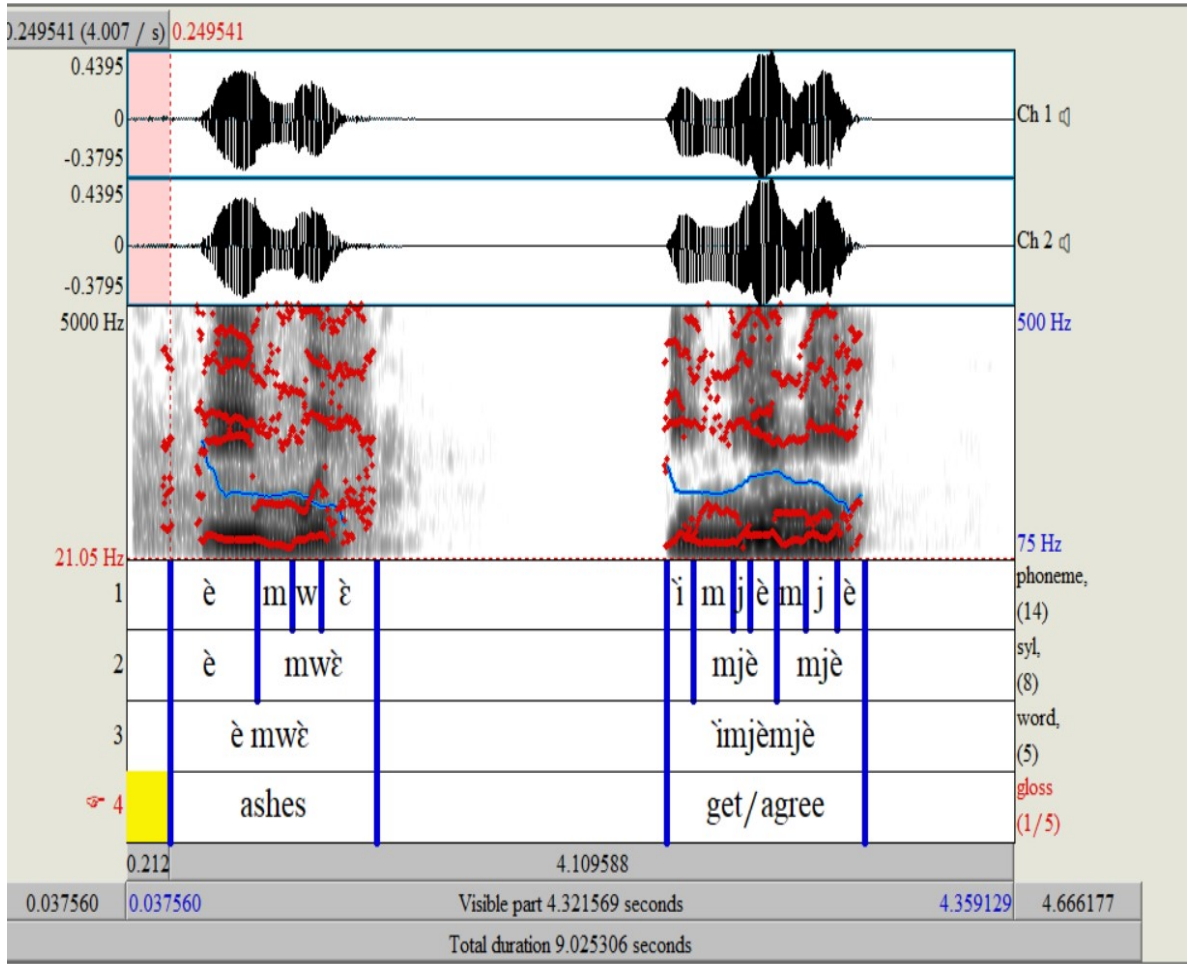


Fig 4.9.The spectrographic display of a sequence of CjV and CwV.

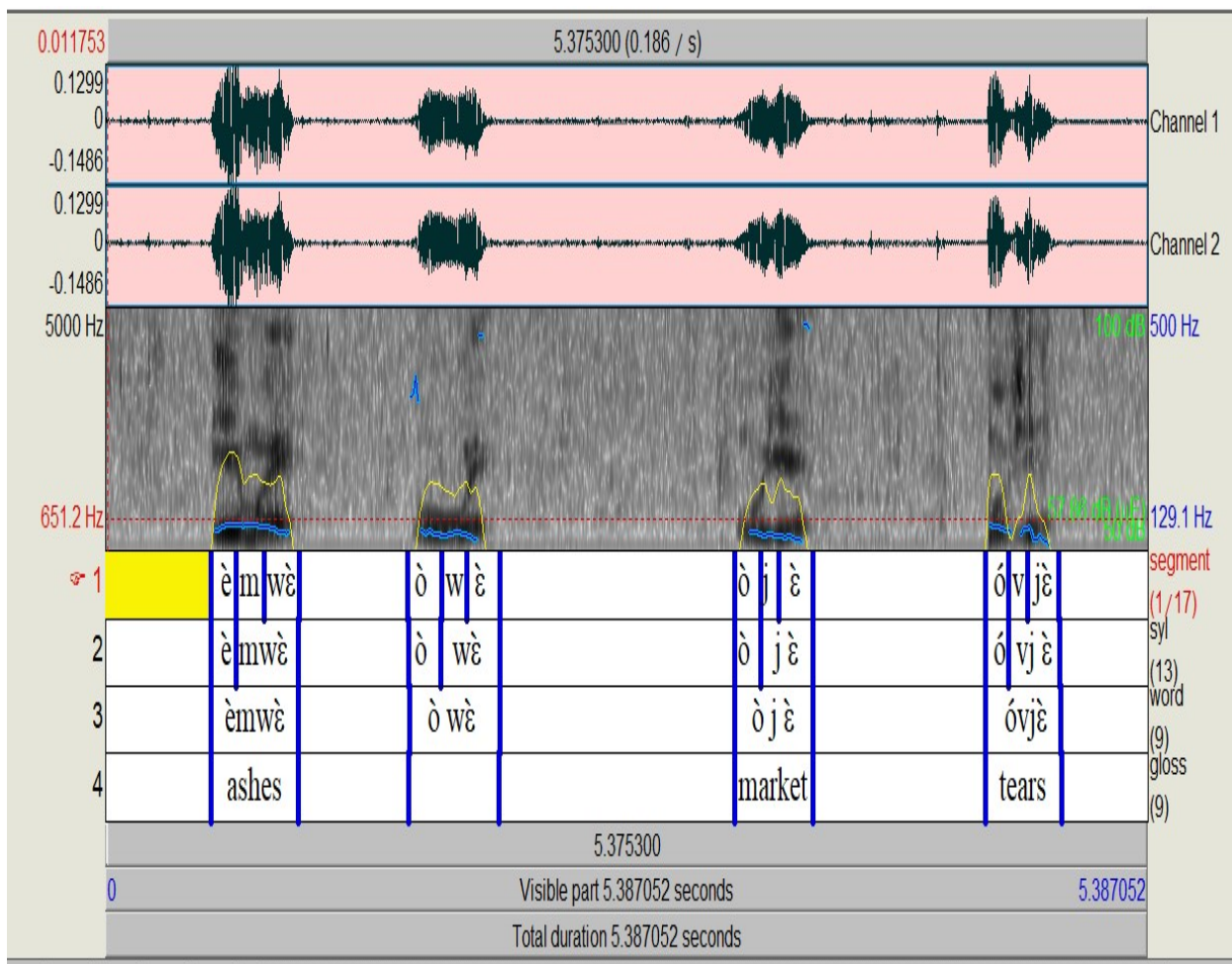


Fig. 4.10.A side-by-side display of dysyllabic morphemes with and without glide. Notice in the spectrogram, the F1 and F2 of the syllable with glides are wider than the syllable with the same vowel without glide.

By description, palatalisation most generally is a process where a segment acquires palatality. According to Egbokhare (1990:218) ‘It typically only raises or fronts the tongue position before front vowels and the palatal glide...it is reasonable to assume that palatalization is an assimilatory process’. Besides, unlike the glide that results from the application of GF rule, palatalization does not resyllabify. Seen from this angle, the possibility of the cluster being just instances of palatalization cannot subsist. Finally, Ósósò does not allow consonant cluster underlyingly. They may however be phonetic. Schematically, glide formation can be represented as:

CuV → CwV

CiV → CjV

4.2.2.2 Glide formation and tone in Ósósò

When a vowel segment is desyllabified by becoming a glide, the tone borne by it delinks and is set floating. Usually, V₁ and V₂ tone are identical, hence linkage of tone to the next TBU is vacuous but where the tone on V₁ is different from V₂, a contour results:

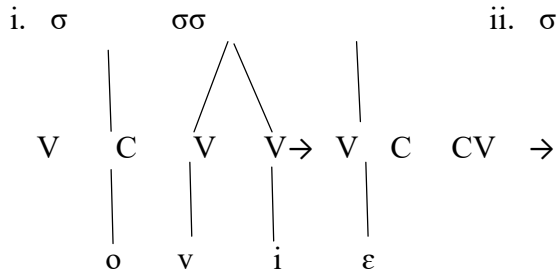
78.

- | | | | | |
|----|------------------|---|--------------|----------------|
| a. | /fí # ávà/ | → | [fjává] | ‘shoot’ |
| | drag bullet | | | |
| b. | /éwòní# òtábà/ | → | [éwónjòtábà] | ‘smoke (cigar) |
| | Smoke of tobacco | | | |
| c. | /tù # òsè/ | → | [twòsè] | ‘spit’ |
| | put spittle | | | |
| d. | /kù # /àkúgbè/ | → | [kwàkúgbè] | ‘mix’ |
| | pour together | | | |

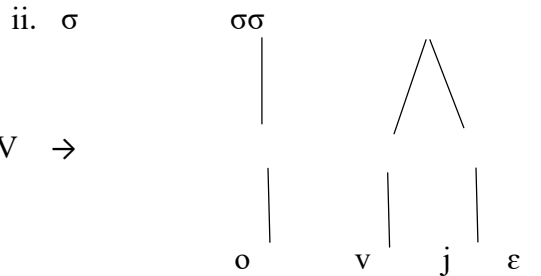
the manifestation of the glide formation rule is explained within the autosegmental framework below:

Within morpheme:

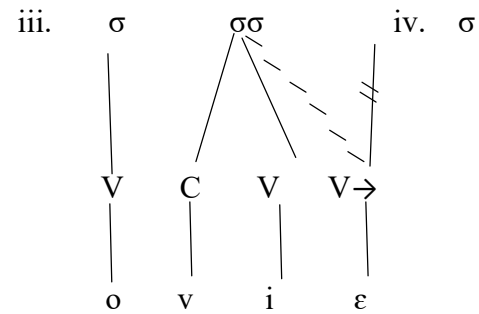
Underlying representation



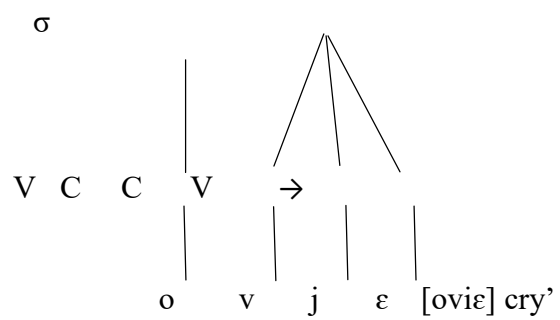
By glide formation



by resyllabification & delinking

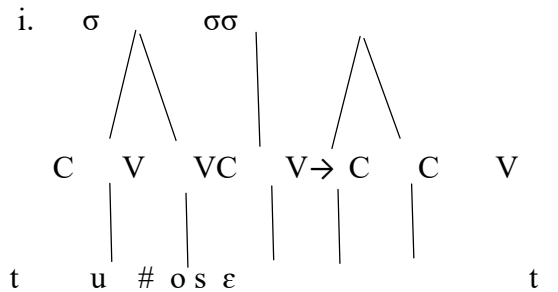


Surface representation

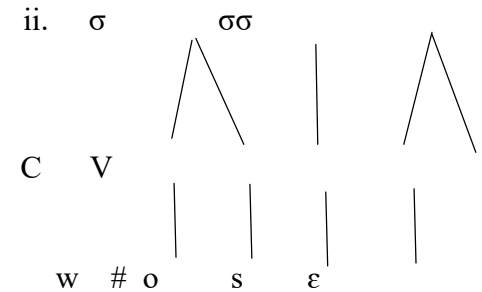


Across morpheme boundary:

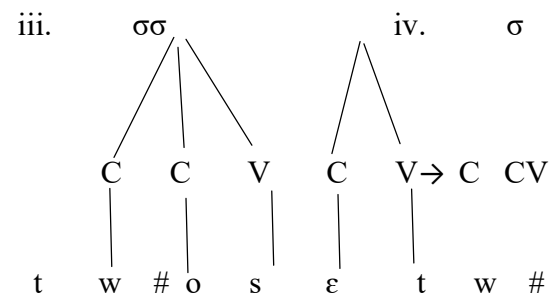
Underlying representation



By glide formation



by resyllabification & delinking



Surface representation

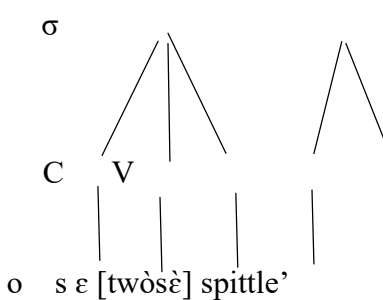


Table 4.1. Glide formation within morpheme showing: [i]→ [j](N/A = Not applicable)

N	/e/	/ɛ/	/o/	/a/	/u, o/
1.	/òviè/→[òvjè] ‘chief’	/óviè/→[óvjè] ‘cry’	/ifíorò/→[ifjórò] ‘blow out’	/èkíásù/→[èkjásù] ‘buttocks’	N/ A
2.	/òʃièʃè/→[òʃjèʃè] ‘good’	/úkìèwò/→[úkjèwò] ‘bee’	/idiò/→[idjò] ‘dirty’	/ìbià/→[ìbjà] ‘children’	‘
4.	/òbièbiè/→[òbjèbjè] ‘bad’	/ótùàmè/→[ótjwàmè] ‘rainy season’	/gìorò/→[gjòrò] ‘millet’	/éfià/→[éʃjà] ‘claw’	‘
5.	/ítʃiè/→[ítʃjè] ‘abuse’	/ikíómè/→[ikjómè] ‘descend/climb’	/ìnjòmíèsè/→ [ìnjòmíèsè]‘hot’	/òpià/→[òpjà] ‘cutlass’	‘
6.	/ìwíèsè/→[ìwjésè] ‘cover’	/óʃiè/→[óʃjè] ‘greet’	/ímíorò/→[ímjór ò]‘squeeze’	/ifíánà/→[ifjánà] ‘fly’	‘
7.	/ímíémíè/→[ímjémjè] ‘get’	/ikíérè/→[ikjérè] ‘scratch’	/ifìorò/→[ifjórò] ‘blow wind’	/òxiò/→[òxjò] ‘He goat’	‘
8.	/ùfiè/→[ùʃjè] ‘hunt’	/kìèsè/→[kjèsè] ‘split’	/kìorò/→[kjòrò] ‘look for’	/égbià/→[égbjà] ‘laugh’	‘

Table 4.2: glide formation within morpheme showing [u] → [w]

No	/e/	/ɛ/	/o/	/a/	/u, i, ɔ/
1.	/úfùè/→[úfwè] ‘mosquito’	/èmùè/→[èmwè] ‘ashes’	/fùòrò/→[fwòrò] ‘wet’	/ùfúáfùà/→ [ùfwáfwà] ‘bark’	N/A
2.	/idúésè/→[idwésè] ‘enter’	/ègúé/→[ègwé] ‘hoe’	/òfúó/→[òfwó] ‘white’	/ùgùà/→[ùgwà] ‘bone’	‘
3.	/ifúésò/→[ifwésò] ‘hear’	/ámùè/→[ámwè] ‘knife’	/ísádùò/→[ísádwò] ‘arrive’	/ègùà/→[ègwà] ‘bush’	‘
4.	/ìgúé/→[ìgwé] ‘lie’	/ìkúékùè/→[ìkwékwè] ‘wash (body)’	/ítúósè/→[ítwòsè] ‘burn’	úguàguà/→[úgwàgwà] ‘we’	‘
5.	/ìgúéjè/→[ìgwéjè] ‘open’	/ìbúébùè/→[ìbwébwè] ‘rejoice’	/ògùò/→[ògwò] ‘look for’	/ífùà/→[ífwà] ‘wings’	‘
6.	/gúé/→[gwé] ‘run’	/ímúémùè/→[ímwèm wè] ‘catch’	/ògùò/→[ògwò] ‘one’	/ìdègùàjé/→ [ìdègwàjé] ‘defecate’	‘
7.	/ifùè/→[ifwè] ‘mosquitoes’	/úkùè/→[úkwè] ‘head’		/àgbí!kúá/→[àgbí!kwá] ‘dusk’	‘

4.2.2.3 Vowel elision

Ósósò, like other Edoid languages, prefers maximally, a CV syllable. As discussed in the section above, close front or back vowels in CV₁V₂ frame within or across morpheme boundary may form glide, [j] or [w] if V₁ is specified with the feature [+high]. Where V₁ is [-high] however, vowel elision (VE) would have deleted one of the vowels in sequence; hence, a bleeding order exists between glide formation and vowel elision as strategies for the elimination of prohibited hiatus in Ósósò. VE is very pervasive in Ósósò and it involves the deletion of the first of two contiguous oral vowels whether separated by morpheme or word boundary. No doubt the fact that the language has an open syllable system will always result in vowels ‘meeting’ across boundary and so vowel elision as the strategy that deletes one of the two of these contiguous vowels is very productive in the language and quite pervasive in Kwa and Benue Congo languages in general.

In Ósósò, vowel elision is systematic and highly predictable as the leftmost vowel or the vowel before boundary is usually the vowel that elides in V₁ # V₂ sequence. However, though not as common as V₁ elision, the rightmost vowel or the vowel across the boundary (V₂), also elides. The choice of the eliding vowel is determined by morphosyntactic relationship between the lexical components involved.

4.2.2.4 Morphosyntactic relations and vowel elision

In Ósósò, V₁ elides in a V + N; N + N; N + Dem; N + Adj context whereas V₂ elides in V + Qualifier context. Similarly, vowel elision may also be blocked in the language due to some morphosyntactic constraint like the application of word order rules in focus movement. In such constructions, a vowel sequence occurring across boundary of the focused word and the subject either remains as sequence or assimilation/contraction takes place. It follows, therefore, that the morphosyntactic relationship between adjacent morphemes determines the choice of the vowels that elides in V₁#V₂ hiatus context. If a vowel is grammatically functional, it gets retained over the one that is vacuous.

In Ósósò, nouns for example, historically always begin with a prefix marking class while the prefix in qualifiers (referring here to possessive Pronoun, adjectives, demonstratives,

and nominal) marks number concord with their head noun. Verbs by its structure is the only lexical category that can start with consonants in the language, but, when a vowel occurs before the consonant, that vowel is not a prefix marker as it does not carry grammatical information like class or concord, borne by other lexical categories, hence in hiatus, this word initial vowel of the verb elides. In Ósósò, VE generalisation rule is proposed as:

V1 Elision:

$V \rightarrow \emptyset / _ _ V$

V2 Elision:

$V \rightarrow \emptyset / V _ _$

From the foregoing, the following conditions determines whether elision will take place or it will be blocked in Ósósò:

- i. In a V₁V₂ sequence across boundary, the prefix vowel of verbs will elide if it occurs in N + V since the vowel does not specify any grammatical information. *gádò + ìréré .ádòréré* ‘edible meat
- ii. By the same token, blockage of VE will not happen to final vowels of qualifiers since they carry no grammatical function. For this reason, elision happens in the following: N + N, N + Dem., N + Adj.
- iii. VE is blocked in focus movement as vowel sequence across boundary involving the focussed word and the subject of the sentence are allowed in the language as shown by this: [é^hnà^hó^hjí ò^hḍ^hzó^hó^hgbè^hwè] ‘the goat that ojo killed is smelling’

4.2.2.6 Vowel elision and tone

Beyond the constraints discussed above, as a boundary elimination process, elision of either V₁ or V₂ across boundary in Ósósò always results into tonal modifications at phonetic level as shown in the data below:

79. V1 Elision: involving N + N
- i. /ègbè # áxíè/ → [ègbáxjè] LLHL→LHL ‘grinding stone’
body pepper
 - ii. /édè # òxì/ → [édòxì] HL LL→HLL ‘market day’
day market
 - iii. /óxòxò # ékpà/ → [óxòxékpà] HLLHL→HLHL ‘cock’
fowl matured
80. V1 Elision: involving N + V
- i. /úkùbá# òxì/ → [úkùbóxì] HLH LL→HLHL ‘salary’
money month
 - ii. /àmé· # ótùè/ → [àmótwe] LL HL →LHL ‘rainfall’
water drip
 - iii. /òvò #ísà/ → [òvísà] LL HL →LHL ‘sunshine’
sunshining
81. V1 Elision: involving N + Qualifier
- i. /ódì # ùfiè/ → [ódùfjè] HL LL→HLL ‘hunter’
one (who) hunt
 - ii. /ódì # àfè/ → [ódáfè] HLLL→HLL ‘king’
one (who) hunt
 - iii. /ùmúsù#óbìbì/ → [ùmú!sóbìbì] LHLHLL→LH!HLL blackcat’
cat black

V2 Elision: involving N + Qualifier

The vowels of concord prefix in N+ qualifier is redundant, resulting in V2 elision alongside the tone they bear as demonstrated in the examples below:

- 82.
- i. /ómò # ésè/ → [ómòsè] HLLL→HLL ‘male/man’
child male/man
 - ii. /ómò # ésà/ → [ómòsà] HLLL→HLL ‘woman’
‘child female/woman’
 - iii. /írè # òjànì/ → [íròjànì] HLLLL→HLLL ‘wealth’
riches owner

The few borrowed words in the narratives that did not undergo phonological adaptation are in the utterances of speakers with fluency at such languages, especially English. Data from few monolingual indigenes and more elderly speakers show consistence instances of adaptation:

85.	English	Ósósò	gloss
	a. [ti:fə]	[itɪfə]	‘teacher’
	b. [draɪvə]	[idɪraɪvə]	‘driver’
	c. [mæ:grɪt]	[ɪmagɪrɛtɪ]	‘Margaret’
	d. [frɑ:nsɪs]	[ɪfransɪsɪ]	‘Francis’
	e. [bʌkɪt]	[ɪbəkɪtɪ]	‘bucket’
	f. [taʊəɪ]	[ɪtawɛli]	‘towel’
	g. [kʌp]	[ɪkɔpu]	‘cup’
86.	Yorùbá	Ósósò	gloss
	a. [imusu]	[imusu]	‘cat’
	b. [gbese]	[ɪgbese]	‘debt’
	c. [dʒesu]	[ɪdʒesu]	‘Jesus’
	d. [titi]	[ɪtiti]	‘road (tarred)’
	e. [dada]	[ɪdada]	Dada (name)

The occurrence of /u/ as the epenthetic vowel in place of /i/ in line with labial harmony rule is demonstrated in the data below:

87.	English	Ósósò	gloss
	a. [sku:l]	[ɪsukulu]	‘school’
	b. [bɔ:l]	[ɪbɔlu]	‘ball’
	d. [blu:]	[ɪbulu]	‘blue’
	d. [kəʊm]	[ɪkomu]	‘comb’
	e. [tɹʌbəl]	[ɪtɪrɔbulu]	‘trouble’

The insertion process is a syllable structure process and by implication affects syllable count. In this instance, the process results in an increase in the number of the syllables of a word with implication for tonal configurations. This study observes a predictable predominance of the low tone considering the default vowel /i/ often bear a L tone.

Table 4.3. Insertion and tone in Ósósò

English	YorùbáEbira	
a. [ì-gì.là.sì]- ‘glass’	[ì-kpán.gò.lò] - ‘tin’	[ì-kàn.gà] - ‘water well’
b. [ì-sù.ku.lù]- ‘school’	[ì-mú.sù] - ‘cat’	[ì-dàn.gbò] - duck
c. [ì-bó.kí.tì]- ‘bucket’	[ì-kèkè] - ‘bicycle’	
d. [ì-tá.bì.lì] - ‘table’	[ìdžésù] - ‘Jesus’	
f. [ì-mò.tó] - ‘motor’	[ì-kpá!rá] - ‘cream’	
g. [ì-mà.rí] - ‘Mary’	[ì-ʃòla] - ‘Shòla’	

4.3 The Ósósò tone system

This section addresses research question three by investigating tonal units in Ósósò and situates the language within Edoid typology. Ósósò belongs to the register tone system to which most African languages belong, Tonal units at the phonemic level in Ósósò are: high (H) and low (L) while at the phonetic level, there is a downstep high (!H) which leads to a terrace pitch melody. There are two contour allotones: rising and falling, derived from the two basic tones. Downglide also occurs when low tone is in sequence. In Ósósò, this study posits the Tone Bearing Unit to be the syllable and not the mora. This conclusion is based on findings which agrees with Yip's (2002:73) criteria for distinguishing between languages whose TBU is the mora or syllable. In this language, there are no syllabic nasals and two different syllables can bear the same number of tones, implying absence of light monomoraic syllables.

This study will henceforth adopt the following diacritics as symbols for the tones exhibited by the language:

- i. Low [˘]
- ii. High [˙]
- iii. Downstep high [!˙]
- iv. Rising [˘˘]
- v. Falling [˙˙]

4.3.1 The Low Tone

Based on findings, the following claims are made about the Low tone in Ósósò:

- i. The low (L) tone is the least restricted in Ósósò as it occurs at initial, mid and final positions.
- ii. Monosyllabic verbs in citation and subject concord marker (SCM) bear Low tone.
- iii. Within a given phrase, the pitch measurement of the low tone varies, depending on its position. Analysis shows L is highest in utterance initial position and downglides when in sequence (see section 4.1.4 on downglide).
- iv. Following the application of some phonological rules, when a low tone gets deleted within and across morpheme in a H – L – H sequence, the delinked L results into a downstep of the following H (see section 4.1.5 on downstep).

- v. If the tone following a deleted L is L, the deleted tone has no effect on the pitch, it is still realized on the same pitch level as a L not preceded by a lost L.
- vi. L tone can follow a H or be followed by another L, a H or in sequence; L LL.

88. LL H L

1. èxà	‘monkey’	ánà	‘here’
2. àdò	‘meat’	áfí	‘horse’
3. ikù	‘medicine’	úkwè	‘head’
4. òzè	‘blood’		
5. èxè	‘earth’		

LH

6. èlá	‘cow’
7. òdé	‘cloth’
8. kàsé	‘come’
9. àní	‘and’
10. àbí	‘mat’

4.3.2 The High Tone

In Ósósò, the following claims are made based on analysis and pitch track using PRAAT:

- i. the pitch value of high is between 102Hz – 275Hz. This pitch level is relatively ‘not high’ compared with other Edoid languages like Urhobo measured by Aziza (1996:166-189) to be between 245Hz - 325Hz.
- ii. in disyllabic form, the high tone in Ósósò can be followed by a L but it cannot be followed by another H, rather, it is realised as a downstepped H. This downsteppedH then sets the pitch ceiling for all following H such that no succeeding H is realised at the same pitch level as the downstepped H in a given utterance (see section 4.1.5 on downstep).
- iii. in a given tone phrase, the initial H is always higher than H elsewhere

- iv. when a vowel bearing a high tone gets deleted following hiatus resolution, the delinked H has no effect on the following H in polysyllabic morpheme like ideophones.

89. H LL H

- | | | |
|--------|------------|------------|
| 1. ókà | ‘story’òvó | ‘full’ |
| 2. ésò | ‘ear’òfó | ‘finished’ |
| 3. úzè | ‘axe’òdé | ‘cloth’ |
| 4. ómò | ‘child’ | |
| 5. áwà | ‘dog’ | |

H!H

- | | |
|-----------|----------|
| 6. ú!ú | ‘thread’ |
| 7. gǵó!ró | ‘millet’ |
| 8. é!né | ‘beans’ |

4.3.3 Tonal possibilities in Ósósò

Covering all tonal possibilities in simple forms of disyllabic and trisyllabic morphemes, the following examples illustrates tone pattern possibilities for disyllabic and trisyllabic.

In disyllabic words in Ósósò, the possible tonal combinations are four (4). Examples are:

- | | | | |
|------------------|----------------|----------------|-----------------|
| 90. i. LH | ii. LL | iii. HL | iv. H!H |
| a. [igwé] ‘lies’ | [òkà] ‘play’ | [úḍḍì] ‘steal’ | [ú!lú] ‘thread’ |
| b. [zòtó] ‘lose’ | [sàrò] ‘dress’ | [ánà] ‘here’ | [ó!gó] ‘inlaw’ |
| c. [òdé] ‘cloth’ | [isò] ‘faeces’ | [úkpa] ‘moon’ | [é!nɛ́] ‘beans’ |
| d. [ùkpá] ‘door’ | [òjè] ‘farm’ | [éxè] ‘egg’ | [ó!ní] ‘the’ |

Tonal possibilities for trisyllabic words in Ósósò are six (6), examples are:

Table 4.4. Average Pitch values of varied tonal patterns for Ósósò Male and female

S/no	Ósósò Token	Tone pattern	Gloss	Male pitch range (Hz)	Female pitch range (Hz)
1.	[mò]	L	‘take’	85.3 - 93.8	170.4-180.6
2.	[òjè]	L L	‘farm’	85.6 - 104.8	151 - 177.9
3.	[é!né]	H !H	‘beans’	100.2 - 149.1	172.2 - 245.1
4.	[újì]	H L	‘charcoal’	102.9 - 120.2	159.2 - 179.0
5.	[èlá]	L H	‘cow’	93.2 - 112.9	160.8 - 180.9

Fig. 4.11. Praat picture for some Ósósò word from four speakers

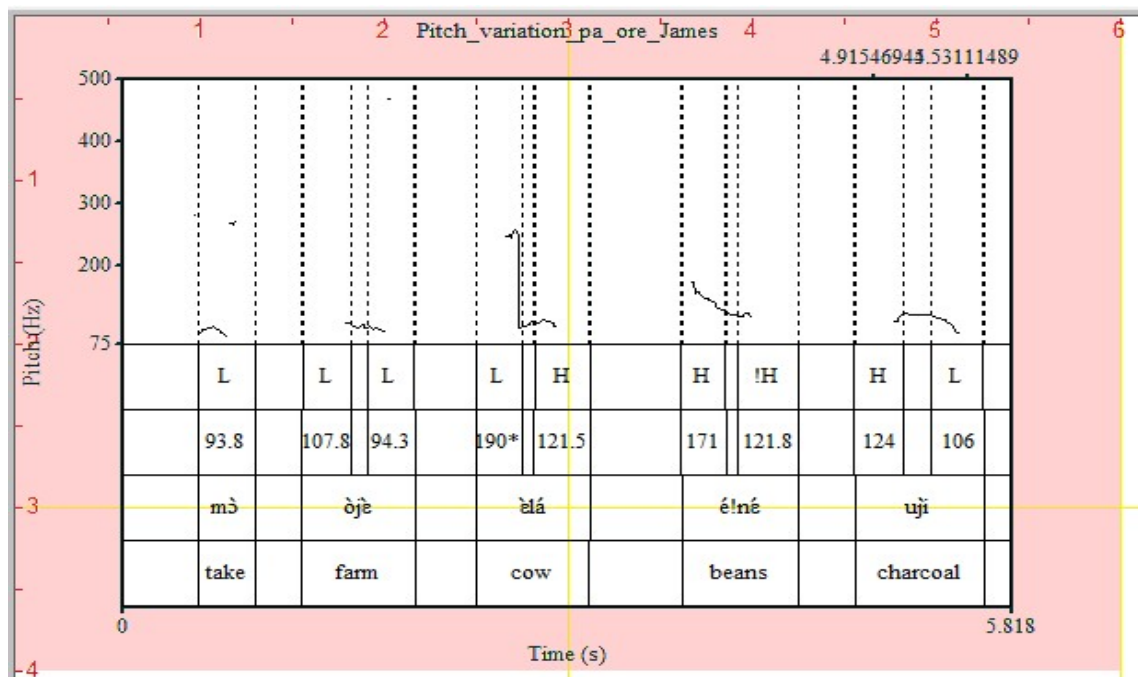


Fig. 4.11a. Pitch reading for OSO_0002_wordlist

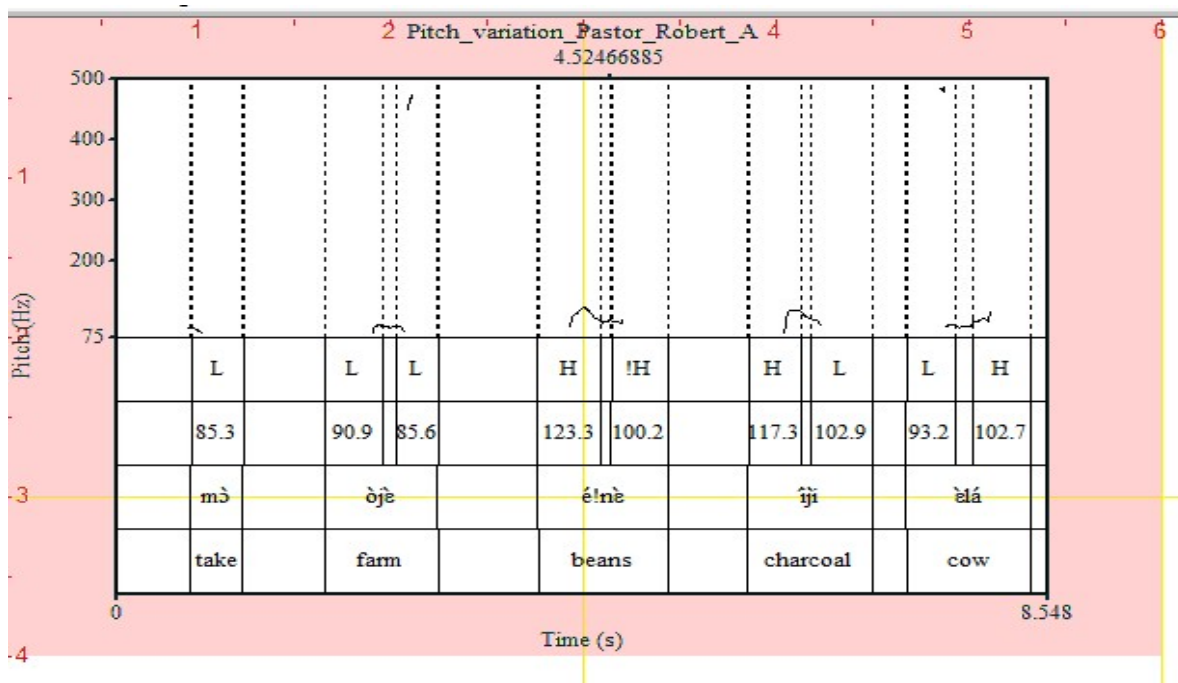


Fig 4.11b. Pitch reading for OSO_0001_wordlist

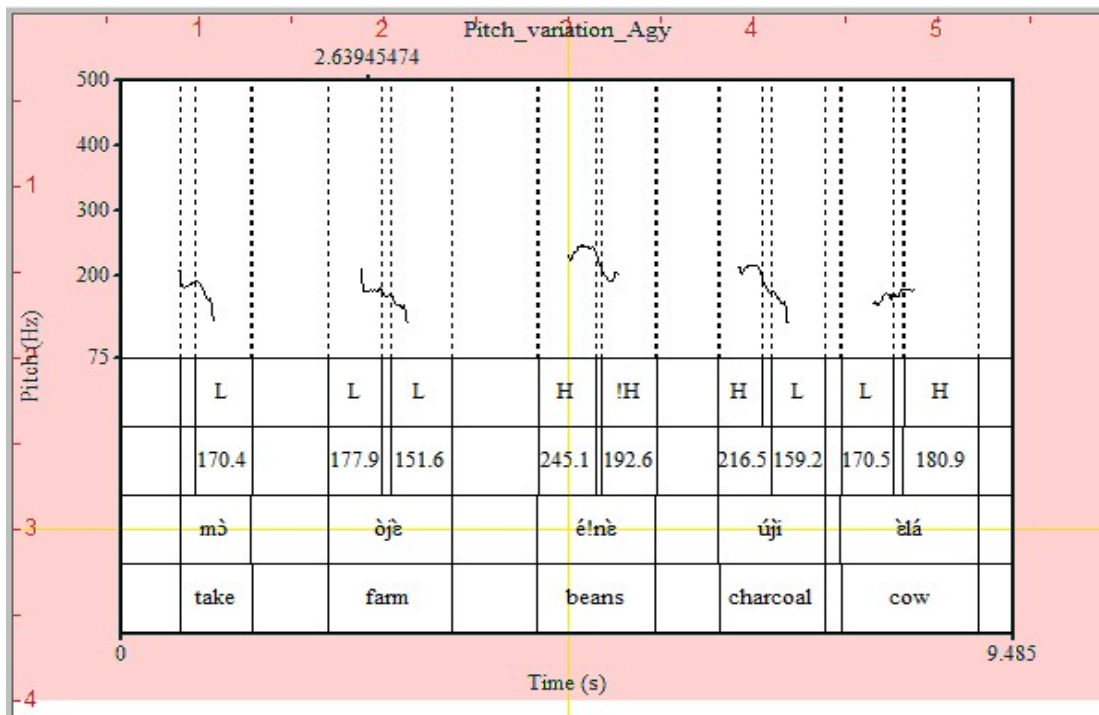


Fig 4.11c. Pitch reading for OSO_0058_wordlist

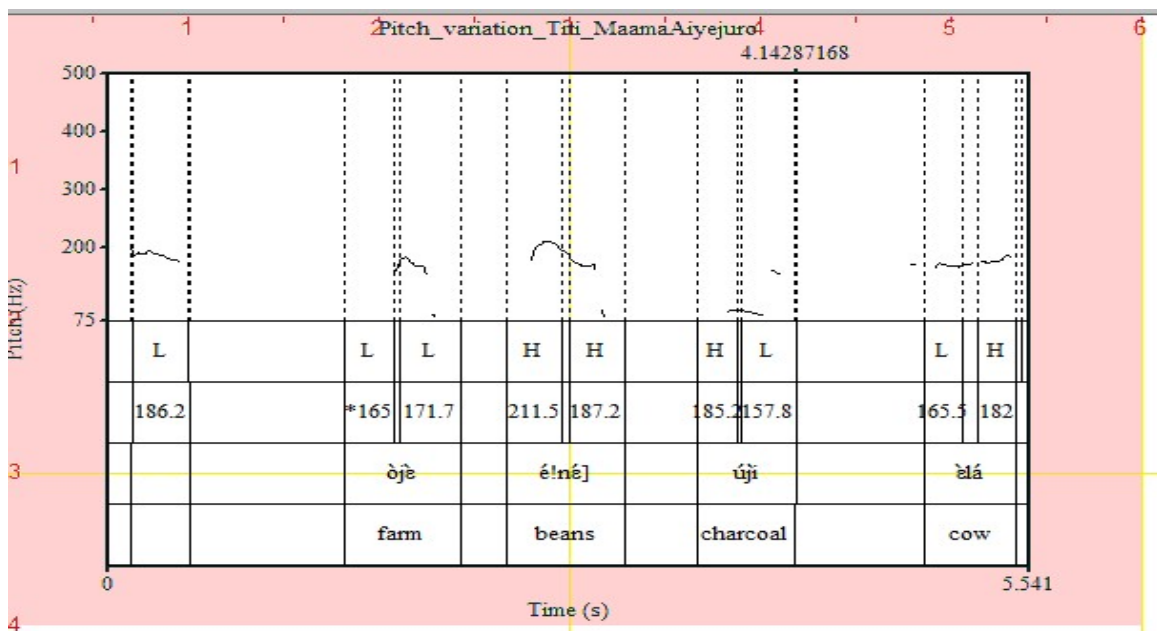


Fig 4.11. Pitch reading for OSO_0004_wordlist

4.3.4 Ósósò tone system within the Edoid tone system typology

The following are Elugbe's (2009:4) attempt at typology of Edoid tone system:

- i. two discrete tones, no downdrift or downstep;
- ii. two tones plus downstep and downdrift;
- iii. two tones and a downstep, but no downdrift; and
- iv. YalaIkom-type three tones plus downstep and downdrift.

Ósósò belongs to the widely reported 'classic terrace level system' with two tones plus downstep and downdrift. Edo, Emai and Urhobo are also languages with classic terrace level tone system in the Edoid family.

4.4 Some Tonal Processes in Ósósò

Ósósò features a number of tonal processes, occurring between the underlying tone and phonetic realization within a tonal domain. Tonological processes observed in the language, confined to a word or beyond words are discussed with data in the subsections below in response to research question four.

4.4.1 Contour Tones in Ósósò

Contour tones in Ósósò result from the segmentalization of floating tones on adjacent vowel with a non-identical tone. They are consequently not unitary units but are derived from a sequence of the basic toneme of High and Low. They are not distinctive. The falling tone (LH) and the rising (HL) are the two types of contours that occur in Ósósò but the former occurs more. Contour tones in this language commonly result from the operations of either vowel elision or glide formation which deletes segments and leave the tone; the delinked tone, now floating, relinks with the next available tone bearing unit and a contour result if that TBU bears a non-identical tone as observed in reduplication. It can also result from the segmentalisation of grammatical tones. Data is presented below:

93. i áná + áná → ánǎná 'this place'
here here

- ii. èvá + èvá → èvêvá ‘into two parts’
two two
94. i. èlá # èsà → èlêså ‘three cows’
cow three
- ii. ègwé # èmè → ègwêmè ‘my hoe’
hoe me
95. i. ò kpí òsà → òkpôsà ‘he has married a wife’
He carry wife
- ii. ò dé òròmí → òdòròmí ‘he bought oranges’
he/she bought oranges

Contour is also created by the glide formation rule within morpheme:

- 96.
1. /àgbíkúà/ → [àgbíkwâ] ‘dusk’
 2. /ámúè/ → [ámwɛ̃] ‘knife’
 3. /úlúégbíà/ → [ú!lúégbjà] ‘cotton’
 4. /ódíò/ → [òdjò] ‘brother’

In constructions like negation, the tone on the tense marker forms a contour with the tone on the negation marker following hiatus resolution.

97. 1a. òdžóí dà ‘Ojo will drink’
ojo will come
- 1b. òdžó ădà ‘Ojo will not drink’
ojo Neg come
- 2a. òdàfè í sè ‘the king will come’
Odafè he come
- 2b. òdàfè ă sè ‘the king will not come’
òdafèneg come

4.4.2 Floating tones

During the generative era, floating tones, also called 'vowel-less tone', were described as belonging to a segment which, at some point in the derivation, gets disyllabified, deleted or coalesce with some other vowels, passing on its tonal specification to an adjacent TBU. Floating tones are actually descriptive artifact marped on syllable during derivation. In Ósósò, floating tones results from the following:

1. Phonological processes, specifically glide formation and vowel elision. These processes resolve hiatus since phonotactics of the language prohibits vowel cluster. It is the deleted segment that automatically sets its tone floating.
2. With gerundivisation, turning verbs into gerunds in Ósósò involves having the prefix marker, which bears a low tone, attach to the verb and a floating high tone displace the low tone of the verb stem changing it into a H. This rule applies always.
3. Floating tones also occurs as markers of a number of grammatical constructions. The Associative constructions (AM) for examples, is marked by the floating H tone between the head noun and the N2 resulting in phonetic H H tone on the possessed.

4.4.3 Downstep in Ósósò

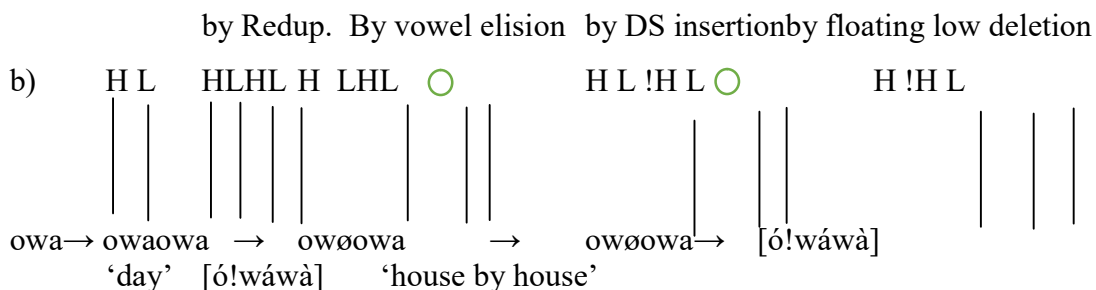
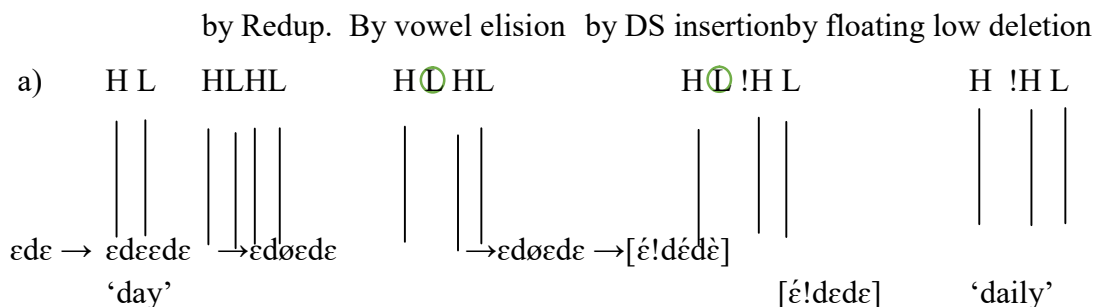
Among the controversial issues with respect to tone behaviour in Edoid languages is the issue of downstep. Position of scholars still varies, as explanation in the literature review section shows. This study agrees however with the findings on Emai by Egbohare (1990:263), and say in Ósósò, downstep results from desyllabification and it can occur at both lexical and post lexical levels. Synchronic evidence shows instances of downstep arise from an underlying low tone. Unlike Urhobo and Edo, where downstep is phonemic, this study found no contrastive evidence and so downstep is not treated as phonemic. The convention of representing downstep with raised exclamation at surface level will be adopted by this study. DS will be explained as a subsection below.

4.4.3.1 DS in Ósósò Morphemes

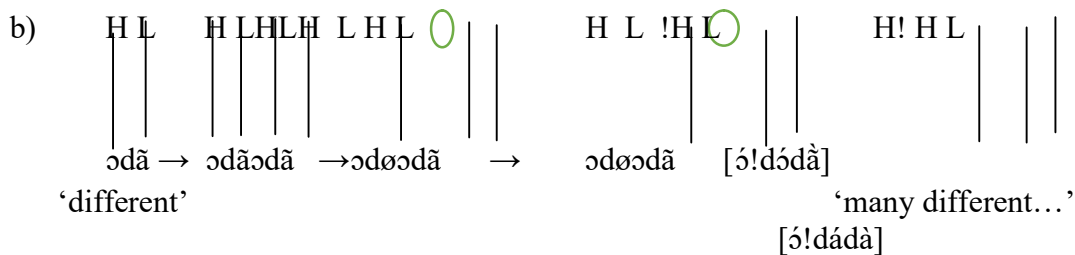
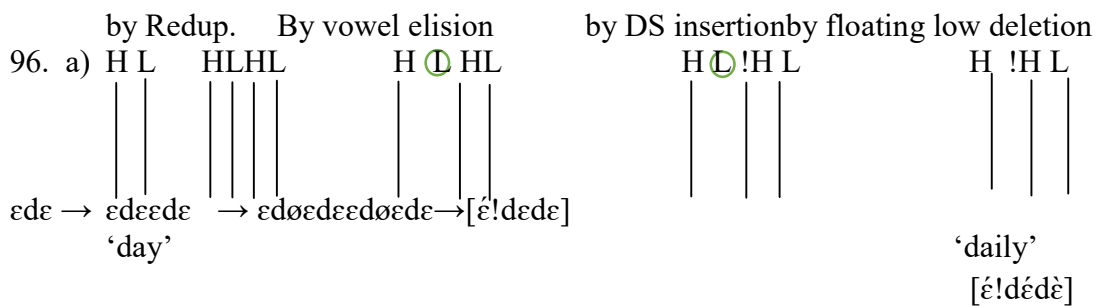
In Ósósò DS may be created in a morpheme following the deletion of a TBU bearing low tone. This is similar to Emai, where Egbohare (1990:262) says 'Downstep High tone may be created in morphemes when a low tone vowel preceding another high tone vowel is deleted...'. Downstep applies to only Noun in both languages. The operation of DS in

reduplication and nominalization is also similar in both languages as exemplified by the data below:

Ósósò



Emai (Egbokhare 1990: 264)



Although they are few, the morphemes below are different from reduplicated or compound morphemes. Derivation as carried out above is difficult to trace, however, considering these morphemes belong to noun category and DS occurs as word final tone, they are hereby treated as cases of H !H:

- 98.i.ú!lú ‘thread’
- ii. é!né ‘beans’
- iii. ó!gó ‘in-law’

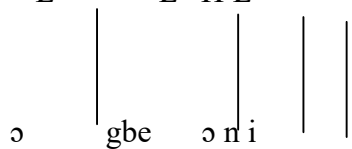
4.4.3.2 DS in Ósósò Sentences

Downstep occurs in sentences and even where no low tone exists phonetically, both high and low tones may be downstepped, although, not at the same rate. In sentences, Egbokhare (1990: 265) claim the principal cause of DS in Emai is the assignment of tense/aspectual tones and both high and low tones may be downstepped, in Ósósò, downstep in sentences result from vowel elision followed by tone shift in that strict order, similar to Edo.

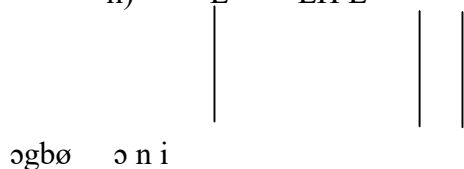
Ósósò

- 99. i. /ò gbè óni/ → [ò gb!óni] ‘she beat him’
 she beat him
- ii. /ógbó órèrè ò sé/ → [ó!gbórèrè ò sé] ‘a rich person has come’
 person big he come

a i) L L H L Input string

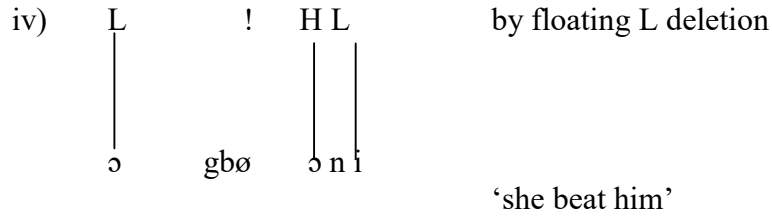


ii) L LH L by vowel elision



iii) L 0! H L by DS insertion

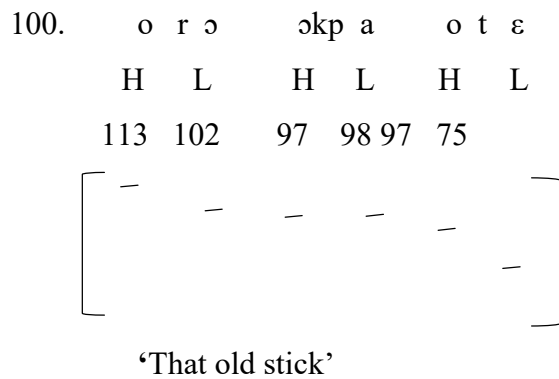




4.4.4 Downdrift in Ósósò

In Ósósò, successive H tone are progressively lowered by the Ls preceding them. There is automatic downdrift of High and low based on low tone which pullsthem down. In Emai, following Egbokhare’s (1996:255) observation, the manifestation of downdrift is similar ‘downdrift occurs when low tones pull down the pitch of succeeding high and low tones’

Omozuwa (2010) in his account of the phenomenon in Edo, saydownstep results from the combined processes of i) downdrift, ii) vowel elision, iii) tone shift in that order. Implicationally, downdrift causes or effects downstep by initiating it. In Ósósò, low tone pulls down Hin sequence automatically as presented below and in the praat picture in fig 4.12,



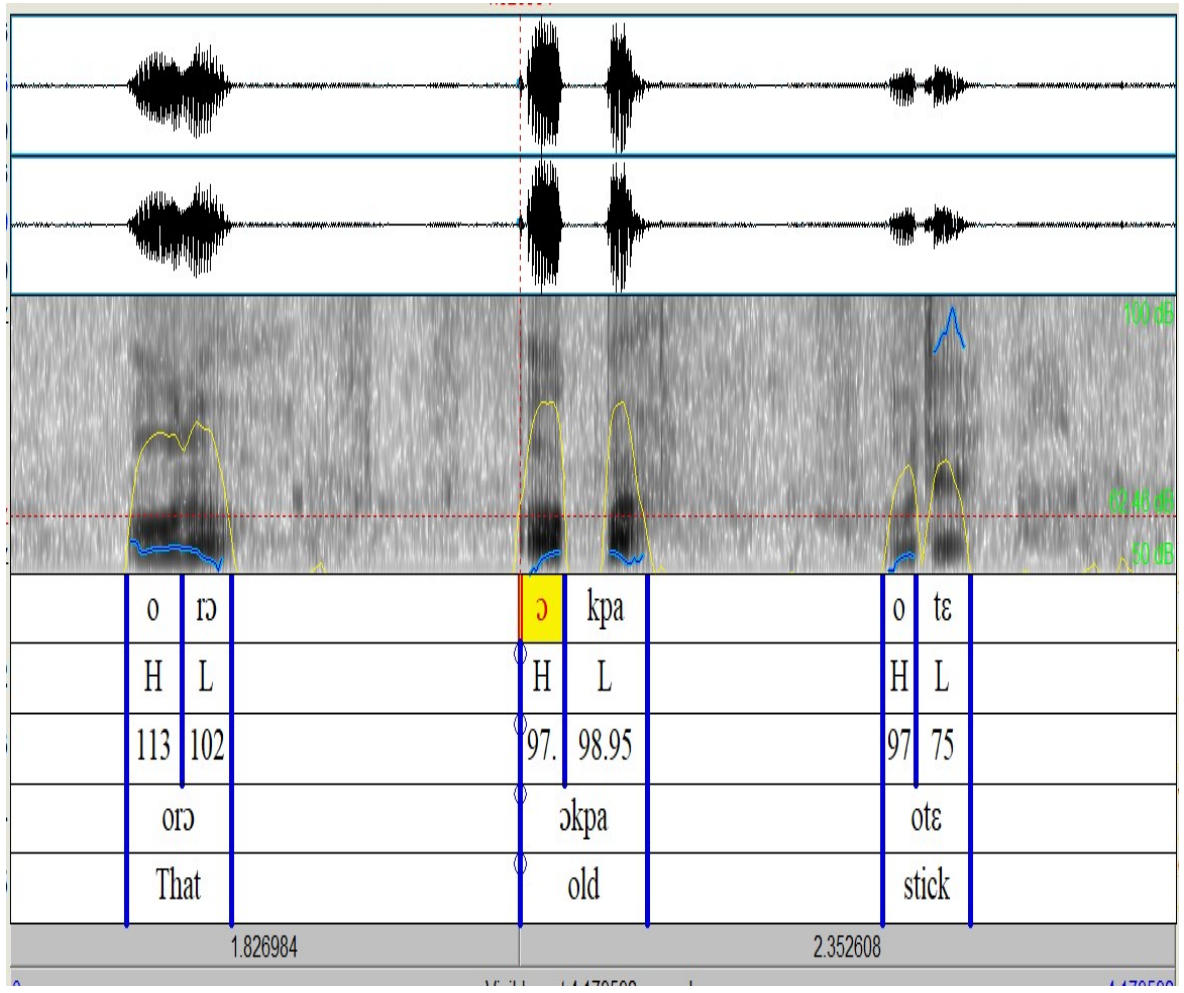


Fig. 4.12. Pitch track evidence of Downdrift in Ósósò- 113 102, 97 98, 97 75

4.4.5 Downglide in Ósósò

The argument on whether in a sequence of L, all the low tones are realized on the same pitch level while the final Low downglides, as we have in Emai, or it is a case of downdrift low without downgliding of final low, as we have in Edo (binni), was examined by this study. This study attests that sequence of L downglide in the language. This downglide is clearly not mistaken for declination which is the universal tendency for a pitch or Fo to progressively decline. Based on lexical data, downglide is seen to be unrelated to natural speech process as speakers are able to control the downward glide. Sentences were difficult to use for the analysis of downglide due to tone spread and relinking caused by processes like vowel elision. Acoustic evidence showing a sentence with clear downglide is pitch tracked and also presented:

101. i. [izòbò]	L LL	‘fetish’	[—	—]
ii. [ilèlè]	L LL	‘feathers’	[—	—]
iii. [ùrùfi]	L LL	‘fear’	[—	—]
iv. [àkàṅà]	L LL	‘work’	[—	—]
iii. [òpòbò]	L LL	‘maize’	[—	—]

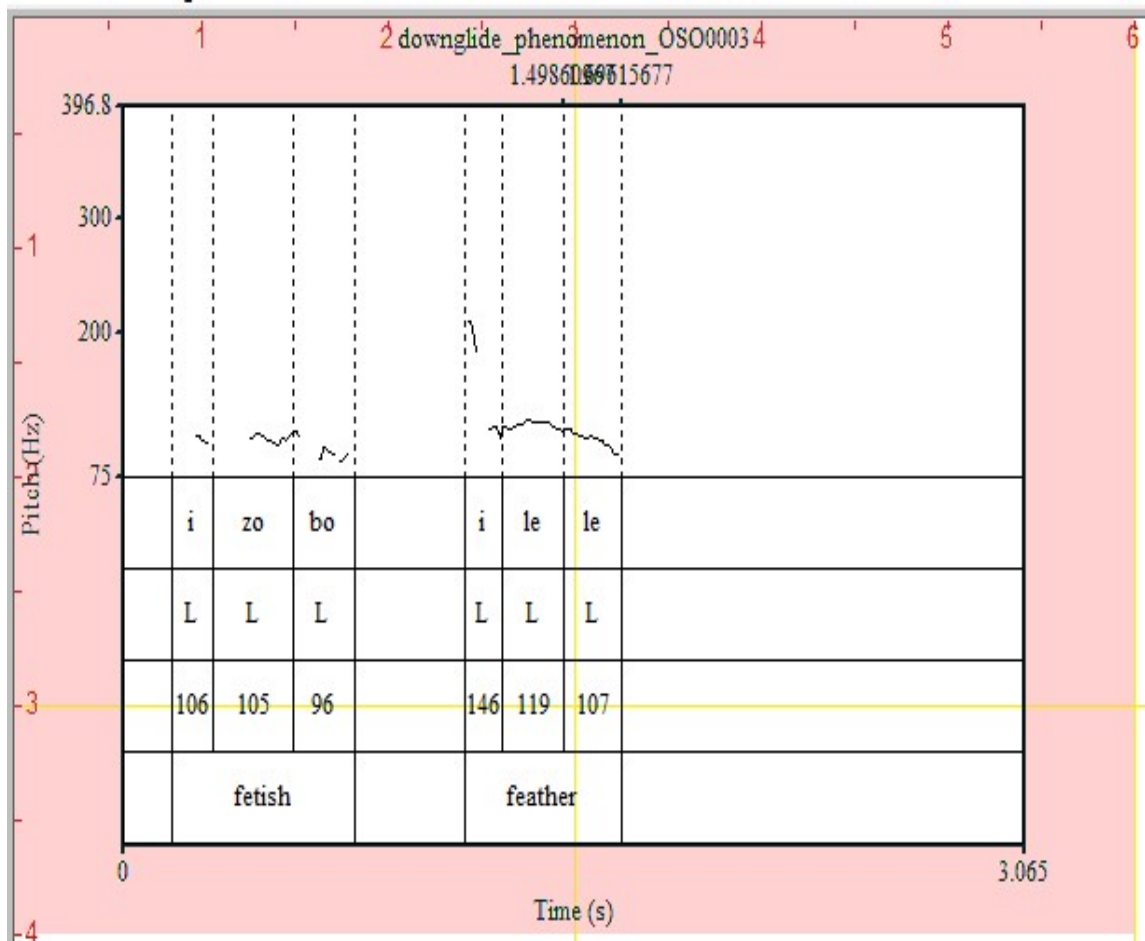


Fig. 4.13. Pitch track evidence of Downglide in Ósòsò showing Low tone in sequence downgliding.

4.4.6 Low tone raising and high tone lowering in Ósósó

In Urhobo, Elugbe (1989:74) says there is final low tone raising in statements. A claim which Aziza (1997:177) says is not general. She explained that low tone raising occurs only if the preceding high tone raising it is a tense tomorph and if the final low tone itself is not part of an object. Final low tone is blocked in the phonetic realisation if these two conditions occur. Aziza showed that the final Low borne by noun in the language is also not raised in statements. This is however different from Isoko where Donwa (1982) showed final low raising is evident in the citation form of nouns and in virtually all statements irrespective of whether they end with objects or not.

In contrast with Urhobo and Isoko, in Ósósò, low tone raising occurs when the the first of two contiguous syllable bearing high tone gets elided. It is the delinked H that affects the high following by raising it. Similar phrases sourced from literature on Urhobo and Isoko are compared with Ósósò to demonstrate final low raising in Ósósò:

102.

Ósósó example:

ò	d é	ú jì	→	ò	d	ú jì		
L	H	H L		[—	—	—]
				(final low is raised)				

s/he bought charcoal

Isoko example:

ò	d é	ó k à	→	ò	d	ó k à		
L	H	H L		[—	—	—]
				(final low is raised)				

He bought maize

Urhobo example:

ò	d é	ó k à	→	ò	d	ó k à		
L	H	H L		[—	—	—]
				(final low is not raised)				

He bought maize

4.5 Tone and aspects of grammar in Ósósò

In the preceding sections, tones in Ósósò have been described and their behaviour in its phonology analysed. To establish the grammatical permutations that manifest grammatical tones in Ósósò, in response to research question five, this session provides a general overview of tonal patterns in different lexical categories in Ósósò, followed by tone in the morphology of the language. The function of tone at both lexical and grammatical level will then be discussed to establish the extent of interrelationship in the language.

4.5.1 Tone in lexical categories of Ósósò

The structure of different lexical categories and their tonal patterns will be discussed in the section below.

4.5.1.1 Structure and tonal patterns of nouns

Noun category is a major open word class in Ósósò and the findings of this study agrees with the description of the noun in Yorùbá by Awobuluyi (1982:7) as ‘any word functioning as the subject of a verb or the object of a verb or preposition in a grammatical sentence’. It also agrees with Welmers’ (1973:159) description of a typical noun in Edoid languages; ‘a noun in its simplest form can be analysed as constituted of a stem and an affix’. Following both descriptions of the noun, the following claims are made about nouns in Ósósò, based on available data:

- i. typical nouns consist of stems with single root and prefixes which historically marked class. Elugbe (1973) says Proto Edoid have a noun class system where the initial vowels functions as class prefixes.
- ii. Morphosyntactically, nouns function as the head of the NP, subject of a sentence, complement of a verb and object (direct or indirect) of a sentence in the language.
- iii. Nouns can be of any length but basically, nouns are bisyllabic or trisyllabic. Nouns beyond these are derived or complex nouns.
- iv. The lexical function of tone is evident mainly, in the noun category than any other category.
- v. Nouns can be the possessor or the possessed

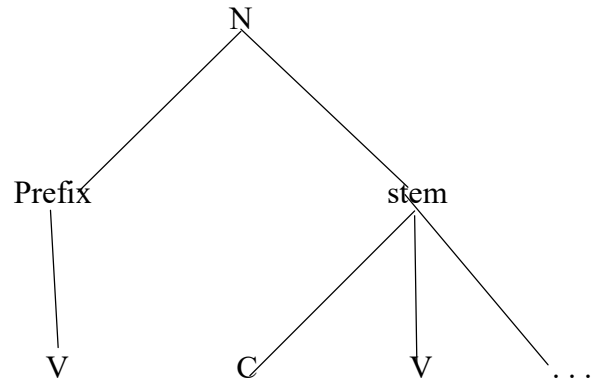


Fig 4.14. Basic Noun Structure in Ósòsò.

Adapted from Egbokhare (1990:79)

103. Basic monosyllabic noun - root with prefix:

i.	[é-gbè]	-	‘body	[à-mè]	-	‘water’
ii.	[ù-gwà]	-	‘bone’	[ò-tè]	-	‘arrow’
iii.	[ú-nò]	-	‘snail’	[ó-tè]	-	‘stick’
iv.	[ó-xò]	-	‘war’	[ò-sò]	-	‘soup’
v.	[è-wò]	-	‘smoke’	[ó-xà]	-	‘story’

from these examples, it is obvious that co-occurrence of vowels within a given domain is not restricted. Bound affixes are not defined by any harmony feature and the tone on prefixes are unfixed to any lexical root melody except that a H does not follow a H.

Disyllabic nouns

The tone pattern of disyllabic nouns shows four combinatory possibilities excluding HH:

- i. LL, ii. LH, iii. HL, iv. H!H

104. **LL - V.CV**

- i. [òvò] - ‘sun’
 ii. [ìgbà] - ‘thorn’
 iii. [ùvù] - ‘belly’

HL - V.C.V

- i. [égbè] - ‘body’
 ii. [újì] - ‘charcoal’
 iii. [údʒì] - ‘basket’

LH - V.CV

- i. [òdé] - ‘cloth’
 ii. [ègwé] - ‘hoe’
 iii. [ùkpá] - ‘door’

H!H - V.CV

- i. [ó!gó] - ‘in-law’
 ii. [ú!lú] - ‘thread’
 iii. [g!jóró] - ‘millet’

Trisyllabic nouns

For trisyllabic forms, six tone patterns were found. HHH sequence are not attested:

- i. HLL, ii. HLH, iii. H!HL, iv. LHL, v. LLL, vi. LLH, vii.

105. **HLL - V.CV.CV**

- i. [ízwàgbà] - ‘chin’
 ii. [énàbè] - ‘animal’

HLH - V.CV.CV

- i. [úkùbá] - ‘money’
 ii. [írèké] - ‘back’

iii [ómòǝǝ] - 'daughter'

iii. [úbìkǝpí] - 'darknes'

H!HL - V.CV.CV

LHL - V.CV.CV

i. [é!náǝ] - 'animal'

i. [àmótǝ] - 'rainfall'

ii. [é!véǝ] - 'God'

ii. [àlótà] - 'cassava'

iii. [á!róǝ] - 'bird'

iii. [ùmúsù] - 'cat'

LLL - V.CV.CV

LLH - V.CV.CV

i [èkùkù] - 'crocodile'

i. [ìkòǝ] - 'mountain'

ii. [ùǝèè] - 'cup'

ii. [òròmí] - 'orange'

iii.[àlàǝ] - 'elephant'

4.5.1.2 Structure and tone patterns on pronoun

The pronoun in Ósósò is bound to the verb and host preposition. Their lexical tone is L L regardless of position of occurrence in constructions; either in subject or object position. Apart from the usual distinction of three persons of 1st/2nd/3rd and numbers (singular/plural), the pronominal system of Ósósò also marks distinction in the pronouns based on their grammatical function either as subject or object. The subjective series are often used for intransitive, transitive and copula subject while the objective series are used with the transitive object and possessive constructions. The pronominal system of Ósósò therefore shows two kinds of pronouns as demonstrated below:

Subject/object pronouns in Ósósò

106. Singular

Plural

person	pronoun	tone	gloss
1 st	èmè	L L	'I'
2 nd	èwè	L L	'you'
3 rd	òni	L L	He/she/it

person	pronoun	tone	gloss
1 st	ànì	L L	'we'
2 nd	àwà	LL	'you'
3 rd	òni	L L	'he/she/it'

107.

Person	Nominative	Accusative	Genitive
1.sg.	i/me - ójímè	Me - mè	My - mè
2.sg.	You - ójèwé	You - ú	Your - ojé
3.sg.	s/he/it - ójònì	Him/her/it - ònì	His/her/us-ójàní
1.pl.	We - ójàní	Us - ùgwàgwà	Our – éjà
2.pl.	You - ójùgwà	You - ú	Your – ójê
3.pl.	They - ójùgwàgwà	Them - ójàní	Their - éjìgwà

4.5.1.3 Structure and tone patterns on verbs

This study claims that verbs in Ósósò are structurally similar to verbs in Yorùbá as described by Awobuluyi (1982:45): ‘any word that can occur in the frame #NP_ (NP)# is a verb in Yorùbá, and if any other word appears to be a member of verbs but cannot occur in the frame, it should be regarded as exceptional.’ Consequently, verbs occupy the centre of constructions and they are characterized by a higher degree of varied functionality than other word classes.

In Ósósò, like other Edoid languages, verbs are toneless, they get assigned tone in context. No two verbs differed on the basis of tone and this absence of lexical contrast in the verb category affirms Elugbe’s (2009:8) claim that ‘One of the typologically astonishing tone properties of Edoid tone systems is that none of them uses lexical tone on verbs. The tone of a verb is derived from its context’. In Ósósò verbs are typically mono- or disyllabic with few bimorphemic verbs. It is the only lexical category in the language that can begin with a consonant at word initial position in its bare form.

4.5.1.3.1 Monosyllabic verbs

Bare verbs or simple root, without morphological marking, are monosyllabic in citation. As for the tone they bear, monosyllabic verbs bear L tone; no instance of a monosyllabic verb with a H tone in citation exist in the body of data used for this study. In constructions, tone is dependent on tense and aspect. Thus, verbs are said to be toneless in Ósósò.

108. CV with L tone -

- i. /gbè/ - 'beat/hit'
- ii. /dà/ - 'drink'
- iii. /m̀/ - 'take /hold'
- iv. /r̀/ - 'eat'
- v. /kp̀/ - 'carry'

4.5.1.3.2 Disyllabic verbs

Disyllabic verbs are simple or complex stem and the latter results from morphological marking. With the exception of H H and H!H, all tonal possibilities can be found in verbs in Ósòsò.

109. L H- CV.CV

- i. /kàsé/ - 'come'
- ii. /gbèjá/ - 'kill'
- iii. /ìgwé/ - 'lie'

HL- CV.CV

- i. /ótǽ/ 'greeting'
- ii. /fúnù/ 'reply'
- iii. /dúnà/ 'follow'

LL – CV.

- i. /virà/ 'go'
- ii. /kùrù/ 'cut'
- iii. /ràmi/ 'fry'

4.5.1.3.3 Complex verbs

These are verbs that are sometimes bimorphemic. Although each of the two parts can stand alone, when used as verb, the second part modifies the first verb. Tone pattern on complex verbs are unpredictable as high tone sometime overrides the low following V1 elision across boundary or the low is retained if the tone on the preceding syllable is high.

110. i. /dèsí # ìkp̀/ → dèsíkp̀ 'kneel'
- ii. /wè # óbìbì/ → wóbìbì 'stink'
- iii. /fèfè # àm̀/ → fèfàm̀ 'urinate'

4.5.1.4 Structure and tone patterns on numerals

Ósóṣò numeral system is basically vigesimal. It is to the base of 'twenty' with a subordinate decimal division based on 'ten'. Numbers always start with a Low tone, at least all the basic numbers of one to ten. Its tonal structure varies but LL and LH(L) are the basic.

- | | | | |
|---------------------|---------|---------------------|---------|
| 111. i. [ògwò] - LL | 'one' | ii. [eva] - LH | 'two' |
| iii. [èsà] - LL | 'three' | iv. [ènè] - LL | 'four' |
| v. [itfè] - LL | 'five' | vi. [èsésà] - LHL | 'six' |
| vii. [ifwénà] - LHL | 'seven' | viii. [ìjéjè] - LHL | 'eight' |
| viv. [ìsìní] - LHL | 'nine' | x. [ìgbé] - LH | 'ten' |

With the exception of the basic one to ten numerals above and numerals of multiples like twenty, thirty, forty and so on, most numerals in the language are formed by the combination of root/root or stem/root with the infixation of /àní + iHti/ which in rapid speech become [ántì] meaning 'and/plus'.

- | | |
|------------------------------|------------------------|
| 112i. ògwòlò + ántì+ ìnyényè | 'twenty eight' |
| ii. ífjèné + ántì+ìgbé | 'four hundred and ten' |
| iv. ògwòlò + ántì+ishe | 'one hundred' |
| v. ìgbé + ántì+ isini | 'nineteen' |
| vi. ífigbé+ èvè` | 'forty' |

4.5.1.5 Structure and tone patterns on Qualitative words

In Ósóṣò, like other Edoid languages, no word class can appropriately be labeled as 'qualifying a noun' or 'adjective', rather, some forms which account for the attribute of a noun are here referred to as qualitative words (even if they are the equivalent of adjectives in other languages, particularly English). These help describe the referent of a noun. Forms are often vowel initial and trisyllabic, a few disyllabic forms also are attested. Tonal patterns are not fixed as tonal combinations vary between HLL and LHL

- | | | | |
|-----------------------|---------|--------------------|---------|
| 113. i. [órèrè]- HLL | 'big' | ii. [ìkpórò] - LHL | 'fat' |
| iii. [óbìbì] - HLL | 'dark' | iv. [ìyóyò] - LHL | 'heavy' |
| v. [kìrìjébwê] - LLHL | 'round' | vi. [ètáì] - LHL | 'large' |

vii. [ógòlò] - LL 'long' viii. [ómù] - HL 'sweet'

4.5.1.6 Ideophones and tone

Polysyllabic forms in the language are mostly ideophonic. While some have found their way into the language from Yorùbá, others found in the data are indigenous and common with story tellers who typically use it to create certain dramatic effect or stress points made. The tonal pattern found in the limited number of occurrences in our data showed preference for fixed tone in sequence. These tonal melody act sometimes as intensifier of the sound symbolism intended or peculiar habit of the story teller. It is under the ideophones that we found series of phonologically unclear H tones.

114.

- | | | | | | | | |
|----|--------|---|--------|---|---------------|-------|--------------------|
| 1. | gàlà | + | gàlà | → | gàlàgàlà | L LLL | 'widely shapeless' |
| 2. | wògò | + | wògò | → | wògòwògò | L LLL | 'ugly' |
| 3. | gùò | + | gùò | → | gwǒgwǒ | LHLH | 'sluggish' |
| 4. | káká | + | ráká | → | kákáráká | H!HHH | 'tight' |
| 5. | tǎkáká | + | tǎkáká | → | tǎkáká tǎkáká | H!HHH | 'sackbag' |
| 6. | gìrì | + | gìrì | → | gìrì gìrì | LLLL | 'bravado' |

4.5.1.7 Modifiers and tone

Before concluding this section, it is important to briefly talk about the category called 'modifiers.' In Ósòsò, modifiers can be determiners, numerals, possessive pronoun, demonstratives or adjunctives which are actually words functioning as adjectives and /or adverbs in the language and may have reduplicated root with HLL tonal pattern. Morpheme structure of these categories is comparable to the noun category as they are always vowel initial form. These vowels mark concord with the head nominal of the noun phrase. They are also either bisyllabic or maximally trisyllabic. The tone pattern manifested is not fixed, they can begin with a H and end with a L or start with a H and end with a downstep !H. Modifiers can be pre- or post and they are illustrated using the noun: /ómòsè/ 'man'

115.

1. Definite article

- /ó!ní/ - /ó!ní ómòsè/ → ó!nómòsè 'the man'
2. Numerals
/èvá/ - /ómòsè èvá/ → ómòsèvá 'two men'
3. Possessive pronoun
/èmè/ - /ómòsè èmè/ → ómòsémè 'my man'
4. demonstrative
/órò/ - /ómòsè mórò/ → ómòsèmórò 'that man'
5. adjunctives
/óbìbì/ - /ómòsè óbìbì/ → ómòsèóbìbì 'black man'

4.5.2 Tone in the Morphology of Ósósò

Words are created through affixation, compounding and reduplication processes in Ósósò. The next subsections provide an account of these morphological or lexicalization processes. Also, to be discussed in the section are the various pluralization strategies adopted by the language especially the prefix vowel alternation strategy.

4.5.2.1 Tone in compounding

In Ósósò, nominal compounding is endocentric, that is, the semantic head is always contained in the form derived from the joining of two free stem. It is also highly productive in the language. According to Lyons (1977:535) 'a compound word is one whose stem is formed by combining two or more stems'. The two free forms combined functions like a single word and have an otherwise independent existence.

4.5.2.1.1 Nominal compounding and tone

Nominal compounds found in Ósósò exhibit atomic structure, meaning both words can be decomposed into meaningful units. Compounding may involve Noun + noun, Noun + Adjective, Noun + Verb. When hiatus happens, vowel elision usually eliminates the V1 and tonal shift occurs. It is important to mention that in this language, certain compounds isolated from data are not different from Noun phrase. However, their tonal structure manifest differently from noun phrase where the High tomorph results in tonal

modifications (see section 4.13.2) The various nominal compounds found in the data for this study are analysed below:

116) a). N + N

- i. ògèdèLLL + òkéké LHL → ògèdòkéké LLLHL ‘banana
Plantain small
- ii. óxòxóHL L + ékpà HL → óxòxékpà HLHL ‘cock’
fowl mature
- iii. èbòrì LLL + òkéké LHL → èbòròkéké LLLHL ‘village’
town small
- iv. iféfè LHL + àmè LL → iféfàmè LLLL ‘urinate’
bring out water

b). N + Adj

- i. ú!lú H!H + égbìà HL → ú!légbjàH!HL ‘cotton’
thread laugh
- ii. àyùrú L L H + wùrù LL → àyùrúwùrù L LLLL ‘gown’
dress shapeless
- iii. àmè + ó!bùràfi → àmó!bùràfi LH!HLL ‘lake’
water sleep

4.5.2.2 Tone in reduplication

As defined by Essien (1990:1), reduplication is ‘a process by which a category or constituent of a sentence can be doubled’. As implied by the name, the root or stem is repeated in the formation process. When the root CVCV copies itself in the new formative to give CVCV+CVCV without any segment deleted, reduplication is said to be total. It is partial when some segments of the copied root are deleted in the final form to give VCV+(V)CV, CVCV+CV.

In Ósósò, reduplication is productive and it is either partial or total. Interestingly, one finds the ‘binary fission’ group and the ‘affixation’ group hold the foremost views on reduplication. While McCarthy (1981) and Lieber (1981) see reduplication as a process of repletion and transformation, Marantz (1982), whose work is actually a modification of McCarthy, lead the group of those who claim the process relates the base form of a morpheme or stem in a derived form such that the final construction is necessarily identical in whole or part to the base form phonemes. To them, reduplication is a case of affixation. This study views reduplication as a case of affixation in line with Marantz based on data.

4.5.2.2.1 Total reduplication

Total reduplication involves copying the segmental and tonal features of the stem in the newly created morpheme. Tonal melody found in reduplicated form resonates a L H L or L H L H in examples 1 and 10. Reduplication may lead to a change in the lexical category of the reduplicated form from verb to adjective. The default low tone prefix ì- is usually assigned to the new formative to arrive at well formed reduplicated words

117. underlying	derived	surface	tone pattern	gloss
1. sèrí	→ sèrí + sèrí	→ sèrísèrí	LHLH	‘Smooth’
2. mù	→ ì + mù + mù	→ ìmúmù	LHL	‘catch’
3. sò	→ ì + sò + sò	→ ìsósò	LHL	‘talk’
4. kpèté	→ kpèté + kpèté	→ kpètékpèté	LHLH	‘flat’
5. jè	→ ì + jè + jè	→ ìjèjè	LHL	‘cooking’
6. sù	→ ì + sù + sù	→ ìsúsù	LHL	‘flow’
7. mà	→ ì + mà + mà	→ ìmámà	LHL	‘mould’
8. ghò	→ ì + ghò + ghò	→ ìghòghò	LHL	‘heavy’
9. tǽ	→ ì + kpá + kpà	→ ìkpákpa	LHL	‘good’
10. wò	→ ì + wó + wò	→ ìwòwò	LHL	‘grind’

4.5.2.2.2 Partial reduplication

In partial reduplication, the newly created morpheme leaves uncopied some segments of the stem form. Sometimes, downstep and contour tones are created following elision resulting from hiatus resolution.

118. Underlying	Derived	Surface	Tone Pattern	Gloss
1. éǵǵ H L	→ éǵǵ+ ǵǵǵ H L H L	→ é!ǵǵǵǵ	H! H L	‘daily’
2. àǵǵǵ L L	→ àǵǵǵ + àǵǵǵ L L L L	→ àǵǵǵǵǵǵǵǵ	L L L L	‘individually’
3. à!ǵǵ	→ à!ǵǵ + à!ǵǵ L L L L	→ á!ǵǵǵǵ	L L H	‘bell’
4. éǵǵ	→ éǵǵ + éǵǵ H L H L	→ éǵǵǵǵ	L H L L	‘sandy’
5. èǵǵ	→ èǵǵ + èǵǵ L H L H	→ èǵǵǵǵ	L H L H	‘two by two’

4.5.2.3 Tone in affixation

This section discusses the inflectional affixes in Ósósò. When inflections such as persons, tense, number and sometimes negation are attached to stems, meaning remains constant across a wide distribution but a new formative is created. In Ósósò, tone is not used to signal inflection but when prefixation, infixation and suffixation occurs, tonal alternation is observed.

4.5.2.3.1 Prefixation

Generally, prefixes can serve different purposes from being a nominalizer, a genitive marker to plural morpheme in Ósósò. These are explained in different sections below.

4.5.2.3.1.1 Nominalisation and tone

In Ósósò, nominalization involves the prefixation of the high tone vowel /ó/ and it involves transitive verbs mainly, with plurality marked morphologically. Tone change does not occur following vowel elision, except when the L eliding vowel is followed by a H, then the L downsteps the H following it before disappearing into phonetic limbo.

119. Noun prefix	Verb	Formation
1. ó H	sù L + iwòrò LLL	→ ósùwòrò HLLL ‘singer’

	instrument	sing	song				
2.	ó H instrument	fà L pull	+ ávà arrow	HL	→ó!fávà	H!HL	‘shooter’
3.	ó H instrument	mì L speak	+ ìmhè talk	LL	→ómìmhè	HLL	‘spokesman’
4.	ó H instrument	dì L do	+ ùvìè hunt	LL	→ ódùvjà	HL HL	‘hunter’
5.	ó H instrument	gbè L kill	+ èlá cow	LH	→ ógbèlá	HLH	‘butcher’
6.	ó H instrument	dì L do	+ àfè home	LL	→ ódàfè	HLL	‘king’
7.	ó H instrument	tʃì L dance	+ mi dance	L	→ ótʃìmi	H!HL	‘dancer’

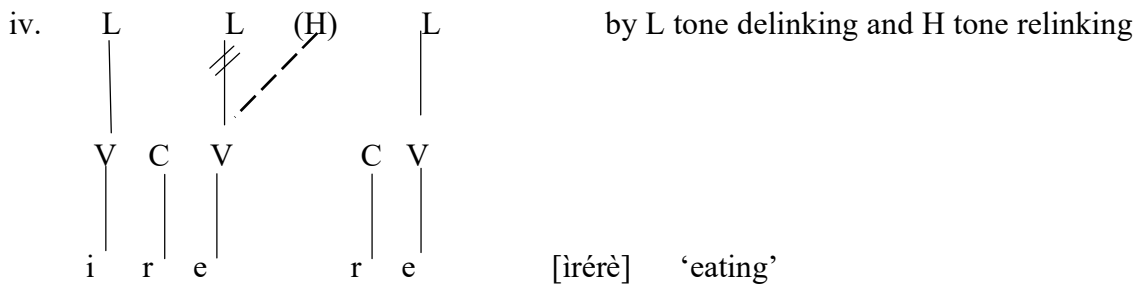
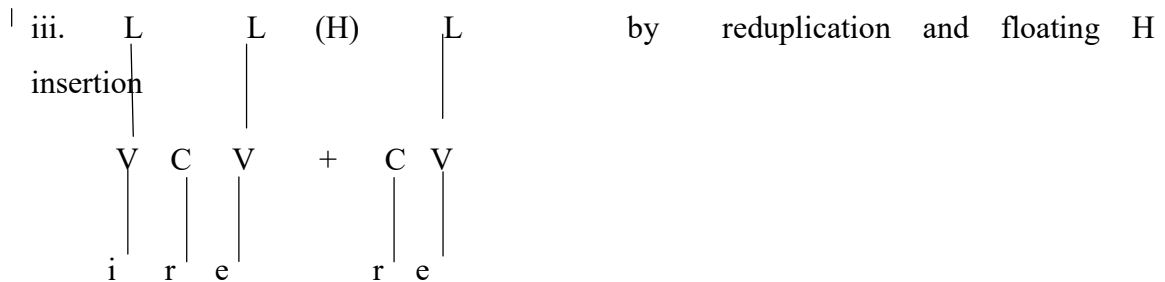
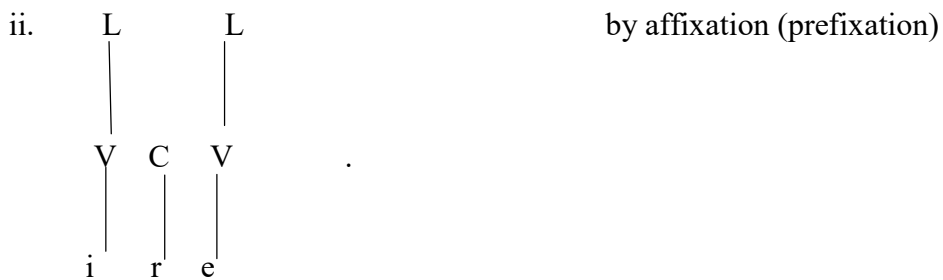
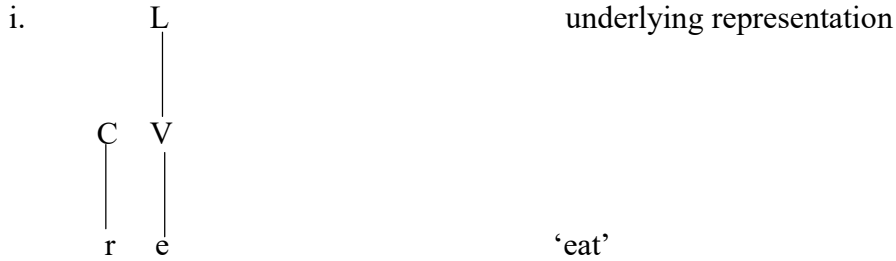
4.5.2.3.1.1 Gerundives and tone

Gerundives or action nominal consist of verbal nouns derived from the root of their verb following two processes, in Ósósò. First, by the prefixation of the invariable low toned /i/ Genitive maker (GM) which is themorphemeused to form a verbal noun or gerund in Ósósò and then the total reduplication of the verb root. A strict LHL melody results due to floating H insertion rule which delinks the L and relinks the H in the derivation. The data below shows dynamic verbs denoting activities and a sample derivation illustrated with the first example:

120.i.	ì	+	rè	+	rè	→	ìréré	LHL	‘(to be)eating’
	GM		eat		eat				
ii.	ì	+	gbè	+	gbè	→	ìgbégbè	LHL	‘(to be)beating’
	GM		beat		beat				
iii.	ì	+	bá+	bà	→	ìbábà	LHL	‘(to be)vomiting’	
	GM		vomit		vomit				
iv.	ì	+	è	+	è	→	ìsésè	LHL	‘(to be)climbng’
	GM		climb		climb				
v.	ì	+	wó+	wò	→	ìwówò	LHL	‘(to be) grinding’	
	GM		grind		grind				

vi. i + kù + kù → ikùkù LHL ‘(to be) pouring’
 GM pour pour

Sample derivation



4.5.2.3.1.3 Prefixation as number marker/pluralization

According to Elugbe (1989) pluralization is by prefix vowel alternation in the Edoid languages, particularly the PNCE. In Ósósò, plurals and pluralisation are marked

morphologically. Plural marking involves alternation between vowels at word initial or medial (or both) positions. Data shows that apart from the language's strict adherence to the replacement of vowel prefixes common with PNCE languages, the choice of the changed vowel is not arbitrary in Ósósò; rather, vowel mutation in the language is phonologically conditioned by fronting and raising rules peculiar to the language. Ewekeye(2011) rightly observed that plurals are formed based on the environment of occurrence. Prefix vowel alternation in the language is therefore triggered by phonological rules instead of semantic or syntactic consideration as shown below:

121. Group 1 : [u, o, ɔ, a] → [i] (fronting)

	Singular	plural	gloss
i.	àbí	ìbí	'mat/s'
ii.	úkà	ìkà	'star'
iii.	òdé	ìdé	'cloth'
iv.	òpòbò	ìpòbò	'corn'

Group 2 : [o, e, ɛ] [i] → [e] (raising)

i.	élà	ìlà	'cow/s'
ii.	ósò	ésò	'ear'
iii.	obè	ebè	'leaf'
iv.	énà	inà	'goat/s'

In Addition, Ósósò also employs the additive pluralisation strategy with prefix morph 'ire-

	Singular	plural	gloss
i.	àrò	írèrò	'eye'
ii.	ékè	írèkhè	'egg'
iii.	éfjà	írèfjà	'finger'

With pluralization in Ósósò, morphophonemic alternation does not result in morphotonemic change, lexical tones remained.

4.5.2.3.2 Infixation

In Ósósò, the three particles identified as infixes are /kí/, /bí/, /mí/. They often bear H tone. They are grammatical as they function as conjunction. The vowel elides in haitus but its tone overrides the tone of the adjacent TBU and a H is realized.

- 123.i. íṭfī – kí - íṭfī H L H H L → íṭfíkíṭfī H L H L ‘always’
 édè – kíédè H L H H L → édèkédè H L H L ‘daily’
- ii. òkó - bí – àmè LH H L L → ókóbámè H!H L L ‘boat’
 ìtsù - bí – idè LL H H L → ìtsùbíidè LLH L ‘beard’
- iii. òsò - mí – ògbò LL H L L → ósómògbòH!H L L ‘okrosoup’
 òdḡì - mí – ówà LH H L L → òdḡímówà H!H L L ‘corpse’

4.5.3 Functions of Tone in Ósósó

In this section, tone contrast manifested at both lexical and grammatical levels in Ósósò is examined. lexical tone and grammatical tone functions in the language.

4.5.3.1 Lexical function of Tone in Ósósó

Following Yip’s (2002:256) description of lexical tones as ‘pitch differences that distinguish lexical items from each other’, a small number of identical frames are distinguished from each other due to difference in pitch in the language. The data below shows lexical function of tone in Ósósò obvious with nouns:

124. a. /áwà/ - HL ‘dog’
 /àwà/ - LL ‘they/them’
- b. /òvò/ - LL ‘Sun’
 /òvó/ - LH ‘full’
- c. /òxò/ - LL ‘soap’
 /òxó/ - LH ‘fight’
- d. /èxè/ - LL ‘ground’
 /éxè/ - HL ‘eggs’
- e. /òsè/ - LL ‘spittle’
 /ósè/ - HL ‘amen’
- f. /èkpó/ - LH ‘remainder’

	/ékpò/	-	HL	‘others’
g.	/ùkpá/	-	LH	‘door’
	/úkpà/	-	HL	‘stars’
h.	/òsò/	-	LL	‘soup’
	/ósò/	-	HL	‘ears’

Also, study found minimal set of three words distinguished by tone as presented below:

g.	/ódzì/	-	HL	‘thief’
	/òdzì /	-	LL	‘rat’
	/òdzí/	-	LH	‘palm kernel’

From analysis, two things stand out about lexical tone in Ósósò. First, lexical function of tone is obvious in the noun category. Secondly, a restricted number of combination contrast in the language meaning the functional load of tone in Ósósò lexicon is consequently low.

4.5.3.2 Grammatical function of Tone in Ósósó

When a pitch level, without segment, performs grammatical function in a language, it is said to stand in proxy for morphological/morphosyntactic unit. What this section seek to establish is: do grammatical tones exist in Ósósò and if it does, is it in both NP and VP and what is its functional load? Data will be presented in answer to these questions but first, the structure of basic sentences in Ósósò will be established before the tone-grammar interface is determined.

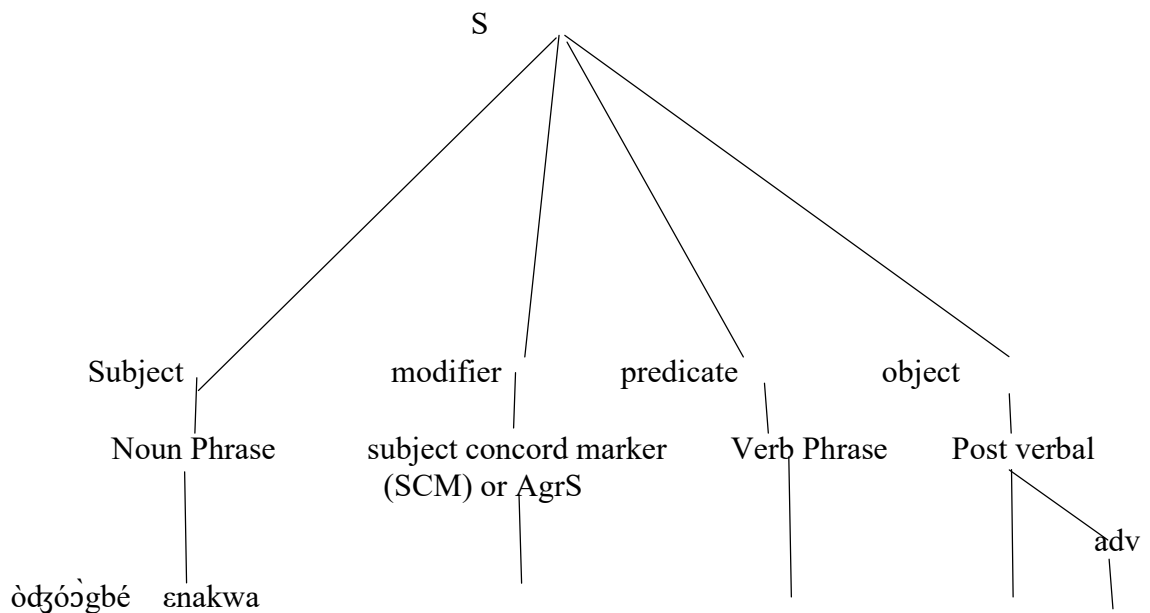
4.5.3.2.1 Ósósò basic sentence structure

Languages have different ways of arranging subject, predicate and object forms. In the literature, these six different types are often mentioned: SVO -Subject-Verb-Object type,SOV -Subject-Object-Verb type, VSO -Verb -Subject-Object type, VOS -Verb-Object-Subject type, OVS -Object-Verb-Subject type, OSV -Object-Subject-Verb typebut according to Greenberg (1966:76) only the first three in that order occur most. Ósósò, like Edoid languages, belong to the first category with the SVO basic sentence.

The simple, compound and complex type of sentences identified in the language are discussed below.

4.5.3.2.1 Simple sentence in Ósósò

A simple sentence is an independent construction with one NP subject and one VP predicate. This is exemplified below



[òḍzò ḡ gbénà kwâ] 'Ojo killed the goat'

Fig 4.15. Diagrammatical representation of simple sentence in Ósósò

4.6.2.2.2 Compound sentence in Ósósò

Apart from the simple sentence, another type of sentence, based on its structure, is the compound sentence. Any sentence with two or more independent clauses joined by a conjunction is adjudged a compound sentence in the language.

121a. á!βí' ímílòdó àníódáfè wà fí!tó βíógbè
them youth and king they sit in outside
'The youths and the King sat outside'.

The typical predicate of this sentence type schematically is:

VP: { V NP (PP) (AdvP) }

4.6.2.1.3 Complex sentence in Ósósò

In Ósósò complex sentences have predicates similar to the compound sentences with the presence of an independent clause and one or more dependent clauses that may be adverbial clause or relative clause

121b. Ítà mè ò sé àgbàrà ódáfè òyòdè sá tji òni
father mine SCM come palace king yesterday to greet him
'my father came to the palace yesterday to greet the King'.

4.5.4 Tone and Noun Phrase in Ósósò

The fundamental goal of this study, apart from identifying the tone system of Ósósò, is to examine grammatical sketches relevant to the investigation of tonal morpheme in the grammar of Ósósò and situate results within the context of Edoid tone studies. To this end, discussions in this section will focus on the NP, especially the well attested associative construction. The account to be provided will include derivation within the autosegmental framework.

4.5.4.1 Associative Constructions: Pre and Post modifiers in Ósósò

Considering Edoid literature shows in several Edoid languages, it is a tone morph, free and floating, that is the associative marker, in this section, the associative morpheme in Ósósò is investigated and data presented to validate the position of this work.

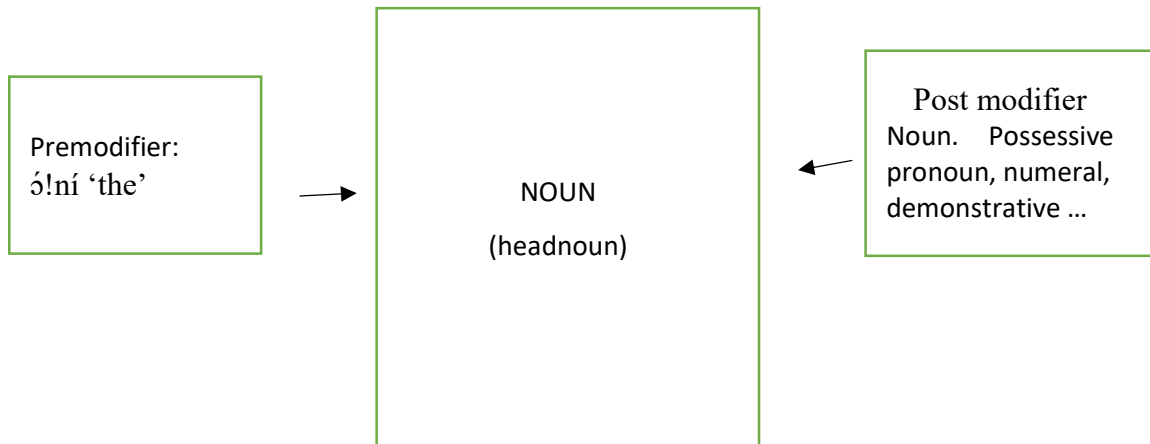


Fig 4.16. Diagrammatic representation of modifiers in Ósósò associative constructions

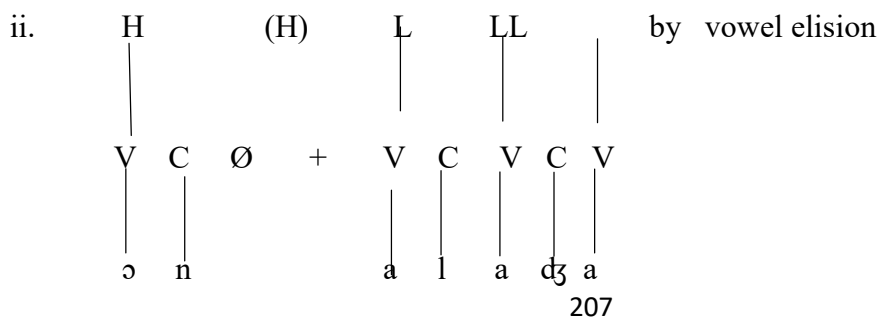
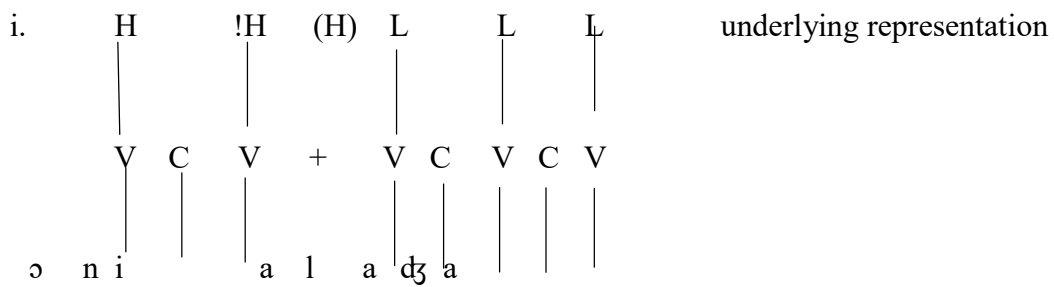
4.5.4.2 Associative construction with premodifier

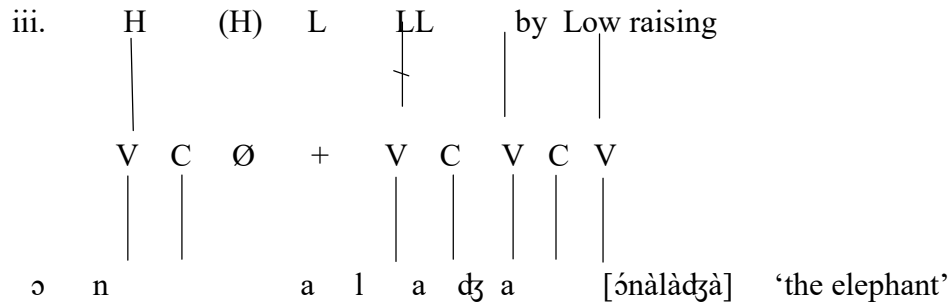
In Ósósò, generally, modifiers are postposed elements but the article [ó!ní] ‘the’ found copiously in the data will be treated here as a pre modifier so that tonal alternations can be analysed briefly before attention fully focuses on attributive constructions. The indefinite article ‘a’ is not overt in the language; for example: ‘a table’ is [ítábìlì] or [ítábìlì ògwò] ‘one table’.

Tone affects only the noun in Premodifier + N constructions by raising the pitch of V1 across boundary slightly where it is low, but leaves the H unchanged. This is illustrated below:

125.	Premodifier	Noun		NP		alternation		gloss
i.	ó!ní	H!H	+	àlàdžà	LLL	→	ó↑nàlàdžà	HLLL ‘the elephant’
ii.	ó!ní	H!H	+	égù	HL	→	ó!négù	H!HL ‘the tortoise’
iii.	ò!ní	H!H	+	ódàfê	HL	→	ó!nódàfê	H!HLL ‘the king’
iv.	ò!ní	H!H	+	àdòLL		→	ó↑nàdòHLL	‘the meat’
v.	ò!ní	H!H	+	ikà	L L	→	ó↑niku	HLL ‘the monkey’

Sample derivation, Ósósò





4.5.4.4 Associative construction with postmodifiers

The different types of associative construction (to be referred to as AC sometimes) through which possessive relations and modification are established in Ósósò are indicated by the type of modifier following it. The different types of noun + postposed modifiers that define its attribute in Ósósò associative constructions are:

- i. noun + another noun
- ii. noun + a possessive pronoun
- iii. noun + a demonstrative pronoun
- iv. noun + a numeral
- v. noun + a quantifier
- vi. noun + an attributive adjective
- vii. noun + a relative clause.

The noun + noun associative constructions indicating possession are the most engaging. In fact, Salfner (2009: 222) says it is often the type called 'associative construction' in African linguistics. For a robust discussion however, AC will be broken into two types, based on the different modifiers:

1. Possessive type of AC
2. Descriptive type of AC.

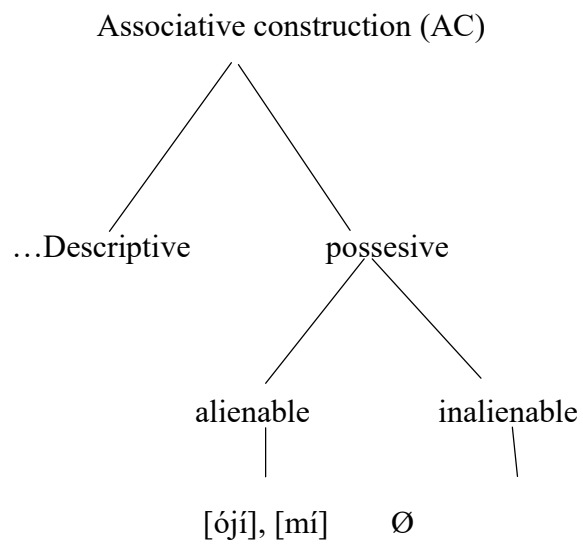


Fig 4:17.An illustration ofassociative construction in Ósóò

4.5.4.3 Possessive Associative Construction

While English mark possession with apostrophe before ‘s’ for singular and after ‘s’ for plural – John’s monkey or peoples’ jeep, this work agrees with Elugbe (2001:6) that ‘In Proto-Edoid, an agreement marker existed between a noun and its modifiers. This agreement marker carried a H which, in most modern Edoid languages, is the only available evidence of the marker’. In Ósósò, the morpheme marking possession is also a H tomorph floating underlyingly. It overwrites the inherent L of the possessum beginning from the left edge until it encounters an interposing H at final output. This grammatical floating tonemarking possession is thus a featural affix. According to Akinlabi (1996:239) ‘underlyingly free (floating) features occur crosslinguistically. These features sometimes function as morphemes. Such features, like segmental morphemes, often refer to specific edges of the stem, hence they are ‘featural affixes. They get associated with the base to be prosodically licensed’. Featural morpheme spanning the entire N1 being licensed prosodically, shows that the surface realization of a featural affix crucially depends on licensors. It is a case of phonological alignment

4.5.4.4 Alienable versus inalienable Possessive Associative construction

In the literature, possessive constructions are classified into alienable possession (ALP) and inalienable possession (IAP) based on the semantic relationship between the possessor and the possessum (also called possessee). If a possessive AC is of the inalienable type, it will consist of the head noun, the H tomorph and another Noun. If, however, it is alienable, the H-toned morpheme ‘ó!jí’ occurs. Both alienable and inalienable kinds of N1 + N2 possessive AC can be represented schematically as:

A. $\left\{ \left((\text{premodifier}) \text{ Possessed } N_1 \quad + \quad \text{H} \quad + \quad \text{Possessor } N_2 \right) \right\} \text{ inalienable}$

B. $\left\{ \left((\text{premodifier}) \text{ Possessed } N_1 \quad + \quad \text{ó!jí/mí} \quad + \quad \text{Possessor } N_2 \right) \right\} \text{ -alienable}$

Inalienable possessive AC is illustrated first with the data below, notice the underlying tone of the possessed noun in isolation changes to high following the leftward overwrite of the low by the floating H-tomorph. The tone borne by the possessor noun remains constant however, except where downstep occurs. All tonal possibilities on different disyllabic possessor noun have been explored in the analysis below to demonstrate tone behaviour in AC:

126. Inalienable possession data

a. Possessive construction in disyllabic form of L L + L H pattern

	LL	+	'	+	LH	→	HLH	gloss
1.	òtè				òdǒ		ótòdǒ	Ojo's arrow
2.	ùvù				òdǒ		ùvòdǒ	Ojo's stomach
3.	ùzè				òdǒ		úzòdǒ	Ojo's axe
4.	àmè				òdǒ		ámòdǒ	Ojo's water
5.	òzè				òdǒ		ózòdǒ	Ojo's blood
6.	ìsò				òdǒ		ísòdǒ	Ojo's faeces
7.	òjè				òdǒ		ójòdǒ	Ojo's farm
8.	òwè				òdǒ		ówòdǒ	Ojo's feet
9.	ìwò				òdǒ		íwòdǒ	Ojo's liver
10.	èxà				òdǒ		éxòdǒ	Ojo's monkey
11.	òsò				òdǒ		ósòdǒ	Ojo's soup
12.	èkpè				òdǒ		ékpòdǒ	Ojo's leopard

b. Possessive construction in disyllabic form of L L + H L pattern

	LL	+	'	+	HL	→	H!HL	gloss
1.	òtè				ówà		ó!tówà	ówà's arrow
2.	ùvù				ówà		ú!vówà	owa's stomach
3.	ùzè				ówà		ú!zówà	ówà's axe

4.	àmè	ówà	á!mówà	ówà's water
5.	òzè	ówà	ó!zówà	ówà's blood
6.	ìsò	ówà	í!sówà	ówà's faeces
7.	òjè	ówà	ó!jówà	ówà's farm
8.	òwè	ówà	ó!wówà	ówà's leg
9.	ìwò	ówà	í!wówà	ówà's liver
10.	èxà	ówà	é!xówà	ówà's monkey

c. Possessive construction in disyllabic form with L L + H L

	L L	+ ' +	L L	→	H L L	gloss
1.	òtè	àfè		ótàfè		àfè's arrow
2.	ùvù	àfè		úváfè		àfè's stomach
3.	ùzè	àfè		úzàfè		àfè's axe
4.	àmè	àfè		ámáfè		àfè's water
5.	òzè	àfè		ózàfè`		àfè's blood
6.	ìsò	àfè		ísoàfè		àfè's faeces
7.	òjè	àfè		ójàfè		àfè's farm
8.	òwè	àfè		ówàfè		àfè's leg
9.	ìwò	àfè		íwàfè`		àfè's liver
10.	èxà	àfè		éxàfè		àfè's monkey'

Even with N1 with trisyllabic form, the associative High tone still replaces the L on all the syllables starting from the left edge while the tone of the possessor remains unchanged, meaning the number of syllables of N1 is insignificant so long as they are Ls.

d. L L L tones in trisyllabic inalienable possessive Construction

i.	L L L	+ ' +	L L	→	H H L L	
1.	àkàpà	àfè		ákàpàfè		àfè's work
2.	ùwòrò	àfè		úwóràfè		àfè's song
3.	ùtùrù	àfè		útùràfè		àfè's neck
4.	ìlèlè	àfè		ìlélàfè		afè's feathers

5. irèmà àfè írémàfè àfè's toad

ii. L L L + ' + H L → H H H L (*I did not perceivedownstep)

1. àkàjà ówà ákápówà ówà's work
2. irèmà ówà írémówà ówà's toad
3. ùwòrò ówà úwórówà ówà's song
4. ùtùrù ówà útúrówà ówà's neck
5. ilèlè ówà ílélówà ówà's feathers

iii. L LL+ ' + L H → H H L H

1. àkàjà òḍzòákájḍzò òḍzò's work
2. irèmà òḍzò írémòḍzò òḍzò's toad
3. ùwòrò òḍzò úwóróḍzò òḍzò's song
4. ùtùrù òḍzò útúróḍzò òḍzò's neck
5. ilèlè òḍzò ílélòḍzò òḍzò's feathers

Thesame replacement of L on all the syllables by associative High tomorph starting from the left edge also applies where there is hiatus resolution which results in CwV or CjV,

iv. L L + ' + L L → H H L gloss

1. òviè ówà óvjówà ówà's chief
2. òpià ówà ópjwà ówà's cutlass'

Data 124 below consist of fifteen different L L nouns pooled frommy data to enable broad justaposing of possessed nouns and its possessor in subsequent analysis of AC

127. L L nouns

- | | |
|--------------------------------|--|
| i. àdò 'meat', | ii. èxà 'monkey' |
| iii. òwè 'leg'' | iv. òzè 'blood' |
| v. àmè 'water' | vi. isò 'faeces' |
| vii. òjè 'farm' | viii. ùvù 'belly' |

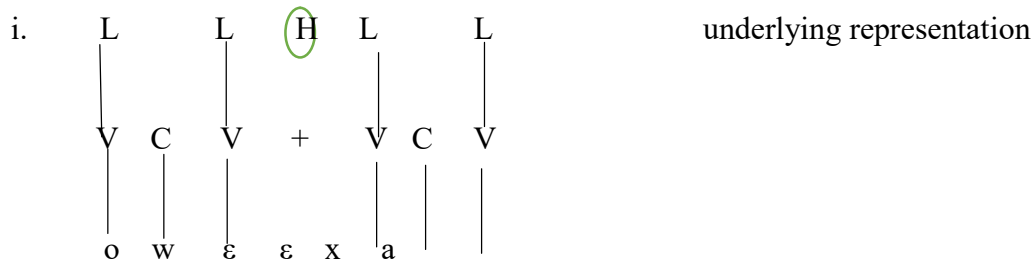
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|-------|-----|-------------|------|------|---------|--------------------|
| ix. | òtì | ‘market’ | | x. | ìkù | ‘medicine’ |
| xi. | àrò | ‘eyes’ | xii. | èsà | ‘three’ | |
| xiii. | ènè | ‘four’ | | xiv. | áfè | ‘home/proper noun’ |
| xv. | èwè | ‘you/yours’ | | | | |

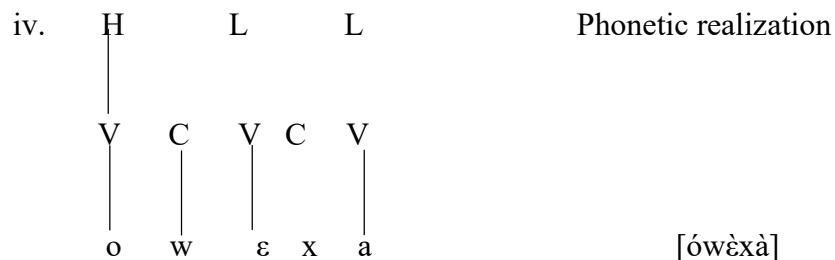
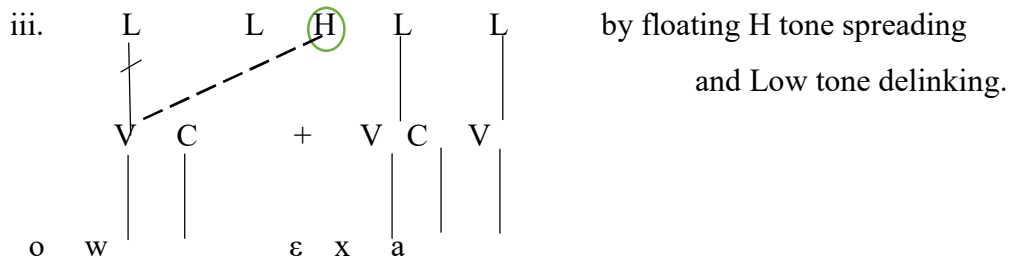
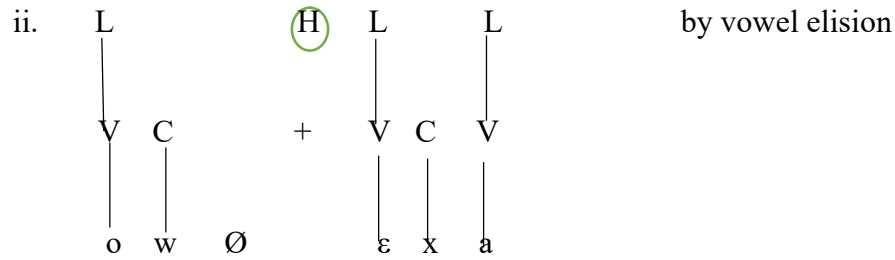
The data below shows each of the N1, on the leftmost column of the possessive construction, is underlyingly L while tonal pattern of N2 varies but in the output, the H tomorph overwrites all the Ls in N1 and leaves N2 tones untouched emphasising leftward-only operations

- | | | | | | | |
|------|-------|----------|----|---------------|-------------|------------------|
| 128. | | A | | B | | C |
| 1. | /òwè/ | ‘leg’ | AM | /èxà/ | ‘monkey’ | [ówèxà] H LL |
| | | | | → /ówØ’éxà/ | | → ‘monkey’s leg’ |
| 2. | /ùvù/ | ‘water’ | AM | /òdžó/ | ‘òdžó’ | [ùvòdžó] H LH |
| | | | | → /ùvØ’òdžó/ | òjó’s water | → |
| 3. | /ìwò/ | ‘liver’ | AM | /ùmúsù/ | ‘cat’ | [ìwùmúsù] H LHL |
| | | | | → /ìwØ’ùmúsù/ | | → ‘cat’s liver’ |
| 4. | /àrò/ | ‘market’ | AM | /ómò/ | ‘meat’ | [árómò] H LL |
| | | | | → /árØ’ómò/ | | → ‘baby’s eyes’ |
| 5. | /òzè/ | ‘blood’ | AM | /èlá/ | ‘cow’ | [ózèlá] H LH |
| | | | | → /òzØ’èlá/ | | → ‘blood of cow’ |

Adopting AT framework, the first example will be illustrated below. Other derivations are largely similar, so, one is taken as largely accounting for the rest

Sample derivation, Ósòsò





[ówèxà] ‘monkey’s leg’

Since this study is interested in positioning Ósósò within existing works on other Edoid languages, the same grammatical floating (H) tone, independent of particle, is reported to be responsible for the tonal change on the Head N of the following Edoid languages as shown by the examples below culled from Elugbe (2001:6)

129. a. Engenni (DE)

òbò + ' òbò →òbòòb
hand am doctor ‘hand of doctor’

b. Isoko (SWE)

òbò + ' + òbò →òbòòb̄
hand am doctor ‘hand of doctor’

c. Edo (Bini) (NCE)

òwè + ' + òkpà → òwó kpà (Owó!kpà)
 Leg am cock 'leg of cock'

Possessive Construction: Alienable

Possessive constructions of alienable type have been said earlier to be marked by the overt association marker (AM) /ójí/ or /mí/ both loosely meaning 'of' in Ósósò. However, even with this type of possessive AC, possession is actually borne by the high tone on the prefix of the AM in the former and by the high tone on the only vowel of the later. In both instances, the syllable elides leaving the high tone. The form of the particle can change from /ójí/ to /éjì/ to reflect number as explained by Egbohare (1990:287) 'the initial vowel of this morpheme is a concord prefix which agrees in number with the head noun'.

130.

1. Noun1 AM Noun2 NP gloss
 òbè + ójí +òdžò → [óbójòdžó] 'ojo's book'
 book AM odžo

2. Noun1 AM Noun2 NP gloss
 àdò + éjí +ùgwà → [ádéjúgwà] 'their meat'
 book AM their

3. Noun1 AM Noun2 NP gloss
 òxjò + ójí òdùfè → [òxjòdžòdùfè] 'hunter's he-goat'
 'he-goat' 'hunter'

3. Noun1 AM Noun2 NP gloss
 òpia + ójí +òdžó → [ópjòdžó] 'ojo's cutlass'
 book ojo

4. Noun1 AM Noun2 NP gloss
 àdò + éjí +ùgwà → [úkùbójúgwà] L 'their money'
 book AM ojo

Other noun + noun constructions with the high-tone particle /mí/ between the nouns in data are presented below:

131.

1. Noun₁	AM	Noun₂	NP	gloss
èxà	+	mí +ójò´	→ [éxámòdʒó]	‘ojo’s monkey’
monkey		ojo		
2. Noun₁	AM	Noun₂	NP	gloss
úkùè	+	mí +ójò´	→ [úkwémòdʒó]	‘ojo’s head’
head		ojo		
3. Noun₁	AM	Noun₂	NP	gloss
òsà	+	mi +óvie´	→ [ósámónvjè]	‘king’s wife’
head		ojo		
4. Noun₁	AM	Noun₂	NP	gloss
úkùè	+	mí +ótè	→ [úkwémòtè]	‘tree’s top’
tree		tree		

The examples below show possession is also borne by the high tone on the prefix of the AM in the former of most Edoid language with studies as evident in the data below taken from their various works:

132. Urhobo: Aziza (1997:239),

Noun 1	AM	Noun 2	NP	gloss
òbò LL	+	ré H +èni LL	→ [òbòréni]	LLHL ‘an elephant’s hand’
hand		AM elephant		

Emai: Egbokhare (1990:302)

Noun 1	AM	Noun 2	NP	gloss
awε LL	+	ísiH L + ófèH L	→ [áwísòfè]	LLHL ‘rat’s legs’
leg		AM rat		

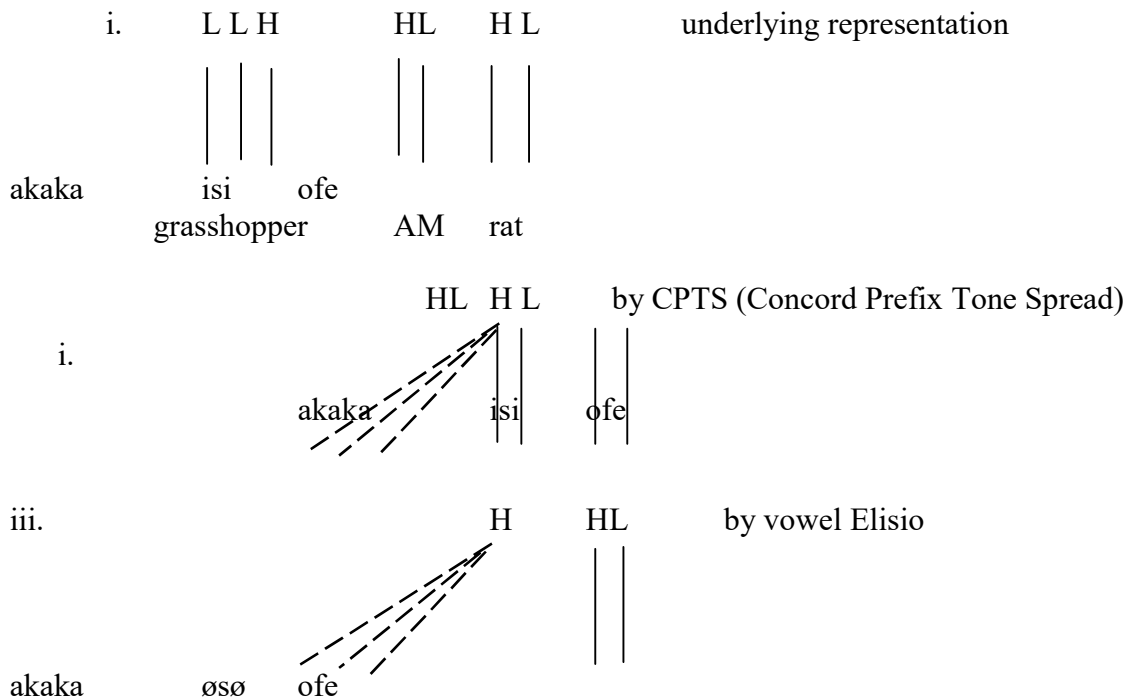
Etsako (Ekpeli): Elimelech (1976:56)

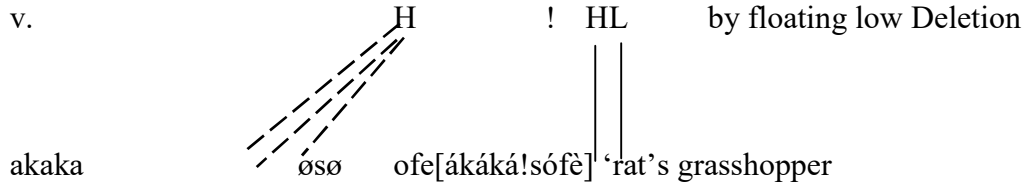
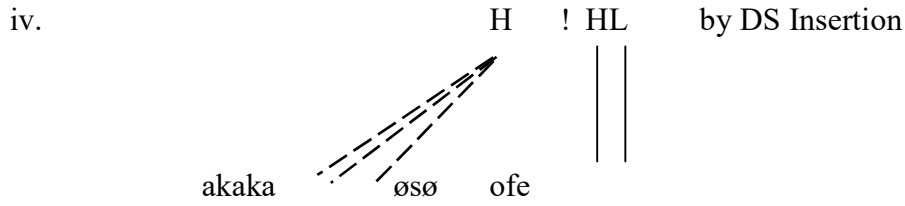
Noun 1	AM	Noun 2	NP	gloss
/ámè/ LL	´	/H /èà /LL	→ [ámèà]	H HL L father’s water
‘water’		AM father		

In Urhobo the associative construction is marked underlyingly on both the segmental and tonal tier. An independent morpheme /rɛ/ is the associative marker and the morpheme is said to be toneless, it gets assigned the high tone when the vowel elides due to hiatus resolution. At the tonal tier level, the associative high tone marker (ATM) becomes segmentalised on the prefix vowel of N2 thereby delinking the inherent tone born by the vowel if it is a L, and if it's a high, the effect is vacous.

Egbokhare (1990:287) on his part says of Emai; 'we may give a simple account for the change in the possessive and descriptive association constructions in terms of the spreading of the high tone of the concord prefix of the construction marker. This is followed by the deletion of the vowels of the associative marker'. For Etsako, Elimelech (1976:56) says 'the associative morpheme is solely represented by a Tonal Matrix as {+High}'.

Unlike Aziza who postulated a floating H as the tone that marks associative constructions without further explanation, Egbokhare (1990:302) says the high tone may be traced to the high tone concord prefix of the associative marker *isi/ési* and *óli/éli* in Emai. He demonstrated the operation of floating high tone between the head noun and the associative marker /isi/ in his derivation of 'rat's leg':





4.5.4.5 Associative construction: N + possessive Pronoun

With the N + possessive pronoun construction, a floating H-tomorph is still postulated by this study as the marker for possession. It accounts for the changes in the head noun. One observes from the data below that the floating H-tomorph moves leftward, delinks the Land then replace it. The marker for possession even in this construction type. Data is presented below to support the postulation of H tomorph as marker for possession:

133.

1. **Noun** **AM** **Pronoun** **NP** **gloss**
 òxà + ' +mè → [òxámè] 'my story'
 story my

2. **Noun** **AM** **Pronoun** **NP** **gloss**
 ikù + ' +mè → [íkúmè] 'my medicine'
 medicine my

3. **Noun** **AM** **Pronoun** **NP** **gloss**
 ófùfù + ' +ónì → [ófúfónì] 'her mate'
 mate my

4. **Noun** **AM** **Pronoun** **NP** **gloss**
 ùvù + ' + mè → [úvúmè] 'my belly'
 belly my

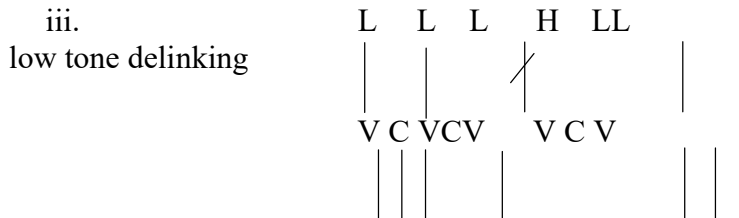
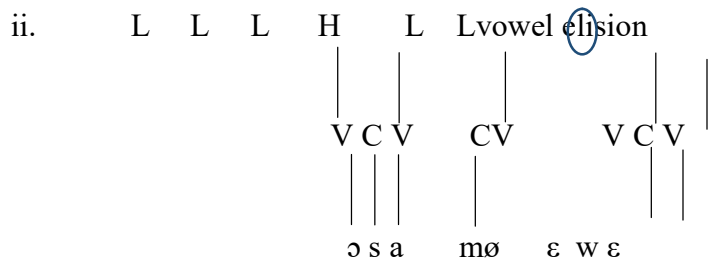
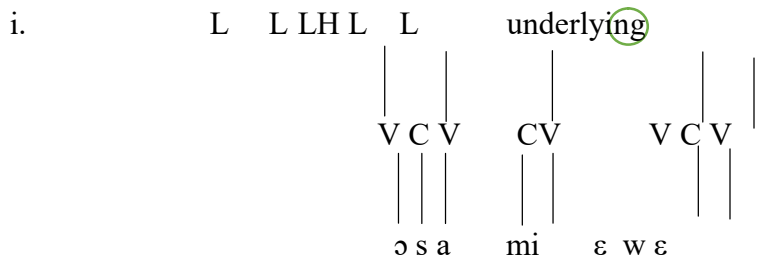
5. **Noun** **AM** **Pronoun** **NP** **gloss**
 ùnù + ' + èwè → [únúmè] 'my mouth'

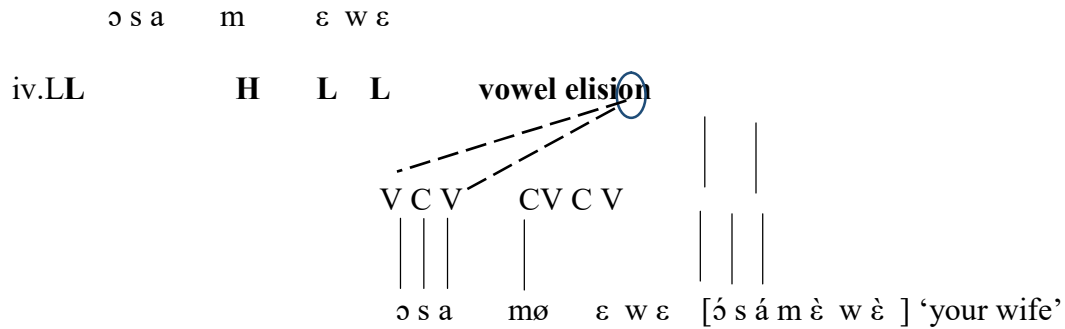
mouth my

Even with some N+Pronoun constructions having [mí] and [ó!ní] segmental morpheme between N + P, this study is again postulating the H tomorph, which remains after elision of the vowel in the morpheme, as the actual marker for possession in Ósósò

134.

- | | | | | | | | | |
|----------------|---|-----------|--|----------------|---|-----------|--|--------------|
| 1. Noun | | AM | | Pronoun | | NP | | gloss |
| òsà | + | mí | | +èwè | → | [ósámèwè] | | 'your wife' |
| wife | | your | | | | | | |
-
- | | | | | | | | | |
|----------------|---|-----------|--|----------------|---|------------|--|-----------------------|
| 2. Noun | | AM | | Pronoun | | NP | | gloss |
| òbè | + | éjì | | +ugwà | → | [óbójúgwà] | | 'your books' (plural) |
| book | | our | | | | | | |
-
- | | | | | | | | | |
|----------------|---|-----------|--|----------------|---|------------|--|---------------|
| 3. Noun | | AM | | Pronoun | | NP | | gloss |
| ópìà | + | éjì | | +àní | → | [ópjéjani] | | 'our cutlass' |
| book | | we | | | | | | |
-
- | | | | | | | | | |
|----------------|---|-----------|--|----------------|---|-----------|--|--------------|
| 4. Noun | | AM | | Pronoun | | NP | | gloss |
| àdò | + | ójì | | +èwè | → | [ádójèwè] | | 'your meat' |
| meat | | you | | | | | | |





4.5.4.6 Associative construction: N + Demonstrative

In demonstrative constructions, two morphemes are identified in Ósósò: /ónà/ - ‘this’, /órò/ - ‘that’. Tonal change was not found on head noun and this absence of tonal type effect on the head noun in the construction is represented as N/A (Not Applicable), in the examples below, note the prefix may change for numbers but the tone still remains a fixed L H tonal pattern:

135.

- | | | | | | | | |
|----|-------------|---|-----------|----------------------|---|-----------|--------------------|
| 1. | Noun | | AM | demonstrative | | NP | gloss |
| | àdò | + | N/A | +ónà | → | [àdónà] | L L H ‘this meat’ |
| | meat | | | this | | | |
| | | | | | | | |
| | Noun | | AM | demonstrative | | NP | gloss |
| | àdò | + | N/A | +órò | → | [àdórò] | L L H ‘that meat’ |
| | meat | | | that | | | |
| | | | | | | | |
| | Noun | | AM | demonstrative | | NP | gloss |
| | àdò + | | N/A | +énà | → | [àdénà] | L L H ‘these meat’ |
| | meat | | | these | | | |
| | | | | | | | |
| | Noun | | AM | demonstrative | | NP | gloss |
| | àdò | + | N/A | +érò | → | [àdérò] | L L H ‘those meat’ |
| | meat | | | those | | | |

4.5.4.7 Associative construction: N + Numerals

When used with numbers, the L L tone of the head noun does not become H in N + Numeral associative construction type in Ósósò. This supports Egbohare’s (1990:300) discovery in Emai where ‘changes does not apply in the numeral constructions’. There is the insertion of high tone particle /mí/ in certain numeral constructions:

136.

1. **Noun** **AM** **Number** **NP** **gloss**
 èxà + N/A + ifièvànífé → [èxifjèvànifè] LLLLHL ‘forty five
 monkies’
 monkey forty five
2. **Noun** **AM** **Number** **NP** **gloss**
 àdò + N/A +ènè → [àdènè] LLL ‘four meats’
 meat four
3. **Noun** **AM** **Number** **NP** **gloss**
 òwè + N/A +èvá → [òwèvá] LLH ‘two legs’
 leg ten
4. **Noun** **AM** **Number** **NP** **gloss**
 òwè + N/A +ìgbánèvá → [òwìgbánèvá] LLHLH ‘twelve legs’
 leg twelve
5. **Noun** **AM** **Number** **NP** **gloss**
 èsà + mí + èvá → [èsàmàvá] LLLH ‘two wives’
 wife of two

4.5.4.8 Associative construction: N + Reduplicated form

Some of the attributive forms found in the NP of Ósósò are from a process of reduplication that results in morphemes of three or four syllables: structurally, they occur in post modifier position, following the noun. They follow the ‘every’ and ‘by’ pattern. The tone pattern on the reduplicated form does not change but the high tomorph is seen spreading to the N and delinking the L in the NP.

137.

1. **Noun** **AM** **Reduplicated form** **NP** **gloss**
 èxà + +ògbòògbò → [èxògbòògbò] ‘everyone’s monkies’
 monkeys person by person
2. **Noun** **AM** **Reduplicated form** **NP** **gloss**
 àmè + +ówà ówà → [àmówówà] ‘house by housewater’
 water house by house

4.5.4.9 Associative construction: N + Descriptives

As Welmers (1969) and other scholars have observed, Edoid languages have no word class which can appropriately be labeled as ‘qualifying a noun’ or ‘adjective’, rather, some forms account for the attribute of a noun and consequently function as adjectives. In this construction in Ósósò, the tone of the prefix vowel is replaced by the H-tomorph.

138.

- | | | | | | | |
|----|---------------|--|-----------|--------------------|-------------|-----------------|
| 1. | Noun | | AM | Descriptive | NP | gloss |
| | èxà + | | +obibi | → | [éxóbibi] | ‘black monkey’ |
| | monkey | | black | | | |
| 2. | Noun | | AM | Descriptive | NP | gloss |
| | ògbò + | | +órèrè | → | [ógbórèrè] | ‘rich person’ |
| | person big | | | | | |
| 3. | Noun | | AM | Descriptive | NP | gloss |
| | èxà + | | +obiebie | → | [éxóbjébjè] | ‘wicked monkey’ |
| | monkey wicked | | | | | |

Applying Selkirk (1986), prosodic hierarchy framework, it is obvious that the domain of the associative marker, the High tomorph, is the entire head noun, a prosodic word. Therefore, associative constructions in Ósósò spans an entire category, motivated by Low tone raising that stem from phonological consideration. It applies to a phonological category in the prosodic hierarchy, the prosodic word. Thus, the rule of associative construction is straightforward, if a sequence of L occurs with a noun in an associative or possessive construction, the L becomes H depending on the prosodic structure of that word. Associative construction can also be accounted for based on morphological alignment. This position is made following Akinlabi (1996:2) explanation that ‘this alignment places the featural affix at a particular edge of the stem, characterizing it as a prefix or a suffix’. In Ósósò, it has been presented as a suffix since the H tomorph replacing low is placed at the right edge of the stem of the head noun and replaces the Low in a right to left manner. The constraints that accounts for the alignment of the associative construction in Ósósò is the same as the one presented for Etsako by Akinlabi (1996:25)

ALIGN-AM-L

Align(AM, L, PrWd, L)

The AM must be left aligned with a prosodic word.

ALIGN-AM-R

Align(AM, R, Stem, R)

The right edge of the AM must be aligned with the right edge of the stem. ‘The associative marker is a suffix in stem’.

Based on the above alignment constraints, it is obvious that the H-tomorph is a phonological feature and it is morphologically an affix.

4.5.4.10 Tone in Recursive NP Construction

Tone is also significant in recursive NP in Ósósò the H-tomorph spreads to all the Ls of the embedded NP until it is blocked by an interposing H. This is shown in the example below:

139.

1. **N1AM** **N2** **AM** **N3** **Recursive NP** **gloss**
 òǽǽ ʼádò ʼénà + → [óǽǽ ádó éná] ‘goat meat market’
 market meat goat

2. **Noun** **AM** **Recursive NP** **gloss**
 òsè iwò èxà + → [ósíwó èxà] ‘blood of monkey’s liver’
 blood liver monkey

4.5.4.11 Tone in Noun + Relative Clause

In Ósósò, the relative clause can tell the attribute of a noun. This attribute is marked both tonally and morphologically. Tonally, the H tomorph segmentalizes on the final vowel of the subject of the relative clause in particular while [òní]- ‘that’, the marker for relativizer is structurally located between the subject NP and the relative clause in Noun + Relative Clause construction. Interestingly, the relativizer share form with premodifier [ó!ní] ‘the’ but they differ at tonal level.

140.

a. èxà òní m̀òní sè, òní ó!ní m̀óní d́zè [éxáó!ní m̀óní sè, òní ó!ní m̀óní d́zè]
 monkey that bring come it she take go

‘the monkey that she brough is the monkey she will go with’

- b. àfè ònimá dèòni ó!nífòrò [áfé óní má dè òni ó!ní fòrò]
House that previously buy it, it want
‘the house that he bough is the house he wants’

4.5.4.12 Tone in Noun as compliment of Verb

Tonal changes affect the V1 of the object noun occurring as verb compliments in Ósósò. When the vowel of the verb deletes, a high pitch is realized on the initial vowel of noun serving as verb compliment and so a L becomes a H. Data showing noun with L L and H L pattern as compliment of a verb is presented below:

141. Past Tense:

/ò + dè àkpò/ → /ò + déàkpò/ → [òdákpò]
he buy bag ‘he bought a bag’

Present tense:

/ì ó dè àkpò/ → /ì+ déàkpò/ → [ì dákpò]
he SCM buy bag ‘he is buying a bag’

Future tense:

/ó + já + dé àkpò/ → /ò + jádé àkpò/ → [ò jádákpò]
he FUT buy bag ‘he will buy a bag’

142. Past Tense:

/ò + dè ótè/ → /ò + déótè/ → [òdótè]
he buy stick ‘he bought a stick’

Present tense:

/ì ó dè ótè/ → /ì+ déótè/ → [ì dótè]
he SCM buy stick ‘he is buying a stick’

Future tense:

/ó + já + dé ótè/ → /ò + jádé ótè/ → [ò jádótè]
he FUT buy stick ‘he will buy a stick’

In contrast with Ósósò, in Ekpeli, another Edoid language, when Nouns occur as objects of verb in some verb tenses, tone polarization can occur between the verb and the noun object, such tonal alternation is said to originate from contraction between a verb and its noun object. The vowel of the verb deletes but its tone remains and affects the tone of V1 of noun object, differentiating the past from the present tense utterance. For the future tense, tonal alternation plus insertion of [Θâ] marks the future. The example below adapted from Elimelech (1976: 90) is given:

143. **Past tense;**

/ô + dé # àkpà/	→	[ô dākpa]
he buy cup		‘ he bought a cup’

Present tense:

/ô + dé # àkpà/	→	[ò dākpa]
he buy cup		‘ he is buying a cup’

Future tens:

/ô + Θâ + dé # àkpà/	→	[ò Θá dākpa]
he FUT buy cup		‘ he will buy a cup’

4.5.4.13 Some generalization on NP in Ósósò

From the foregoing discussions on tone and tonal alternations in Noun Phrase in Ósósò, the following generalizations are posited by this study:

- a. That associative morpheme in Ósósò is tonal, hence grammatical tone exist in the Noun phrase of Ósósò.
- b. Only in demonstrative constructions is attribution not marked by the H tomorphin Ósósò.
- c. That the operations of the associative H tomorph located between the possessed and the possessor is leftward and in this order: the floating possessive H tomorph first

delink the L tones on the head noun before vowel elision in hiatus context occurs. This happens whether the the head noun is disyllabic or trisyllabic.

- d. If there is an interposing H tone on the head noun in attribute in constructions where grammatical tones operate, the H blocks the leftwards spread of the H-tomorph.
- e. This existence of a grammatical floating H tomorph in Ósósò provides evidence supporting Edoid scholars like Elimelech (1976), Elugbe (1985, 2001), Egbokhare (1990), Aziza (1997), who have established possession as marked by a H tomorph in the Edoid languages they studied.
- f. That Egbokhare's (1990: 285) position on the origin of this floating tone, supported by Elugbe (2001) is correct. This floating tone in the phonological representation of Edoid NP being consistent are 'sometimes derived historically as remnant of a deleted construction marker'.
- g. That even where construction markers are segmental, it is the position of this work that the tonal change is caused by the spreading of the high tone borne by the prefix of /ójí/ and the sole vowel in /mí/. These vowels then elides at surface realization since they were only a slot for the H tomorph.
- h. That the phonological distinction between the inalienable and the alienable is actually non-existent since the latter is derived from the former except that alienable retains the historical segment bearing the H-tomorph.
- i. That associative morpheme is tonal, regardless of whether the morpheme is tone alone or with segment morpheme. This is the position of this work.

4.5.5 Tone and Verb Phrase in Ósósó

In the preceding section, tone behaviour in the Noun phrase (NP) of Ósósò has been analysed and certain generalizations reached. In this next section, the behaviour of tone in the Verb Phrase of Ósósò is investigated in the light of the intricate relationship reported by Edoid scholars like Elimelech (1976:89), Aziza (1997:272), Egbokhare (1996) and others. Analysis shall be presented in autosegmental framework, our preferred framework.

4.5.5.1 Tone and functional categories of Ósósò grammar

The verbal system of Ósósò shows verbs are modified for tense, aspect and modality with the three categories often interlocked, especially across large discourse. Attention will

specifically be on tone in tense, aspect, and potential mood. Functors marking negation will also be examined.

4.5.5.2 Tense in Ósósò

Although expressed differently, all languages have ways of relating experiences at the three points of past, present and future since all people have the same concept of time says Bull (1963), Omamor (1982), Ejele (2000), and Bittar (2010), among others. In Ósósò tense system, time is divided into future and non-future.

4.5.5.2.1 The non-future tense

Although past tense refers to situations before the moment of utterance and present tense refers to event or situation concurrent with the time of discussion, in Ósósò, the present is marked with /i/ particle while the past is not overt, it is context determined. Sometimes the difference may also be additionally specified with perfective aspectual marker ‘/fó/-‘finished’.

4.5.5.2.2 The future tense

In Ósósò, the future tense is morphologically represented with the morpheme /já/. This explicitly marks the posterior relationship between time of event and the given utterance. Also, the use of time adverbials is not a necessary requirement in the specification of futurity; speakers may add it only as an additional information like expressing specificity but it is not needed for intended meaning to be conveyed.

Fig 4:18. Future and non-future tense in Ósósò illustration

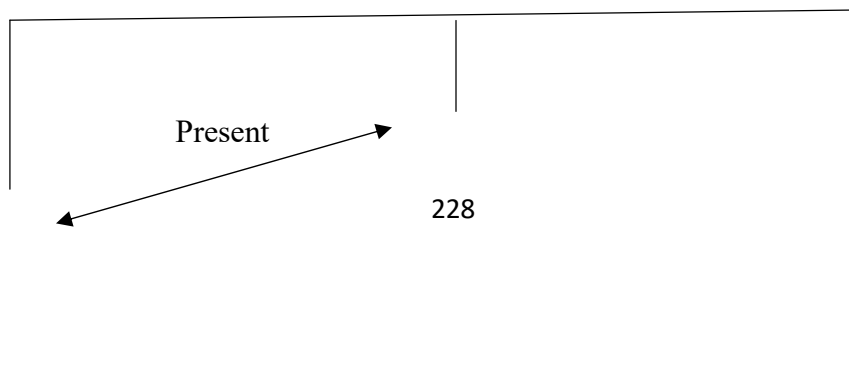
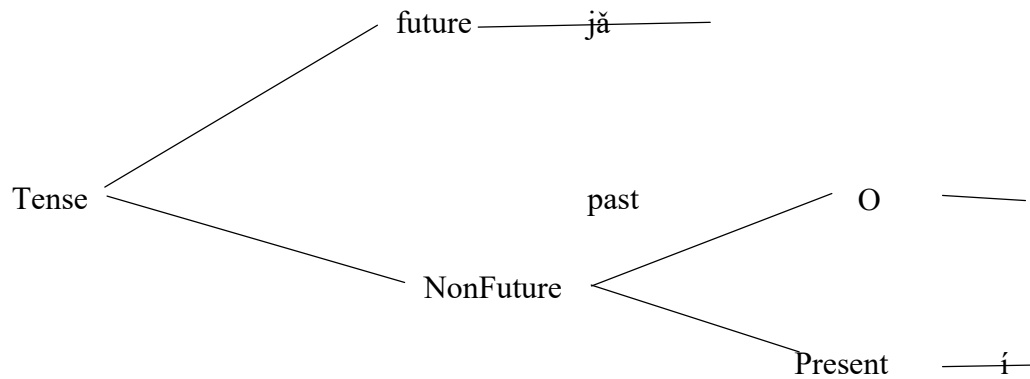




Fig.4.19 Tense specification in Ósósò



4.5.5.2.3 Tense analysis in Ósósò

In a paradigm broken into sets, the study will analyse the manifestation of non future; (past/present), and future tense on the verb since tense is closely associated with verb. As for the NP slot, three proper nouns with different tonal patterns covering all tonal possibilities in the language have been selected and will be tested with the verbs in sets. The noun subjects are:

- òdžó - L H
- Ówà - H L
- Àfè- L L

When all the paradigm consisting of the different sets have been exhausted, another set comprising all pronoun forms will also be set up in a paradigm. With this diverse subject NP, study is able to investigate the tense system of Ósòsò and following the results of analysis, arrive at an understanding of the behaviour of tone in the tense system of the language.

Ten verbs were purposively selected applying the four criteria proposed by Taiwo (2018a). In his work on Yorùbá, another Kwa, Benue-Congo language. He recommended all the different classes of Yorùbá verbs be grouped into four but this study looks at two: transitive and intransitive verbs. These transitive and intransitive verbs he further divided applying different criteria and from these, meaning criterion is adopted.

Meaning Criterion. This criterion categorises various verbs based on the inherent meaning they bear. Under this criterion, **action verbs** expresses what happens between the subject and the object of the sentence or what the subject does; **descriptive verbs** tells more about the subject; often like an adjective and always intransitive; **causative verbs** are very few as they only show what the subject of a sentence has caused to other entities in the sentence and lastly, **stative verbs** which describes the experience of the subject or the emotion like condition, thoughts, emotions, sense.

Based on tone pattern, morpheme and syntactic structure, ten transitive and intransitive verbs shall be used to investigate tone and grammar interface in the VP of Ósòsò

144.	Transitive verbs	Intransitive verbs
a.	/dɛ̀/ - ‘buy’ (Action)	/de / - ‘fall’ (stative)
b.	/ràmi/ - ‘fry’ (‘)	/viɛ̀/ - ‘cry’ (Action)
c.	/rè/ - ‘eat’ (‘)	/fò/ - ‘hear’ (stative)
d.	/dà/ - ‘drink’ (‘)	/kàsé/ - ‘come’ (Action)
e.	/gbè/ - beat (‘)	/òxà/ - ‘play’ (Action)

Analysis will start with a verb whose form and meaning are largely the same across several Edoid languages. Setting up a paradigm, /dɛ̀/ ‘buy’, in the past, present and future

tense is investigated with tone pattern of subject NP alternated to determine tone-grammar interface. Segments enclosed in brackets indicate segments elided from input before final surface realization.

Transitive verb

145. /dè/ L ‘buy’ & /òdʒó/ L H

a. Past:

òdʒ(ó)	ò	∅	d(è)	òdé	→	marker - ∅
L H	L		LL H			[Òdʒòdòdé]
òdʒ(ó)	SCM	PST	buy	cloth		
‘Òjó bought cloth’						

b. Present:

òdʒ(ó)	(ò)íd(è)	òdé	→	marker - morpheme í
L H	LH	LL H		[Òdʒídòdé]
òdʒó	SCM	PRE	buy	cloth
‘Òjó is buying cloth’				

c. Future:

òdʒ(ó)	ó	jă	d(è)	òdé	→	marker - morpheme já
L H	H	LH	LL H			[Òdʒó jádòdé]
òdʒó	SCM	FUT	buy	cloth		
‘Òjó will buy cloth’.						

From the set above, using the transitive verb *dè* with the proper noun *òdʒó* bearing L H pattern, the past tense is context determined as *ó* is a subject concord marker (SCM), and the contour tone on it results from the concatenation of the floating H with the L following elision of V1 across boundary in the construction. The present tense is however morphologically marked with the high tone morpheme /í/.

This study claims that the rising contour tone present on the morpheme /í/ is as a result of the resolution of the second hiatus which deletes the SCM /ò/ adjacent the PRES tense particle /í/ setting afloat the L. It is this tone that links with the H on /í/ to result in the contour. Like the PRES, the future tense is also morphologically marked with the morpheme /já/.

To ensure the use of morpheme, rather than tone as found in other Edoid languages, is not a function of tone pattern borne by the subject NP, the tonal patterns of the subject NP will now be changed to a H L tone pattern noun.

146./dè/ L ‘buy’ & /ówà/ H L

- a. **Past:** **marker - ∅**
 ów(à) ò Ød(è) òdé → [Ów òdòdé]
 H L L H L H
 ówà SCM PST buy cloth
 ‘Owa bought cloth’
- b. **Present:** **marker - morpheme í**
 ów(à) (ò)í d(è) òdé → [Ówìdòdé]
 H L L H H L H
 ówà SCM PRE buy cloth
 ‘Ówà is buying cloth’
- c. **Future:** **marker - morphemejä**
 ów(à) ò jä d(è) òdé → [Ówjàdòdé]
 H L H L H L H
 ówàSCM FUT buy cloth
 ‘Ówà will buy cloth’

The changed subject NP to a H L tonal pattern /Ówà/ still showed tense is marked morphologically, not phonologically in Ósósò. Last proper noun for this analysis is Àfè with a L L tone pattern.

147./dè/ L ‘buy’ & /àfè/ L L

- a. **Past:** **marker - ∅**
 àf(è) ò Ød(è) òdé → [Àfò dòdé]
 LLLH L H
 àfèSCM PST buy cloth
 ‘Àfèbought cloth’
- b. **Present:** **marker - morpheme í**
 àf(è)(ò)í d(è) òdé → [Àfidòde]
 LLLH H L H
 Ówà SCM PRE buy cloth
 ‘Àfè is buying cloth’

- c. **Future:** **marker - morpheme jǎ**
 àf(è) òjǎ d(è) òdé → [Àfò jǎdòde]
 LLLLH H L H
 àfèSCM FUT buy cloth
 ‘Àfèwill buy cloth’

Looking at the L L set above, this study further confirmed tense markers are morphological and not borne by tone as found in other Edoi languages like Urhobo when the subject NP is a noun. Analysis showed the markers are:

- Past - Ømorpheme (context determined)
 Present - [í] morpheme
 Future - [jǎ] morpheme

Retaining the same verb /dè/ but changing the subject NP in analysis, the behaviour of tone in the tense system of Ósósò is investigated using the pronouns within similar tripartite paradigm of past, present and future as applied above:

- mì – I/me (1st person sing.)
 èwè – you (2nd person sing.)
 ànì – we (3rd person sing.)

148./dè/ L ‘buy’ & /mì/ L (1st person sing.)

- a. **Past:** **marker - Ø**
 mìØ d(è) òdé → [mì dòdé]
 L LL H
 I PST buy cloth
 ‘I bought cloth’
- b. **Present:** **marker - morpheme í**
 m(i)íd(è) òdé → [mǐdòde]
 L H LL H
 mì PRE buy cloth
 ‘I am buying cloth’
- c. **Future:** **marker - morpheme jǎ**

LL H mijǎ d(ɛ̃) òdé → [mì jǎdòdé] L HL
 I FUT buy cloth
 ‘I will buy cloth’

149./dɛ̃/ L ‘buy’ &/ èwè/ L L (2nd person singl.)

a. **Past** marker - ∅
 èw(ɛ̃)ù ∅ d(ɛ̃) òdé → [èwù dòdé]
 L LLLL H
 èwè SCM PST buy cloth
 ‘You bought cloth’

b. **Present** marker - morpheme í
 èw(ɛ̃)ùí d(ɛ̃) òdé → [èwǐdòdé]
 L LLH LL H
 èwè SCM PRE buy cloth
 ‘You are buying cloth’

c. **Future:** marker - morpheme jǎ
 èw(ɛ̃) ùjǎ d(ɛ̃) òdé → [èwù jǎdòdé]
 L LL LH LL H
 èwè SCM FUT buy cloth
 ‘You will buy cloth’

150. /dɛ̃/ L ‘buy’ & / àni/ L L (3rd person singl)

a. **Past:** marker - ∅
 àni ∅ d(ɛ̃) òdé → [àni dòdé]
 L LLL H
 àni PST buy cloth
 ‘we bought cloth’

b. **Present:** marker - morpheme í
 àn(i)í d(ɛ̃) òdé → [ànǐdòdé]
 L L H L LH
 ànǐPRE buy cloth
 ‘we are buying cloth’

c. **Future:** marker - morpheme jǎ
 àni jǎ d(ɛ̃) òdé → [àni jǎdòdé]
 L LLH LL H
 àni FUT buy cloth
 ‘we will buy cloth’

Foregoing analysis using the pronouns *mi* – *i*, *èwè* – *you*, *àni* – *we*, as subject NP while retaining the verb /dè/ still clearly shows the tense markers in Ósósò are:

Past	-	∅	
Present	-	/í/	morpheme
Future	-	/jä/	morpheme

In all previous investigations, a monosyllabic verb was used in the paradigm to establish the role of tone in the tense system of Ósósò. Following Elizabeth Selkirk’s prosodic hierarchy theory, a disyllabic verb will be examined in the following examples. Object noun will also be changed to a trisyllabic noun. The disyllabic verb /ràmi/ ‘fry’ will be analysed in similar paradigm with àkàrà ‘bean cake’:

151./ràmi/ L H ‘fry’ & /òdžó/ L H

a. **Past:** marker - ∅
 òdž(ó) ò Ørà(m)í àkàrà → [òdžòrà(m)àkàrà]
 L H L L H LLL
 òdžó SCM PST fry akara
 ‘Ojo fried akara’

b. **Present:** marker - morpheme í
 òdž(ó) (ò)írà(m)í àkàrà → [òdžírà(m)àkàrà]
 L H LH L H LLL
 òdžó SCM PRE fry akara
 ‘Ojo is frying akara’

c. **Future:** marker - morpheme jä
 òdž(ó) òjä rà(m)í àkàrà → [òdžòjärà(m)àkàrà]
 L H L LH L H LLL
 òdžó SCM FUT fry akara
 ‘Ojo will fry akara’

152./ràmi/ L H ‘fry’ & /ówà/ H L

a. **Past:** marker - ∅
 ów(à) ò Ørà(m)í àkàrà → [ów ò rà(m)àkàrà]
 H L LL H LLL
 ówà SCM PST fry
 ‘Ówà fried akara’

b. Present:**marker -morpheme í**

ów(à) (ò)íràm(í) àkàrà → [ówíràmàkàrà]
 H L L H L H L L L
 ówà SCM PRE fry akara
 ‘Ówà is frying akara’

c. Future:**marker - morpheme jǎ**

Ów(à) òjǎ rààm(í) àkàrà → [ówòjǎrààmàkàrà]
 L H L H L H L L L
 Owa SCM FUT fry akara
 ‘Owa will fry akara’

153./rà mí/ L H ‘fry’ & /àfè/ L L**a. Past:****marker - ∅**

àf(è) ò Ørààm(í) àkàrà → [àfò rààmàkàrà]
 L L L L H L L L
 àfè SCM PST fry akara
 ‘Àfè fried akara’

b. Present:**marker - morpheme í**

àf(è) (ò)íràm(í) àkàrà → [àfíràmàkàrà]
 L L L H L H L L L
 àfè SCM PRE. fry akara
 ‘Àfè is frying akara’

c. Future:**marker - morpheme jǎ**

àf(è) òjǎ rààm(í) àkàrà → [àfò jǎrààmàkàrà]
 L L L L H L H L L L
 Àfè SCM FUT fry akara
 ‘Àfè will fry akara’

With a change from monosyllabic verb to the disyllabic verb rà mí - ‘fry’, and variation in the tone patterns of the subject NP to cover all tonal possibilities, analysis continues to show the tense system of Ósósò is morphologically marked thus:

Past	-	∅	
Present	-	/ í/	morpheme
Future	-	/ jǎ/	morpheme

To complete the paradigm adopted in the investigation of the subject NP, the pronouns: mi – you, èwè – you, àni – we, will also be applied. The analyses are below:

154./rà mí/ L H ‘fry’ & /mì/ L

- a. **Past:** **marker - Ø**
 m(i) Ørà m(i) àkàrà → [mì rá m àkàrà]
 L L L L H L L L
 mì PST fry akara
 ‘I fried akara’
- b. **Present:** **marker - morpheme í**
 m(i) ì írà m(i) àkàrà → [mì & rá m àkàrà]
 L L H L H L L L
 mì SCM PRE. fry akara
 ‘I am frying akara’
- c. **Future:** **marker - morpheme já**
 m(i) ìjǎ rà m(i) àkàrà → [mì ja & rá m àkàrà]
 L L L H L L L L
 I SCM FUT fry akara
 ‘I will fry akara’

155./rà mí/ L H ‘fry’ & /èw(è)/ L H

- a. **Past:** **marker - Ø**
 èw(è) ù Ørà m(i) àkàrà → [èwù rá m àkàrà]
 L L L L H L L L
 You SCM PST fry akara
 ‘You fried akara’
- b. **Present: input** **marker - morpheme í**
 èw(è) (ù) írà m(i) àkàrà → [èwí rá m àkàrà]
 L L L H L H L L L
 you SCM PRE fry akara
 ‘You are frying akara’
- c. **Future:** **marker - morpheme já**
 èw(è) ùjǎ rà m(i) àkàrà → [èwù rá m àkàrà] L
 L L L H L H L L L
 èwè SCM FUT fry
 ‘You will fry akara’

156. /rà mí/ L H ‘fry’ & /àni/ L L

- a. **Past:** **marker - \emptyset**
 àni Øràm(i) àkàrà → [àni ràmàkàrà]
 L LL H L L L
 àni PST fry akara
 ‘we fried akara’
- b. **Present:** **marker - morpheme í**
 àni íràm(i) àkàrà → [aníràmàkàrà]
 L L H L H L L L
 àni PRE fry akara
 ‘we are frying akara’
- c. **Future:** **marker - morpheme jǎ**
 àni jǎ ràm(i) àkàrà → [ànijǎràmàkàrà]
 L LLH L H L L L
 We FUT fry akara
 ‘we will fry akara’

The possibility of the high tone marking the present tense in the language was examined by this study and considering only vowels bear tone in the language, a grammatical tone occurring at underlying, unlinked to any vowel will lead to lengthening of the preceding vowel in its segmentation at the phonetic level but that was not observed, rather, contour was derived. If the present tense marker is the H tone morpheme, it would have been segmentalized on the vowel preceding it and not on the vowel /i/ if that vowel wasn't the marker for tense. The case of the second person singular where the syllable /i/ is realized as /ú/ may be due to labial harmony, the rounded feature of the labiovelar /w/ responsible for i → u. The marker for the present is thus morphological and not tonal as shown below:

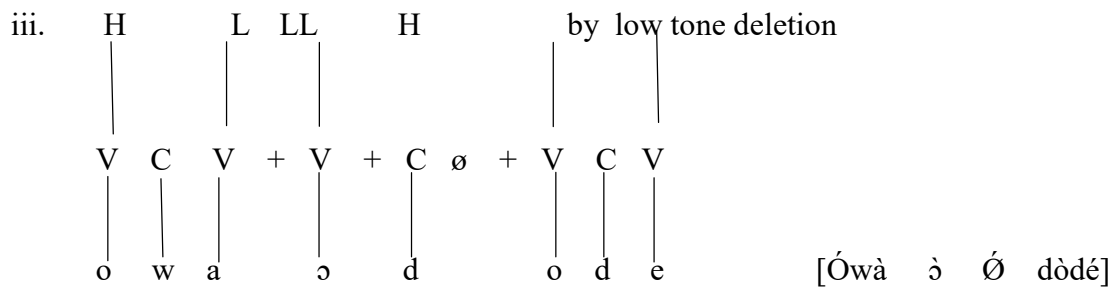
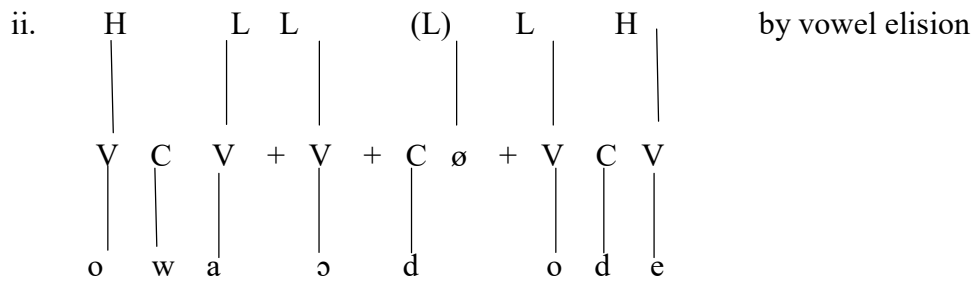
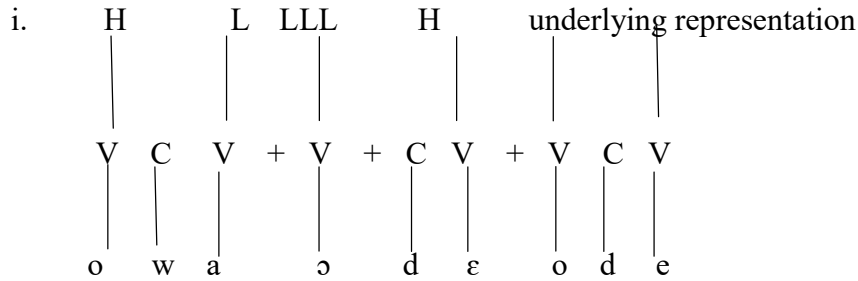
Present tense

157.

- i. èw(è) (ù)í d(è) òdé → [èwǐdòdé]
 ‘you are buying cloth’
- iii. èw(è) (ù)í ràm(i) àkàrà → [èwíràmàkàrà]
 ‘you are frying akara’

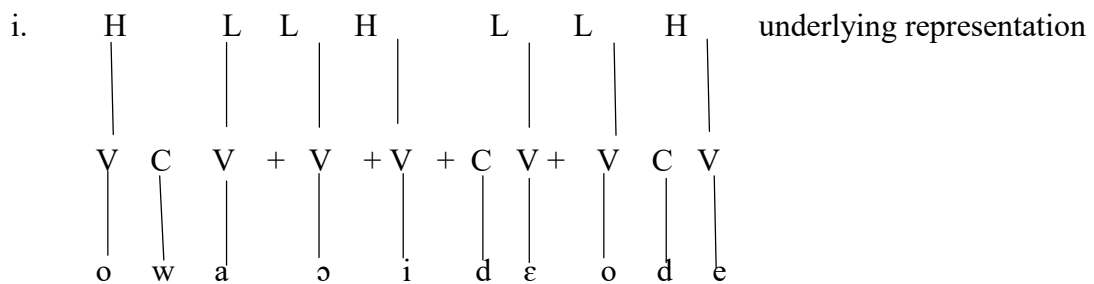
At this point, applying AT framework still using the verb /dè/ ‘buy’, purposely selected for its cognate value among Edoid languages, a derivation history is presented below.

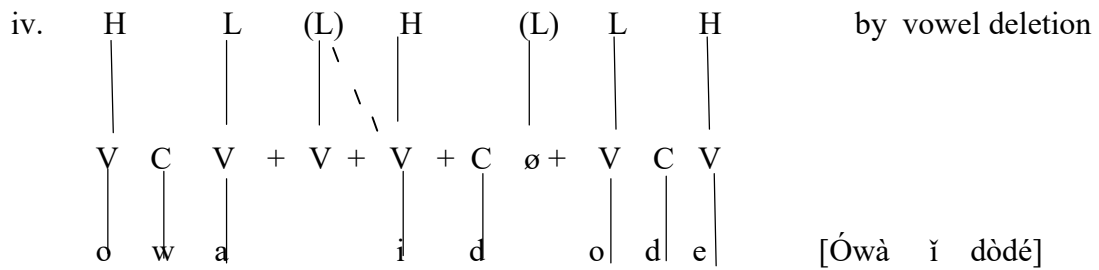
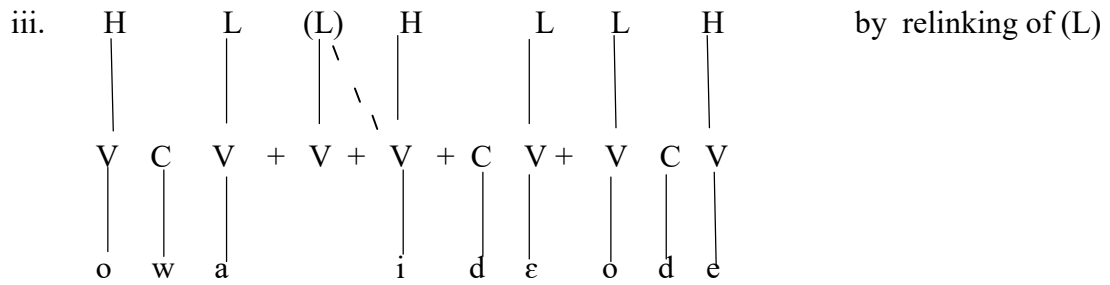
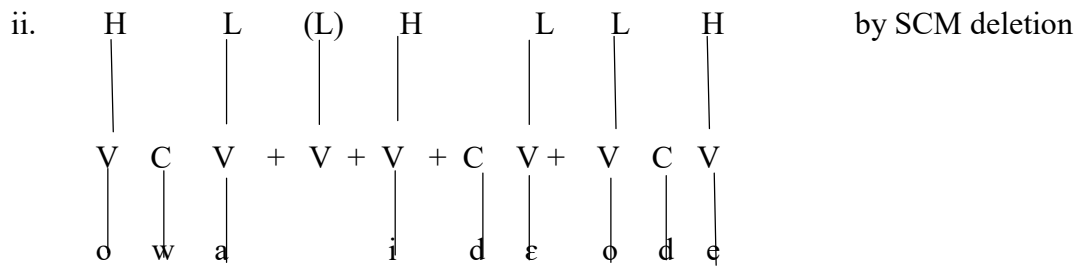
Past tense:



Owa bought cloth

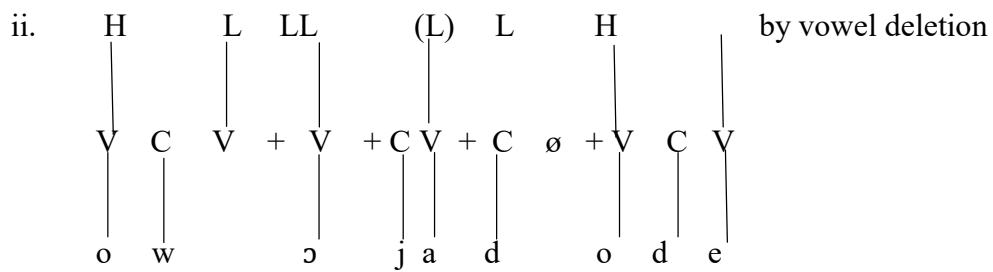
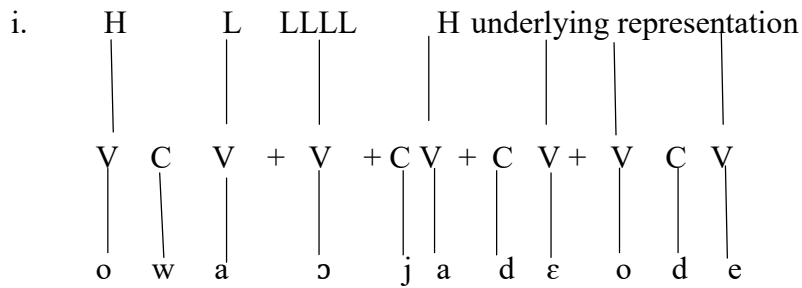
Present tense:

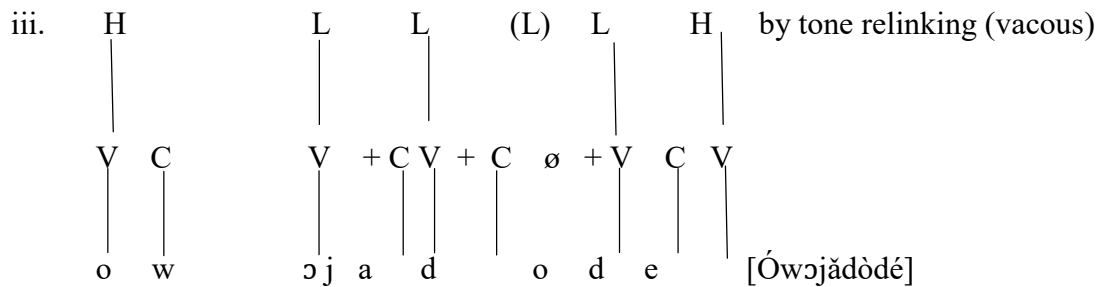




‘Owa is buying cloth’

Future tense:





This study affirms that the analysis and derivation presented in the paradigms of /dɛ/ - ‘buy’ and /ràmi/ - ‘fry’ in the foregoing discussions are similar to these other transitive verbs purposively selected for the illustration of Ósósò tense system:

/rè/- ‘eat’,

/dà/- ‘drink’

/gbè/- beat

It is not considered necessary therefore to over emphasis the position of this study as the instances discussed above are considered sufficiently accountable for the illustration of the tone-grammar interface in the tense system of Ósósò.

Intransitive (stative) verb

In the preceding analysis of selected monosyllabic and disyllabic transitive verb, it is the conclusion of this work that tomorph do not carry out the grammatical function of marking tense when the verb is a transitive verb. The conclusion will now be investigated with intransitive verbs, bearing in mind that these verbs are described universally as verbs which do not take objects. To avoid inconsistency, the past, present and future tense paradigm with varied subject NP forms bearing different tonal patterns of L L, H L, and L H as with the transitive verbs will be analysed starting with /dè/ ‘fall’, jèrìnà -turn.

158. /dè/ L ‘fall’ & /òdǔ/ L H

a. **Past:** ò ∅ dè → **marker - ∅**

 òdǔ(ó) ò ∅ dè → [òdǔ ò dé]

 L H L L L L L L

òḍḍó SCM PST fall
 ‘òḍḍó fell’

b. **Present:** marker - morpheme í
 òḍḍ(ó) (ò)í dè → [òḍḍ ǐ dé]
 L H L H L
 òḍḍóSCM PRE fall
 ‘Òḍḍó is falling’

c. **Future:** marker - morpheme já
 òḍḍ(ó) òjädè → [òḍḍǝjá dé]
 L H HHL L
 òḍḍóSCM FUT fall
 ‘Òḍḍó will fall’

159. /dè/ L ‘fall’ & /ówà/ H L

a. **Past:** marker - ∅
 ów(à) ò ∅ dè → [ówò dé]
 H L LL
 ówa SCM PST fall
 ‘Owa fell’

b. **Present:** marker - morpheme í
 ów(à) (ò)í dè → [ówǐ dé]
 H L LH L
 ówà SCM PRE fall
 ‘Ówà is falling’

c. **Future:** marker - morpheme já
 ów(à) òjä dè → [ówòjá dé]
 H L H HL L
 ówàSCM FUT fall
 ‘Ówà will fall’

160./dè/ L ‘fall’& /Àfè/ L L

a. **Past:** marker - ∅
 àf(è) ò ∅ dè → [àfò dé]
 LLLL
 àfèSCM PST fall
 ‘Àfè fell’

b. **Present:** marker - morpheme í
 àf(è)(ò)í dè → [àfǐ dé]
 LLSCM H L
 àfè PRE fall

- c. **Future:** **marker - morpheme jă**
 mì jă dè → [mi jă dé]
 L LL
 I FUT fall
 ‘I will fall’
162. /dè/ L ‘fall’ & /èwè/ L L (2nd person singl.)
- a. **Past** **marker - ∅**
 èw(è) ù ∅ dè → [èwù dé]
 L LLL
 èwè SCM PST fall
 ‘You fell’
- b. **Present** **marker - morpheme í**
 èw(è) ú dè → [èwí dé]
 L L H L
 èwè PRE fall
 ‘You are falling’
- Future:** **marker - morpheme ja&**
- c. èw(è) ù já dè → [èwù jă dé]
 L L H H L
 èwè SCM FUT fall
 ‘You will fall’
163. /dè/ L ‘fall’ & /àni/ L L (3rd person plur)
- a. **Past: input** **marker - ∅**
 àni ∅ dè → [àni dé]
 L LL
 àni PST fall
 ‘we fell’
- b. **Present:** **marker - morpheme i**
 àn(i)í dè → [àní dé]
 L L H L
 Àni PRE fall
 ‘we are falling’
- c. **Future:** **marker - morpheme jă**
 àni jă dè → [àní jă dé]
 L L H L
 àni FUT fall
 ‘we will fall’

As carried out with the transitive verb, another intransitive (stative) verb will be examined but this time, a trisyllabic verb not derived or genitival will be used, within similar paradigm. This is to further ascertain if syllable structure of a verb affects tone-grammar output in the tense system of Ósósò. The trisyllabic verb [jèrìnà] ‘turn’ is analysed below:

164./jèrìnà/ LLL ‘turn’and /òdžó/ L H

- a. **Past:** **marker - ∅**
 òdž(ó) ò Øjèrìnà → [òdžòjèrìnà]
 L H L LLL
 òdžó SCM PST turn
 ‘Ojoturned’
- b. **Present :** **marker - morpheme í**
 òdž(ó) (ò)jèrìnà → [òdžíjèrìnà]
 L H L H LL L
 òdžó SCM PRE. turn
 ‘Ojo is turning’
- c. **Future:** **marker - morpheme jă**
 òdž(ó) òjăjèrìnà → [òdžòjăjèrìnà] L H LHL LL L
 Ojo SCM FUT turn
 ‘Ojo will turn’

165./jèrìnà/ LLL ‘turn’& /ówà/ H L

- a. **Past:** **marker - ∅**
 ów(à) ò Øjèrìnà → [ówò jèrìnà]
 H L LLLL
 ówà SCM PST turn
 ‘Ówà turned’
- b. **Present:** **marker - morpheme í**
 ów(à) (ò)jèrìnà → [ówíjèrìnà]
 H L LH LLL
 ówà SCM PRE. turn
 ‘Ówà is turning’
- c. **Future:** **marker - morpheme jă**
 ów(à) ó jă jèrìnà → [ówòjăjèrìnà]
 L H HHLLL
 ówà SCM FUT turn
 ‘Ówà will turn’

166./jèrìnà/ LLL ‘turn’& /Àfè/ L L

- a. **Past:** **marker - \emptyset**
 Àf(è) ò Øjèrìnà → [Àfòjèrìnà]
 L LLLLL
 Àfè SCM PST turn
 ‘Àfè turned’
- b. **Present:** **marker - tomorph (H)**
 Àf(è) (ò)íjèrìnà → [Àf íjèrìnà]
 L LLH LL L
 Àfè SCM PRE. turn
 ‘Àfè is turning’
- c. **Future:** **marker - morpheme jă**
 Àf(è) ó jă jèrìnà → [Àf ò ja&jèrìnà]
 L LL HL LL L
 ‘Àfè will turn’

To complete the paradigm adopted in the investigation of the subject NP following previous analysis of transitive verbs, the pronouns: mi – you, èwè – you, àni – we, will also be applied to the trisyllabic verb /jerina/ to investigate tone-grammar interface in Ósósò

167. /jèrìnà/ LLL ‘turn’and /mì/ L

- a. **Past:** **marker - \emptyset**
 mì Øjèrìnà → [mijèrìnà]
 L LLL
 mì PST turn
 ‘I turned’
- b. **Present:** **marker - morpheme í**
 m(i)íjèrìnà → [m íjèrìnà]
 L H LL L
 mì PRE turn
 ‘I am turning’
- c. **Future:** **marker - morpheme jă**
 m(i)jă jèrìnà → [mi jăjèrìnà]
 L R LL L
 I FUT turn
 ‘I will turn’

168. /jèrìnà/ LLL ‘turn’and /òdžó/ L H

- a. **Past:** **marker**
 èw(è) ù Øjèrìnà →[èwùjèrìnà]
 L LLLL
 You SCM PST turn
 ‘You turned’
- b. **Present: input** **marker - morpheme í**
 èw(è) íjèrìnà → [èwíjèrìnà]
 L L H LLL
 you PRE turn
 ‘You are turning’
- c. **Future:** **marker - morpheme jǎ**
 èwè ùjǎjèrìnà →[èwùjǎjèrìnà]
 L L H LH LL L
 èwè SCM FUT turn
 ‘You will turn’
- 169./jèrìnà/ LLL ‘turn’and /ànì/ L L
- a. **Past:** **marker - Ø**
 ànì Øjèrìnà →[àní jèrìnà]
 L LLLL
 ànì PST turn
 ‘we turned’
- b. **Present:** **marker - morpheme í**
 àn(i) íjèrìnà → [àníjèrìnà]
 L H HLLL
 ànì PRE turn
 ‘we are turning’
- d. **Future:** **marker - morpheme jǎ**
 ànì jǎjèrìnà → [ànijǎjèrìnà]
 L LLH LLL
 We FUT turn
 ‘we will turn’

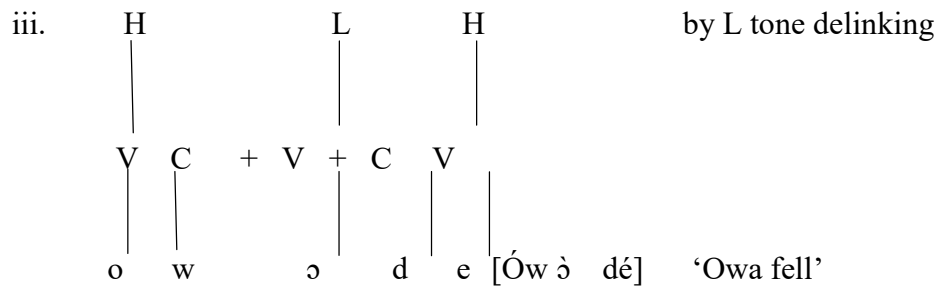
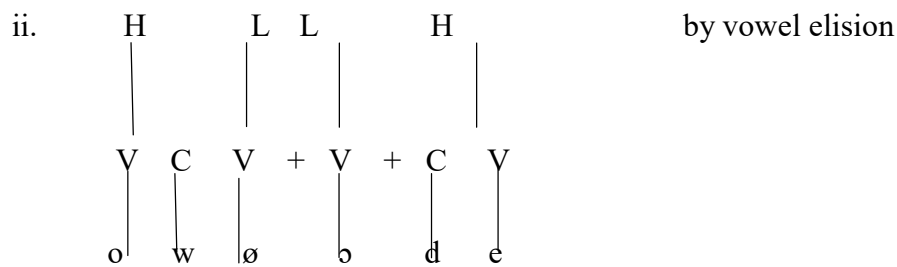
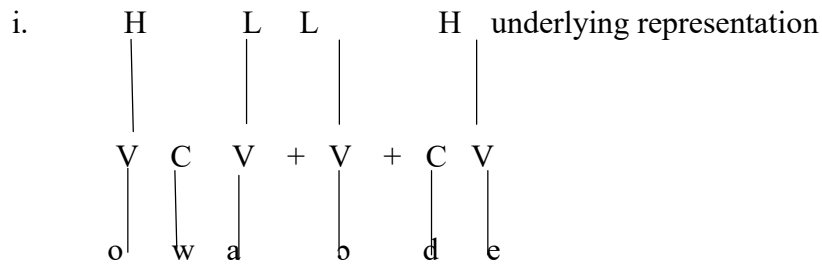
Based on the result of the foregoing analysis, this study claims that contrary to the grammatical tone found intricately woven into the VP of other Edoid languages with study, the difference between past, present and future tense constructions in Ósósò is not marked tonal, rather, tense is marked morphologically as follows:

Past	-	Ø
Present	-	/ í/ morpheme

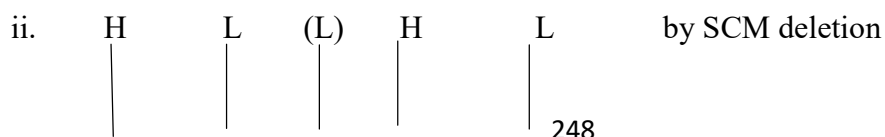
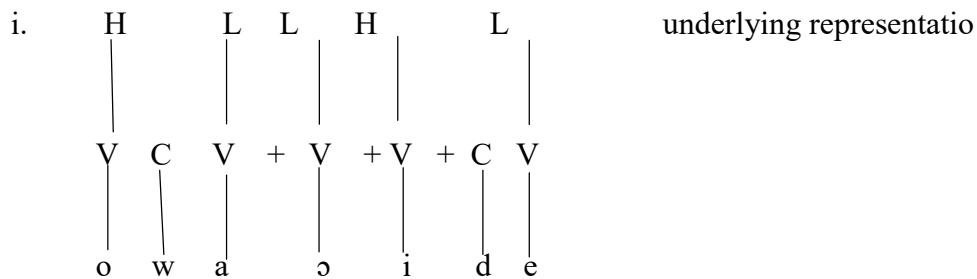
Future - /jǎ/ morpheme

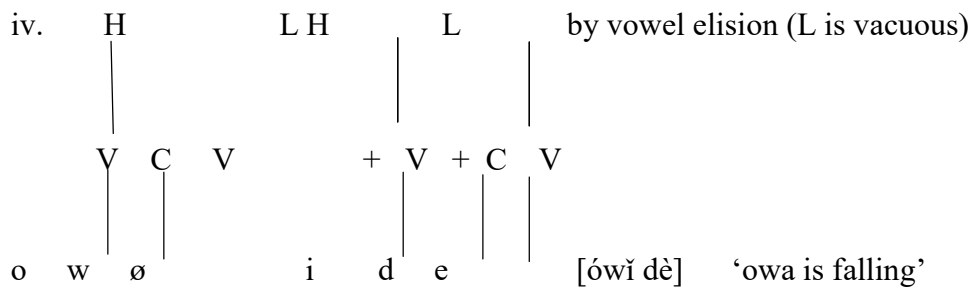
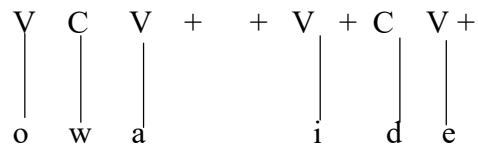
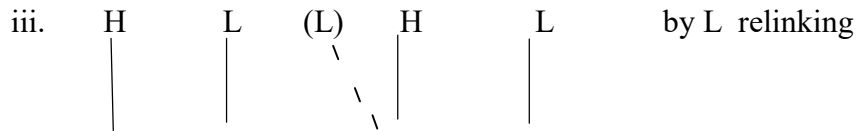
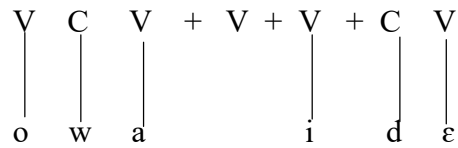
Applying the autosegmental framework, the derivation of one instance of the stative verbs will be presented using /dè/ 'fall':

Past tense:

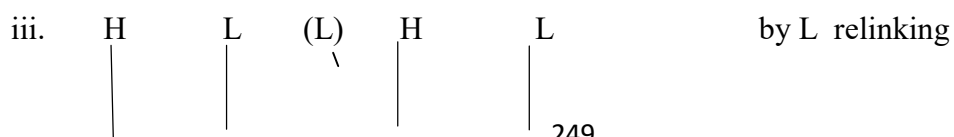
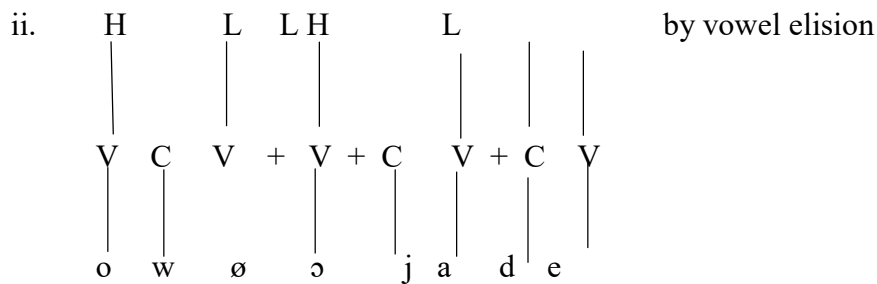
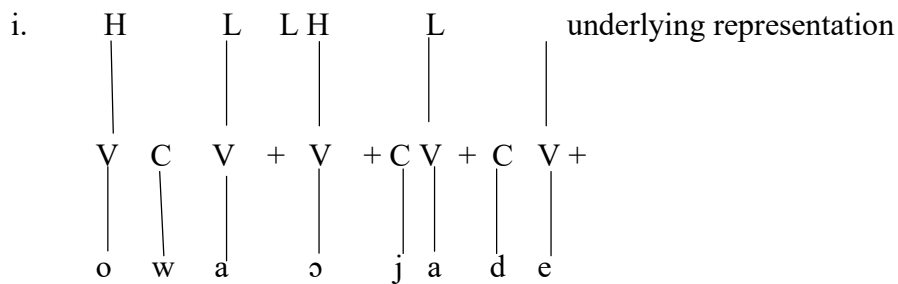


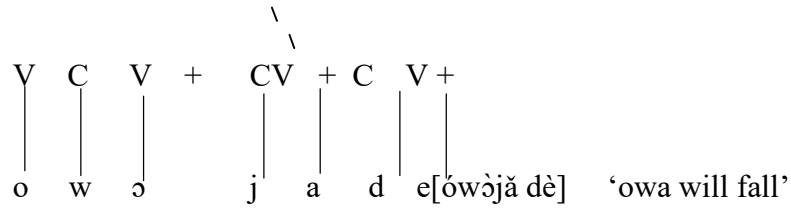
Present tense:





Future tense:





Although not a work on comparative Edoid, one of the research questions this study set out to answer is: What grammatical permutations of NP, VP and other grammatical constructions in Ósósò manifest grammatical tones? the question was raised in line with extant studies on the Edoid languages where tone was reportedly intricately interrelated with their grammar. The Urhobo language, an Edoid language studied Aziza (1997:276) is reported to mark tense tonally: ‘the morpheme marking the tense is a floating high tone which occurs at the end of the subject noun phrase’. Aziza went on to say ‘in order for this tomorph to be realised, the final vowel of the subject noun phrase is slightly lengthened to accommodate it. Thus...It is easy to perceive a lengthening of both the high tone and the final vowel’. In other words, if the Subject NP ends on a L tone, the last vowel bearing the low tone is lengthened so that the floating high tone can be segmentalized. This does not happen in Ósósò.

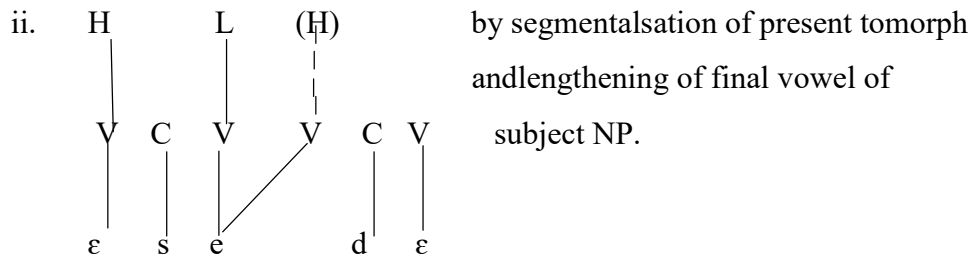
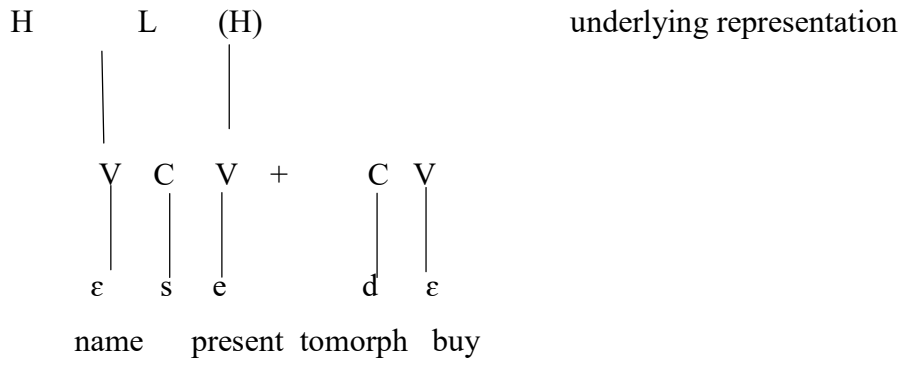
From the examples given by Aziza (1997:276) of tomorph marking tense, one from the present tense examples will be derived alongside a similar example from Ósósò to show the operations of tonal morpheme in the tense system of one and segmental morpheme in the tense system of the other.

170.

Urhobo: é sè2+ + dè → [ésèé dè]
 H L H ø HLH L
 Name Present tomorph buy ‘Ese buys/buying’

Ósósò: Ówà + ò + í + dè → [ówi&dè]
 H L L H L H R L
 Name SCM PRE buy

Urhobo



the operations of the H tomorph in Urhobo is clear in the derivation with the segmentalization of floating H present tense tomorphand the lengthening of final vowel subject NP. This is contrary to how present tense is marked in the language studied as amply demonstrated. In conclusion therefore, marking of tense in Ósósò is morphological, they are realised as presented below:

Past - ∅
 Present - / í/ morpheme
 Future - / jǎ/ morpheme

Invariably, this means the implementation of tense in Ósósò is not through grammatical tone, in the sense of a pitch level alone - specifically the H, without segment, *rather*, marks tense in Ósósò is morphological, unlike other Edoid languages. This unique behaviour of tone in the VP of one Edoid language against the high functional load of tone in the VP of others poses an interesting dimension to Edoid tone-grammar typology. Perhaps other preverbals: aspect, mood and negation will show Ósósò to be characteristically Edoid in its tone-grammar typology and so investigation into the aspects, mood and negative constructions will be carried out to prove the present hypothesis that within the verb phrase in Ósósò, tone plays only lexical role.

4.5.6 Aspect in Ósósò.

Having explained that aspects concerns ‘the different ways of viewing the internal temporal constituency of a situation’ - Comrie (1976:3), The function of a number of different aspectual markers in the language is to help the tense by indicating whether an event can be viewed as either whole/completed/perfective or on-going/incomplete/imperfective. Aspect in This is presented diagrammatically below:

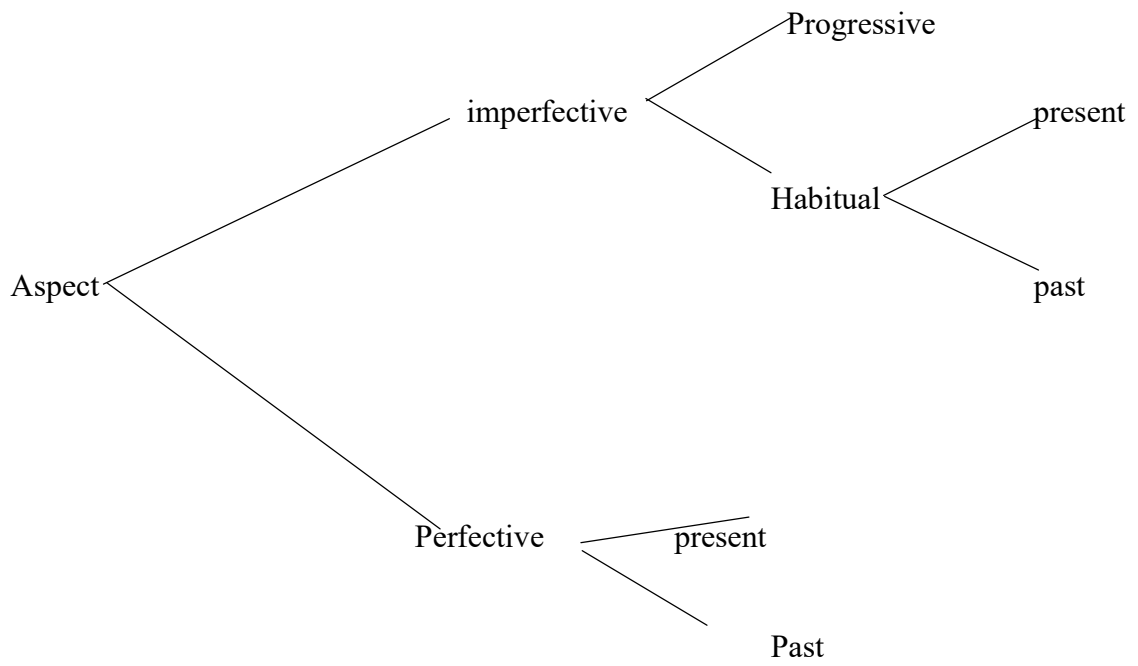


Fig.4.20. Aspect specified in Ósósò

4.5.6.1 The Imperfective Aspect - Progressive

The imperfective aspect is used when referring to a situation in the future or ongoing in Ósósò and such constructions are similar to the future tense constructions. Continuing with the verbs earlier used for illustration of tense above, analysis for aspect is presented below:

171. Aspect: Imperfective Progressive/Present Continuous

a. ***marker - morpheme /jǎ/ (similar to FUT)**

ów(à) òjǎ d(é) òdé → [ówò jǎ dòdé]
 H L L LH H L H
 ówà SCM IMPF buy cloth
 ‘Ówà will buy cloth’

b. ***marker - morpheme /jǎ/ (similar to FUT)**

òdǔ(ó) òjǎ d(é) òdé → [òdǔjǎ dòdé]
 H L L LH H L H
 Òdúó SCM IMPF buy cloth
 ‘Ojo will buy cloth’

c. ***marker - morpheme /jǎ/ (similar to FUT)**

áf(è) òjǎ d(é) òdé → [áfò jǎ dòdé]
 L LL LH H L H
 àfè SCM IMPF buy cloth
 ‘Afe will buy cloth’

d. ***marker - morpheme /jǎ/ (similar to FUT)**

mìjǎ d(é) òdé → [mìjǎ dòdé]
 L LH H L H
 me IMPF buy cloth
 ‘I will buy cloth’

e. ***marker - morpheme /jǎ/ (similar to FUT)**

èwè ùjǎ d(é) òdé → [èwù jǎ dòdé]
 L LL LH H L H
 you SCM IMPF buy cloth
 ‘You will buy cloth’

f. ***marker - morpheme /jǎ/ (similar to FUT)**

àni jǎ d(é) òdé → [àni jǎ dòdé]
 L L LH H L H
 we IMPF buy cloth
 ‘We will buy cloth’

In Ósósò, aspect is usually bound up with tense in expressions. The different aspects have morphological markers and these precede the verb.

4.5.6.2 Imperfective Habitual (present)

The habitual aspect marker is used to account for regularity or frequency of an event. In Ósósò, habitual aspect can be in the present or past. Morphemes marking habitual aspect found in Ósósò are /gié/, /ítʃíkítʃi/, time adverbials are optional.

172. **marker - morpheme** /ítʃíkítʃi/ ‘usually’ a.

- a. ów(à)(ǝ)í d(ɛ) òdé ítʃíkítʃi → [ówǐ dòdé ítʃíkítʃi]
 H L LH H L H H L H L
 we SCM PRE buy cloth usually
 ‘Owa usually buys cloth’
- b. òǝ(ó)(ǝ)í d(ɛ) òdé ítʃíkítʃi → [òǝǐ dòdé ítʃíkítʃi]
 LH L H L LH H L H L
 òǝó SCM PRE buy cloth usually
 ‘Ojo usually buys cloth’
- c. àf(è)(ǝ)(í) d(ɛ) òdé ítʃíkítʃi → [àfǐ dòdé ítʃíkítʃi]
 LL H HL LH H L H L
 àfè SCM PRE buy cloth usually
 ‘Afe usually buys cloth’
- d. m(i)íd(ɛ) òdé ítʃíkítʃi → [mǐ dòdé ítʃíkítʃi]
 LHL H L H L H L
 I PRE buy cloth usually
 ‘I usually buy cloth’
- e. èw(è)ú d(ɛ) òdé ítʃíkítʃi → [èwǔdòdé ítʃíkítʃi]
 L L HH L H H L H L
 you PRE buy cloth usually
 ‘You usually buy cloth’
- f. àní d(ɛ) òdé ítʃíkítʃi → [àńǐ dòdé ítʃíkítʃi]
 LL H LL H H L H L
 we PRE buy cloth usually
 ‘We usually buy cloth’

4.5.6.3 Aspect: Perfective Present

173.marker - morpheme /fò/ ‘finish’

- a. ówà ò dèòdéfò → [ówòdòdéfò]
 H L LH LH L
 OwaSCM buy cloth finish
 ‘Owa has finished buying cloth’
- b. òḍḗòdèòdéfò → [òḍḗdòdéfò]
 LH L H LH L
 OḍḗoSCM buy cloth finish
 ‘Ojo has finished buying cloth’
- c. àfè ò dèòdéfò → [áfèdòdéfò]
 H L LH LH L
 AfèSCM buy cloth finish
 ‘Afè has finished buying cloth’
- d. mìdèòdéfò → [midòdé fò]
 L LLH L
 Ibuy cloth finish
 ‘I have finished buying cloth’
- e. èwè ùdèòdéfò → [èwùdòdéfò]
 LLL H LHL
 We PREbuy cloth finish
 ‘you have finished buying cloth’
- f. ànìdèòdéfò → [ànìdòdéfò]
 H L LLH L
 Owa she buy finish
 ‘we have finished buying cloth’

4.5.6.4 Perfective Past (completive) rV– prefix

174.marker- morpheme /ró/ ‘before now’

- a. ówà ò ró dèòdé → [ówòró dòdé]
 H L L H H L H
 ówà SCM Perf.P buy cloth
 ‘Owa had bought cloth’
- b. òḍḗò ò ró dèòdé → [ówò ró dòdé]
 LH L H H L H
 òḍḗò SCM Perf.P buy cloth
 ‘Ojo had bought cloth’
- c. àfè ò ró dèòdé → [áfèró dòdé]
 L LL H H L H
 àfè SCM Perf.P buy cloth

‘Afe had bought cloth’

- d. mì ró dèòdé → [míró dòdé]
 L H H L H
 mì Perf.P buy cloth
 ‘I had bought cloth’
- e. èw(è) ù ró dèòdé → [èwùró dòdé]
 H L L H H L H
 èwè SCM Perf.P buy cloth
 ‘You had bought cloth’
- f. àní ró dèòdé → [ànìró dòdé]
 LL H LL H
 àníPerf.P buy cloth
 ‘we had bought cloth’

4.5.7 Mood and tone

To the best of my knowledge not much work has been done on mood in Edooid languages, some scholars even doubt the classification exist. At the moment of concluding this work, in narratives and discussions during focus group sessions, [gbédò] and [lá!tí] are two Yorùbá words functioning as modals have found their way into the Ósòsò language. This may result from language contact or it may suggest a loss of morphemes serving as modals in Ósòsò and effort at borrowing to fill the gap by the speakers. Of these two words often used to mark ‘must’ or ‘have’, downstep occurs to the tone pattern of Yoruba [lá!tí] since there is no mid tone in the language and another High following initial H is downstepped.

175.

- i. ú **lá!tí** dí òní
 you have do it
 ‘you have to do it’
- ii. ú **lá!tí** ne abiadidolibibeli vbi ó!bó íffjérò
 you have know like how read bible English then
 ‘you had to know how to read the bible in English back then.’

176.

- i. ó mé!ní áròfè í!khìòní **gbédò** kpí ó!mínì òníví!rá vbí òyè

she told bird that she must carry child her leave from farm
'she told the bird she must leave the farm with her child'

- i. ú **gbédò**jà!níògbòvb(í) árò
- ii. you have get person in there
 'you have to know someone there (be connected)'

4.5.8 Tone in Negation in Ósósò

In Ósósò, negation is marked morphologically by markers which precede the verb directly. Affirmative constructions are negated with the prefix 'á' with a H tone. It may be attached to an auxiliary verb depending on the type of syntactic construction being negated; if it is a simple or complex sentence or if it is an imperative construction, it may also occur with the focus marker 'ki' to negate a focussed entity. The verb environment generally results into the negation marker alternating between 'á, àí, à-má or à-dí, à-kí'. Double negation or cases of overlap are not attested. Each verbal environment to be negated picks only the one marker applicable. Considering the tone co-occurrence constraints in Ósósò prohibits a H H tone pattern, beyond the monosyllabic form, a L -H pattern consistently results.

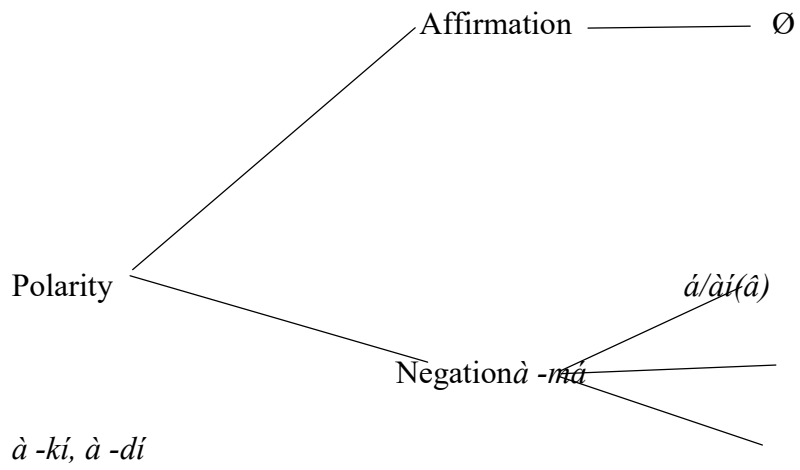


Fig 4.21. Negation in Ósósò

The different negation markers are demonstrated in the examples below:

4.5.8.1 Tone in Subject (Pronoun/noun) and negation

177. Affirmative

negative

- | | |
|--|--|
| <p>i. èmè nó
 me is
 ‘it is me’</p> <p>ii. ànì sé
 We come
 We came</p> <p>iii. ímjê
 s/he agree
 she will agree</p> <p>iv. èw(è) ù fò
 You(sg) SCM heard(it)
You(sg) heard (it)</p> <p>v. òḍḗ(ó)í r(é)írósi àkòḍḗó^{àí} ré írósi akò
òḍḗó he aterice tommorrow Òḍḗó neg eat rice
Ojo will eat rice tommorrow Ojo did not eat rice</p> <p>vi. ità òjàngì òjê
father he go farm
father went to the farm</p> | <p>àk(í) èmè
neg me is
‘it is not me’</p> <p>àn(i) á sé
We neg come
We did not com</p> <p>àdímjê
neg agree
she will not agree</p> <p>èw(è) áfó
You (sg) neg hear(it)
You (sg) did not hear (it)</p> |
|--|--|

4.5.8.2 Tone of Object (Pronoun/noun) and negation

178.

- | | |
|---|--|
| <p>i. ònì ò míní èmè
 he SCM see me
 He saw me</p> <p>ii írósiòḍḗó ò ré ó!jódè^{àkí}írósiòḍḗó óré ó!jódè
 rice òḍḗóhe ate yesterday neg rice òḍḗóSCM eat yesterday
 It is rice Ojo ate yesterday it is not rice that Ojo ate yesterday</p> <p>iii. ità ijàngì òjê
 father he go farm
 father went to the farm</p> | <p>ònì à mí(n)í èmè
 he neg saw me
 He did not see me</p> <p>ità ǎ má jágí òjê
 father neg go farm
 father did not go to the farm</p> |
|---|--|

4.5.9 Some generalization on the VP and tones in Ósósò

Bringing together evidence from data, it is clear that within the verb phrase of Ósósò,

- i. Tone mainly plays lexical role on grammatical markers; they do not constitute grammatical markers by themselves.
- ii. The implementation of tense, aspect and negation in the language is morphological and not tonal, contrary to other Edoid languages where the grammar of the language, particularly the Vp, is incomplete without the inclusion of a morpheme as functor.
- iii. Negation is also morphological with morphemes bearing tone as lexical property.
- iv. Although still largely unresolved in Edoid languages Ósósò have largely adopted the following Yoruba morphemes [láti] and [gbédò]
- v. Study posits that VP structure of Ósósò may be manifesting borderline language change as the tense and aspect constructions behave like neighbouring Oko language studied by Atoyebi where tones .

4.6 Tone and Intonation in Ósósò

In line with research question six which seek to know the intonation patterns in Ósósò and whether there is a distinction between the Fo of tone and intonation, this study addresses tone and intonation in Ósósò by analysing pitch of utterance from the beginning to the end and show pitch track evidence of the movement of pitch from either rising to falling tone or falling to rising tone. In the literature, interrogatives or question formation construction types are usually classified into these four:

- (i.) Polar or yes/no question (PQ)
- (ii) Content word questions (CWQ)
- (iii) Yes/no with zero markers
- (iv.) Content interrogative with zero markers

This study examines polar or yes/no question (PQ) in Ósósò in details and content word question briefly. Since declarative sentences are statements of ascertainment that contain the fact of an argument; and are consequently the underlying structure for the derivation of other types of sentence structures like interrogatives, analysis presents the declarative side by side with their interrogative counterpart.

4.6.1 Pitch analysis of declaratives versus yes/no interrogative in Ósósò

Four declarative sentences and their interrogative counterpart as supplied by 2 female and 2 male consultants with the clearest pitch are culled from the body of data for this section. Basically, interest in each of these sentence types is to see the prosodic constituents and intonation patterns in Ósósò and establish the status of intonation in a tone language like this. Besides, does intonation have a melody regardless of the tone of constituents? What is this melody? Response will include PRAAT pictures showing drawn pitch contour of the data.

With the divergence manifested in the context of highly functional grammatical tone in the VP of Edoid languages with studies and zero functional load in the VP of Ósósò, this study will examine question prosody in Ósósò in the light of Riialand's (2007) revelation that contrary to what has been taken as a universal, question prosody is not always the high pitch in languages.

Male consultant rendition:

179. Statement

Òlú ó sé óyódé
 LH L H LLL
 Òlu SCM come yesterday
 Olu arrived yesterday

yes/no interrogative

Ólu ó sé óyódé?
 LH L H LLL↑
 Olu SCM come yesterday?
 Did Olu arrive yesterday?

180. Statement

àní vírà ó!ní ó tégbè sé
 LL HL H!H H HL H LL
 We left him SCM later come
 come?
 'We had gone before he came'

yes/no interrogative

àní vírà ó!ní ó tégbè sé?
 HL H!H HH L H↑
 We left him SCM later
 'We had gone before he came?'

181. Statement		yes/no interrogative
òḍḗó ò ß(i) ówà	òḍḗó ò ßí ówà?	
L H L H H L	L H L H H L↑	
òḍḗó SCM in house	òḍḗó SCM in house?	
Ojo is in the house	is Ojo in the house?	

Female consultant rendition:

182. Statement		yes/no interrogative
Òlú ó sé óyódé	Olu ó sé óyódé?	
L H L H L L L	L H L H L L L↑	
Olu SCM come yesterday	Olu SCM come yesterday?	
Olu arrived yesterday	Did Olu arrive yesterday?	

183. Statement		yes/no interrogative
àni vírà ó!ní ó tégbè sé	àni vírà ó!ní ó tégbè sé?	
L L H L H !H H H L H	L L H L H !H H H L H↑	
We left him SCM later come	We left him SCM later come?	
‘We had gone before he came’	‘We had gone before he came?’	

184. Statement		yes/no interrogative
ò d(á)àmè ò dá àmè		
L H L L L H L L↑		
He/she drink water	He/she drink water	
He/she drank water	Did he/she drink water?	

From analysis, it is obvious that there is an imposition of the intonation rising tune on the lexical tone at sentence final position in all the sentences examined. This shows that in Ósósò there is a pattern of rise in the pitch that ends yes/no sentences in the language.

Based on perceptual and the instrumental evidence of the pitch movement of utterances extracted from informants and subjected to analysis, the pitch is seen to vary from the beginning of utterance to the end. This is shown in these examples below with pitch gotten for starting point to the end part with the pitch moving from 116 Hz at the beginning of the utterance, moves up and down and falls to around 198 Hz at the end. In the second sample from female informant, pitch rose to 223 Hz compared to 198 Hz of the male. Regardless of the phonetic variation in both the male and female pitch height, this study affirms that in polar question in Ósóso,

- i. question intonation is characterized with upward shift in the register of utterance
- ii. Downdrift is suspended or compromised and last syllable is raised
- iii. In polar question, there is an intonational rising contour at sentence final position.
- iv. There is an imposition of intonation on tone

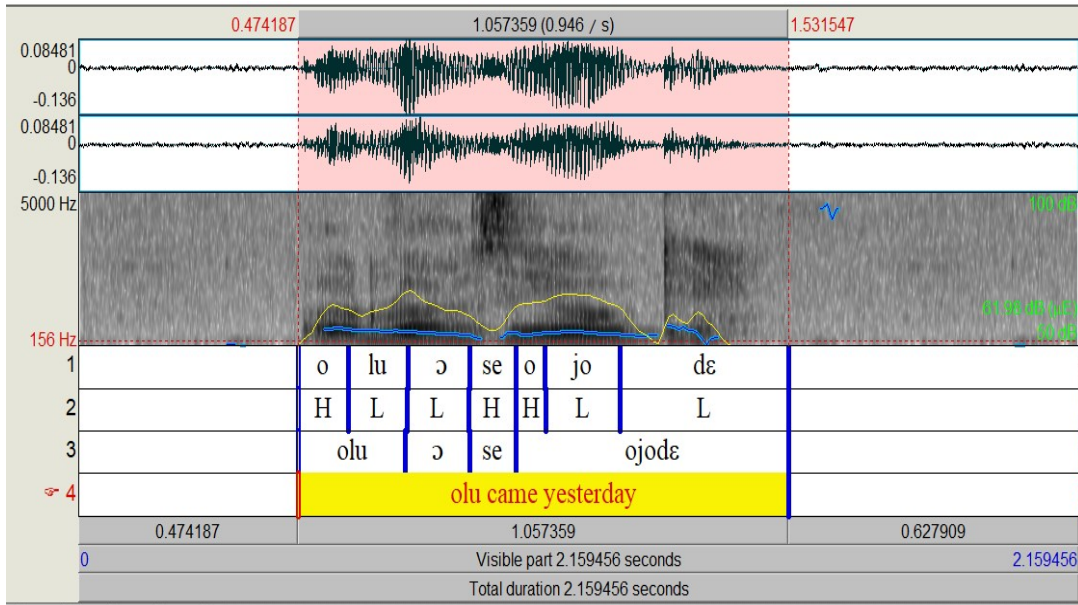


Fig. 4.22a. APraat objectshowing declarative: ‘Òlú ó sé óyódé’

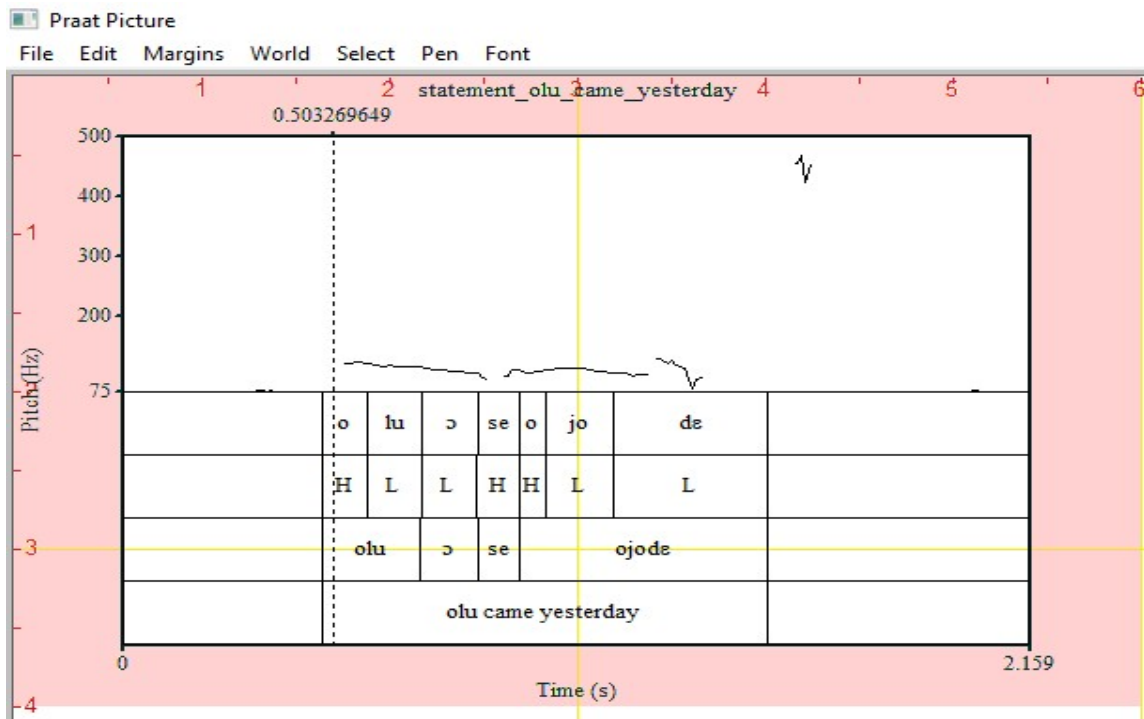


Fig. 4.22b. A praat pitch picture showing the declarative: ‘Òlú ó sé óyódé’

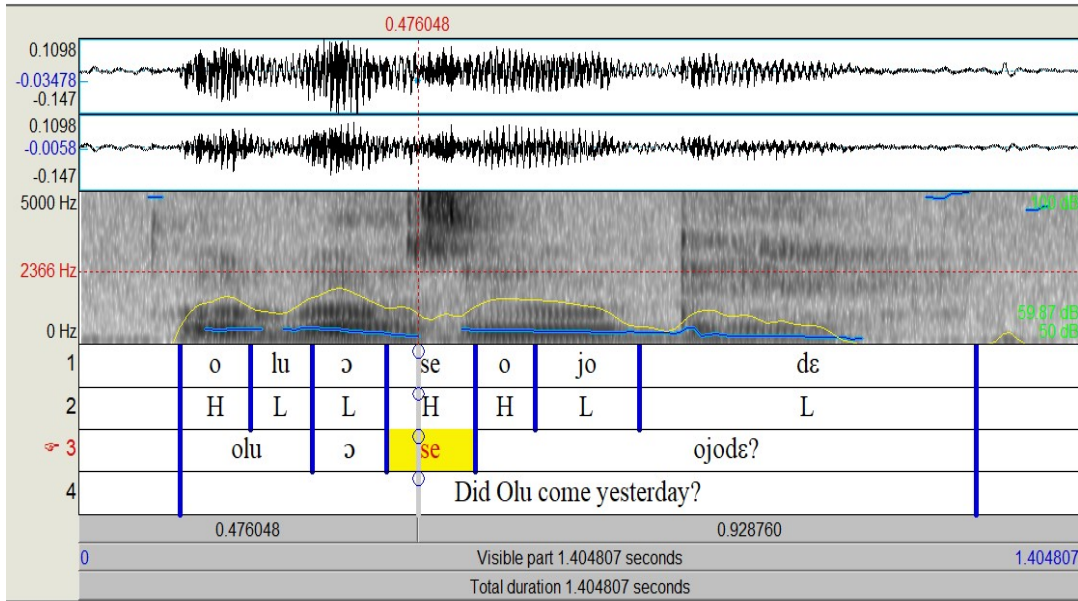


Fig 4.23a. APraat object window showing the interrogative: ‘Òlú ó sé óyódé?’

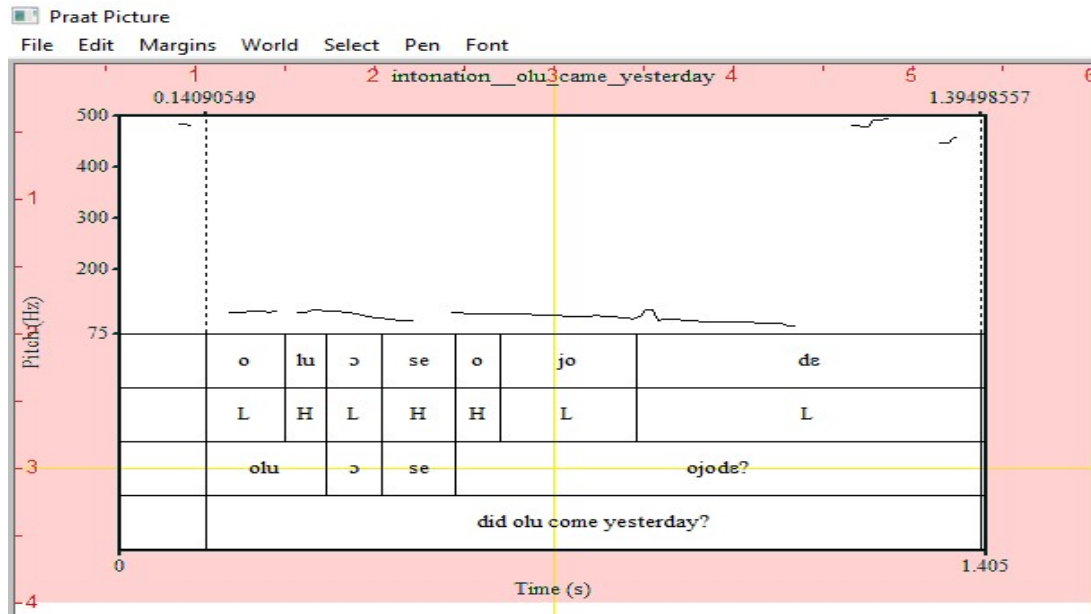


Fig 4.23b. Apraat pitch picture showing the interrogative: ‘Òlú ó sé óyódé?’

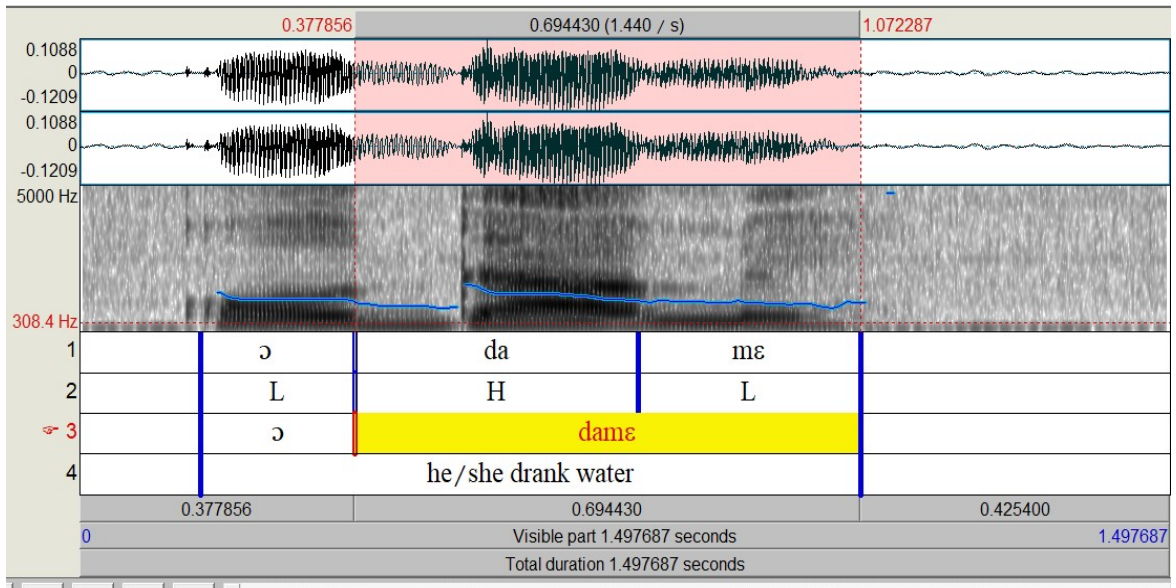


Fig 4.24a. APraat pitch object window showing the declarative: òdamè

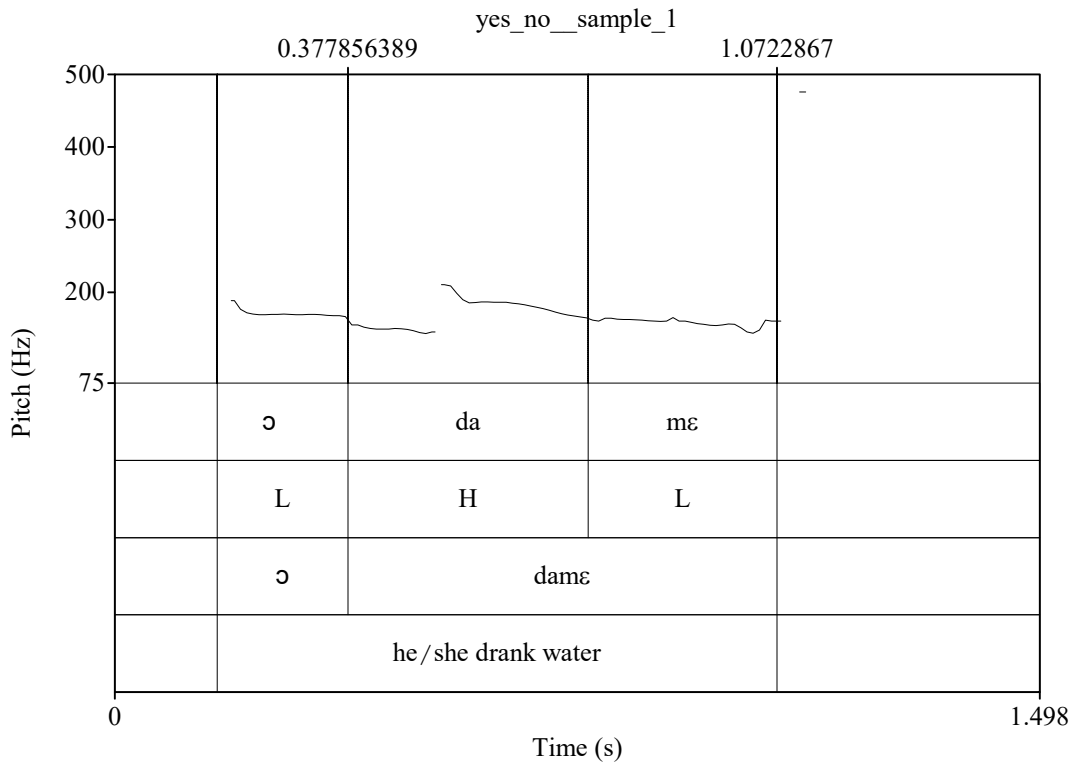


Fig 4.24b. APraat pitch object window showing the declarative: òdamè

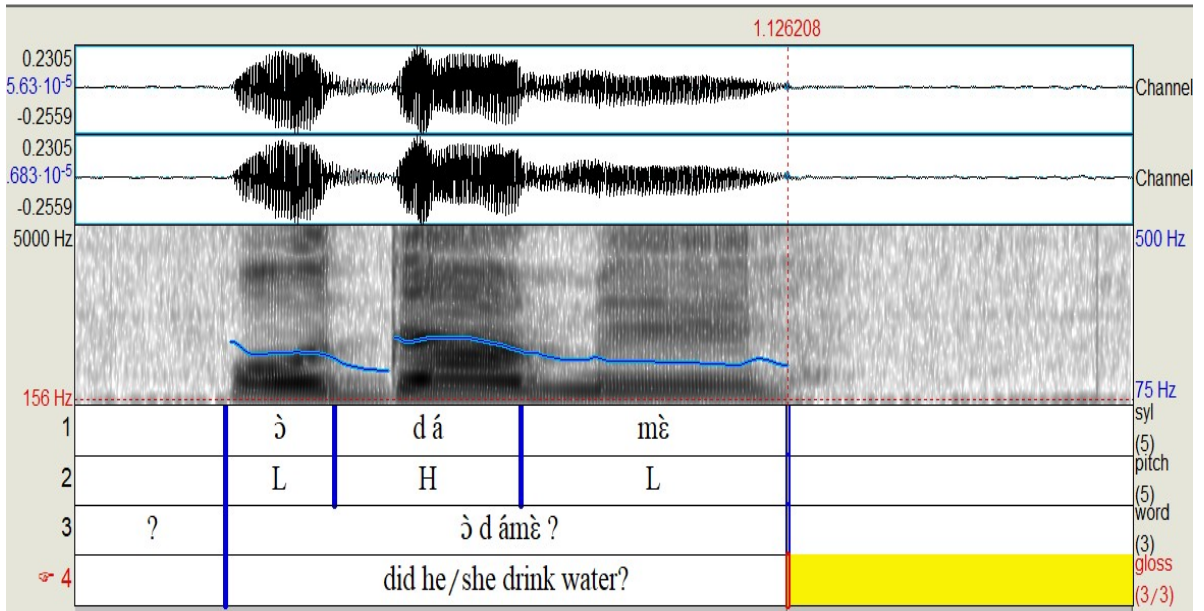


Fig 4.25a. Praatpitch object window showing the interrogative: òdamè?

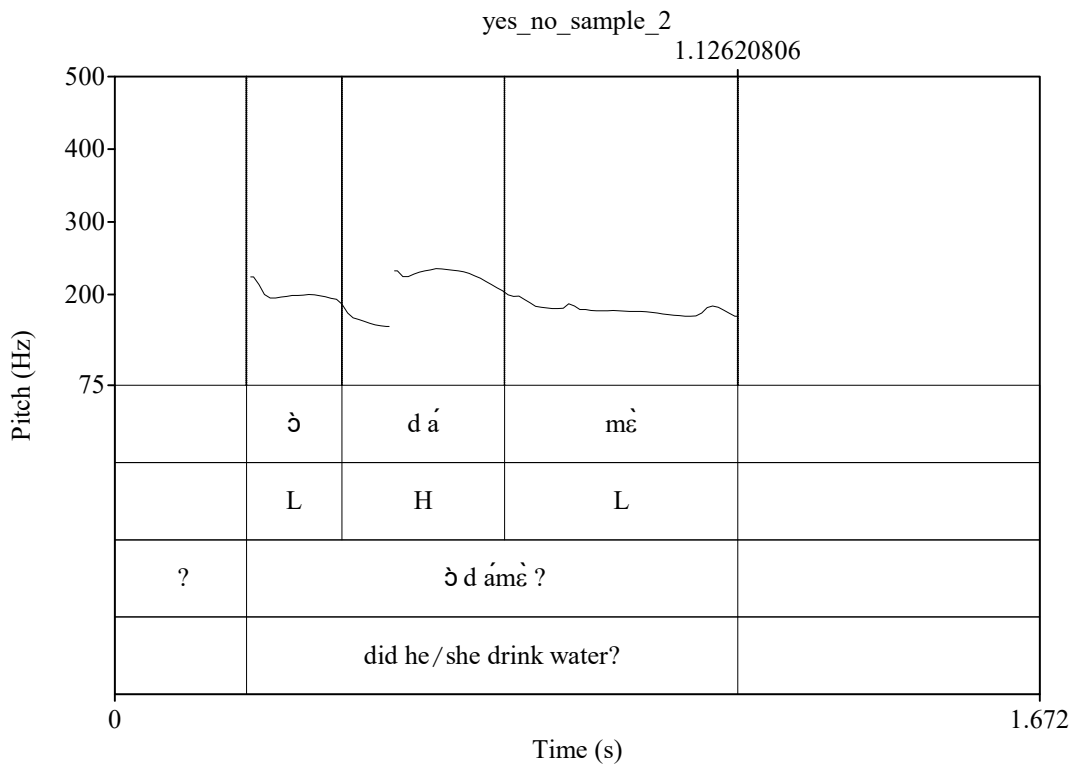


Fig 4.25b: APraat pitch picture showing the interrogative: òdamè?

4.6.2 Analysis of Content Questions in Ósósò.

Content word question type or WH-questions are different from Yes-No in that answers are more specific, more than a simple ‘yes’ or ‘no’. In Ósósò, apart from having overt markers bearing a high tone, content questions often end with clause final question particle /ké/ while the question word, always at clause initial position varies between /òsí/ or /ǒ/ - ‘who’, /èní/ - ‘what’, /àtínódi/ ‘how’, /bàtí/ ‘where’, /òdàdòsí/ ‘when’. Examples are below:

- | | | |
|--------|--|--|
| 185.i. | <p>ò díenì
 He do something
 L H HL
 He did something</p> | <p>èninó di ké?
 what is do QM
 LL H HH
 what did he do?</p> |
| ii. | <p>ó járiníxòxò
 s/he own cocks
 L H HH LL
 s/he owns thecocks</p> | <p>ǒjáriníxòxò ké?
 who own cock QM
 H HHH L L H
 who owns the cock?</p> |

4.7 Summary of Chapter

From findings, although the characteristics of tone in the NP frame in Ósósò corresponds with all the Edoid languages as revealed by extant studies, with possession marked by the high tone, this study finds that the specification of time of event and the distribution of such events plus the negation of declaratives are not tonal in the language, rather, they are morphological. This is contrary to the high functional load of tone in the VP of other Edoid languages. Arising from analysis, therefore, this study posits two possibilities for the divergence in the tone-grammar interface of Ósósò; either there is a tilt towards Ókọ, a neighbouring language (also called Ogori by non natives) studied and reported by Atoyebi (2010:49) to be a language lacking grammatical tones or there is a need to revisit Edoid tone-grammar interface typology with more data sought from border line languages.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Preamble

This chapter contains conclusion of this research. It summarises the entire work three sections – the first section present findings; the second discusses conclusions and generalisation while the third makes recommendations and suggests areas of future studies, expounding additionally, the research's contribution to knowledge.

5.1 Summary of findings

This study set out to investigate and describe the tone system of Ósósò and to go beyond that to examine several aspects of grammatical constructions in the language in order to determine the extent, if any, of the interrelationship of tone and grammar in Ósósò. It also sought to determine the intonation pattern in Ósósò and account for the differences between Fo realization in tone as different from intonation. The village was visited thrice for data collection. Different audio data comprising 21 hours of digital recording consisting 19 stories, 10 narratives, 18 syntactic paradigm, wordlists and two focus group discussion sessions from fifty-one consultants were segmented, transcribed, translated and annotated by ELAN and acoustic analysis done with the aid of speech analytical software called PRAAT. John Goldsmith's Autosegmental theory and Elizabeth Selkirk's phonology-syntax interface model were adopted as framework. Based on phono-syntactic

analysis and pitch tracking analysis involving acoustic tools, the following constitute the findings of this study, in line with stated research objectives:

Objective 1

Ósósò sound system comprises forty-three phonetic (43) consonants, twenty-nine (29) are phonemic. The language has a seven-vowel system: /i, u, e, o, ε, ɔ, a/ and unlike most Edoid languages, contrastive nasal vowels were not found. Each of the oral vowels gets nasalized: /ĩ, ù, ě, ò, ẽ, ã, ã/, if they occur in the environment of nasal consonants making nasal vowels adjacency or context bound but none is inherently nasal. In addition, the lenis consonants /bh, mh/ are part of the soundscape of Ósósò and they are phonemic. This presents an interesting dimension to Edoid consonant typology with this study affirming these lenis consonants are shorter, weaker and take less muscular tension to articulate than the non-lenis counterpart. Duration/length however rank first among these features and it is the foremost mark of distinction. All these present additional information to what is known about Edoid sound system.

Objective 2

Based on the importance of the syllable to phonological analysis and studies in tonology, the study established the syllable structure of Ósósò as V and CV at the phonemic level and a V, CV or CCV at phonetic level with r- deletion due to rapid speech and glide formation rule accounting for CCV. In Ósósò, the number of Cs within a syllable cannot exceed two and both onset and rhyme cannot be complex at the same time. There are no syllabic nasal consonants and like other Edoid languages, morphemes always end with a vowel. Ósósò is an open syllable structure language, vowel sequence within and across morpheme boundaries are prohibited. In the language, phonological processes that resolve hiatus are vowel elision and glide formation, leading to syllable reduction. Delinked tones of the deleted TBU set floating are often vacuous if the adjacent tones are identical but results into contours when they are not.

Objective 3

Ósósò is a register tone language with two basic tonemes of high (H) and low (L). The two contour tones of rising and falling found in the language are derived from the two basic tones. There is also the presence of a downstep phenomenon and a terraced pitch melody stem from it. A downgliding of Low in sequence was also discovered. In Ósósò, the minimum domain of suprasegmental feature like tone is the syllable and not the mora since syllable weight are the same, no light or heavy weight syllable. Following Elugbe's (2009:4) attempted typology of Edoid tone system, Ósósò belongs to the widely reported 'classic terrace level type system' with two tones plus downstep and downdrift.

Objective 4

Between the underlying phonological representation of tone and its phonetic realization, certain tonological processes discovered have been described with ample data in this work. These tonal processes are contour formation, floating tone, downstep, downdrift, downglide, low tone raising and high tone lowering.

Objective 5

In this study, word classes described include Noun, Verb, Pronoun, numerals and qualifiers. Tone patterns and tone changes have also been established. The verb category show they are underlyingly low and get assigned tone in construction leading to a claim that verbs are toneless in Ósósò, typical of Edoid. This work find tone has low lexical functional load in Ósósò with contrasts predominant in nouns. Lexicalization processes includes compounding, reduplication and affixation.

In the light of the intricate relationship reported between tone and grammar of Edoid languages by extant studies, this study investigated the functional load of tone in the grammar of Ósósò. Different grammatical sketches relevant to the investigation of the manifestation of grammatical tone have been examined and the findings are that in the grammar of Ósósò, associative constructions are marked by tone, a floating H tomorph, and the phonological distinction between the inalienable and the alienable is actually non-existent since the latter is derived from the former except that alienable

retains the historical segment marker bearing the H-tomorph. Numeral and demonstrative constructions do not however manifest grammatical tone in Ósósò. Besides, if there is an interposing high tone in constructions where grammatical tones operate, it blocks the spread of the H-tomorph.

Based on findings, factors relevant to the derivation of surface output of tone from underlying forms in grammatical constructions shared by Ósósò with other Edoid are:

- i. the interaction of melody assignment rules,
- ii. the position of a form in a sequence,
- iii. morpheme length,
- iv. lexical tone patterns of forms,
- v. the application of syllable structure processes,
- vi. the phenomenon called downstep.

What is not shared with other Edoid languages with studies however is the extensive functional load of tone in their grammar. This 'a great syntactic functional load particularly in the verb phrase' of tomorph or a pitch without segment or tonal melody to mark contrasts, does not feature in the functional pitch configuration of Ósósò, rather, within the Verb Phrase (VP), grammatical markers are more morphological than tonal. In the tense system, present tense is marked with /i/, past Ø, and future /jä/. Aspects are also morphologically realized with the morphemes 'ró, fò, ífikítí, ja' and negation is marked with 'à', à-í, à-kí, à-dí à-má' depending on the structure.

Ósósò thus manifest tone as largely complementary to grammatical markers at its tone-grammar interface level. This reduced grammatical functional load of tone in the VP of Ósósò presents an interesting divergent typological position that suggests grammatical tones are still rudimentary in the language despite its high functional load in other classic two tone system Edoid languages with studies like Urhobo, Isoko Etsako, Edo, Emai and even Ghotuo, a three tone system.

Objective 6

Whether tone is superimposed on intonation to mark the distinction between declarative statements and yes/no question statement was also investigated by this study. Instrumental

evidence have been provided as backup to conclusions reached, which is that intonation is indeed superimposed on lexical tones in Ósósò. While in interrogative constructions: the content word questions always end with the question particle 'ké' [ék(a) òdǝ́ kék] – 'where is Ojo's monkey?' for polar question, imposition of intonation contour on the lexical tone at sentence final position occurs.

5.2 Conclusion

Apart from establishing the tone system of Ósósò, the challenge undertaken by this thesis to investigate tone and aspects of grammar in Ósósò based on the implication from extant Edoid study which shows an intricate relationship exist between tone and the grammar of these Edoid languages. This grammatical tone is referred to as 'tomorph' by Elugbe (1989). In Ósósò, this study affirms the presence of grammatical tone in the aspect of the grammar of Ósósò. This Tomorph is however operational only in the Noun Phrase; in associative constructions, and not the Verb Phrase. This is an interesting dimension to Edoid grammatical tone typology as it may mean Ósósò has mixed typology, most likely resulting from proximity to Ọkọ, a neighbouring language without clear cut grammatical tones.

Apart from contributing to the limited literature on tone and grammar interfaces, to the typology of tone system of Edoid languages and to the documentation of the Ósósò language, the thesis has presented fresh evidence pointing towards a wholistic revisit of the Edoid language family.

5.3 Recommendations

This study represents another attempt at studying the tone system of a tone language. The importance of such studies is that the behaviour of suprasegmental features in languages are presented as they really are, not in the perspective gleaned from the study of other languages. Further investigation into the tone system of more under-described Edoid languages is recommended as a matter of urgency, especially as some are endangered. These languages have diverged typology which only studies can show. According to Elugbe (2009:237) 'the Edoid languages cover a vast geographic area, stretching from the Akoko area of Ondo State, just southwest of the Niger-Benue confluence, into

Edo, Delta, Bayelsa and Rivers States of Nigeria (see map). Their genetic unity is not in doubt (Elugbe 1989). However, as might be expected over such distances..., the languages have diverged typologically’

Presently, not much studies on tone-intonation in Edoid languages are available. Further research on this is recommended as it will enable typology to emerge. More investigations into tone and grammar interrelationship in Edoid languages, particularly the small group languages, is encouraged

5.4 Contributions to knowledge

The following are the contributions of this study to knowledge

1. Extant studies on Edoid languages have shown an intricately intertwined relationship without including the borderline North Central Edoid languages like Ósósò. This work will therefore provide a more rounded view of tone-grammar interface in Edoid tone-grammar typology especially as the study brings out some uncommon interesting features.
2. By its divergent manifestation of grammatical tone, this research has unveiled the importance of wider domain data. Ósósò has shown tone complements grammatical markers in the VP in contradistinction to other Edoid languages with high functional load of tone. This shows a typological position that appears to suggest that tone and grammar interface are still rudimentary. Consequently, efforts at typology of any kind should include more borderline and small group languages for authenticity.
3. Developing languages, especially the borderline languages, are in urgent need of study as the unique features they possess may be eroded by adjacent languages. This may lead to serious endangerment that can ultimately result in extinction.
4. This work on Ósósò is expected to provide documentation that ultimately have comparative academic value for other researchers as well as be a foundation for

further works on the language that will be of practical relevance to the community.⁷

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APPENDIX 1
COLLECTION OF SOME BASIC VOCABULARY ITEMS IN ÓSÓSÒ
Extracted from Stories, Narratives and Combined Swadesh 200 & Ibadan 400
Wordlists

Collection of some Nouns

Nos	Gloss	Phonemic	Phonetic	Tone	Orthography
1.	Animal	/énábè/	[é!nábè]	H!HL	enabe
2.	Arm	/ítèkpè/	[ítèkpè]	HLL	itekpe
3.	Arrow	/òtè/	[òtè]	LL	ote
4.	Ashes	/èmúè/	[èmwɛ]	LL	emuɛ
5.	Axe	/ùzè/	[ùzè]	LL	uze
6.	Back (body)	/írèké/	[írèké]	HLH	ireke
7.	Bag	/òtsòtsò/*	[òtsòtsò]	LLL	otsòtsò
8.	Banana	/ògèdòkékè/	[ògèdòkékè]	LLLHL	ogèdòkeke
9.	Bark	/úfùàfùà/	[úfwáfwà]	HLL	ufuafua
10.	Basket	/údʒì/	[údʒì]	LL	uji
11.	Bat	/àròdá/	[àròdá]	HLH	aroda
12.	Beans	/é!né/	[é!né]	HH	enɛ (erhen)
13.	Beard	/isùβídè/	[isùβídè]	LLHL	itsuvbidè
14.	Bee	/úkíèwò/	[úkjèwò]	HLL	ukiewò
15.	Belly	/ùvù/	[ùvù]	LL	uvu
16.	Bird	/àròfè/	[àròfè]	HLL	arofè
17.	Blood	/òzè/	[òzè]	LL	ozè
18.	Boat	/ókòwàmè/	[ò!kòwàmè]	H!HLL	okowamè
19.	Body	/égbè/	[égbè]	HL	egbe
20.	Bone	/ùgùà/	[ùgwà]	LL	ugua
21.	Bow	/ùtsè/	[ùtsè]	LL	utse
22.	Breast	/írèwè/	[í!rèwè]	H!HL	irewe
23.	Breathe	/ijémè/	[ijémè]	LHL	iyemè
24.	Brother	/òdíésè/	[ò!djèsè]	HFL	òdi-èse
25.	Buffalo	/èjìgì/	[èjìgì]	LLL	eyigi
26.	Bush	/ègùà/	[ègwà]	LL	egua
27.	Buttocks	/èkíásù/	[èkjásù]	LHL	ekiasu
28.	Calabash	/ùβèrè//ùxó/	[ùβèré]]ùxó]	LLL	uvbere, ukho
29.	Cassava	/àlótà/	[àlótà]	LHL	alota
30.	Cat	/ùmúsù//òbèrèfèkù/	[ùmúsù]]òbèrèfèkù]	LHL	umusu,òbereshèku
31.	Charcoal	/újì/	[újì]	HL	uyi
32.	Chief	/òvìè/	[òvjè]	LL	ovie
33.	Children	/ìbià/	[ìbjà]	HL	ibia
34.	Child	/ómò/	[ómò]	HL	omò
35.	Chin	/ìzuàgbà/	[ìzwàgbà]	HLL	izuagba

36.	Claw	/éfià/	[éfià]^	HL	efia
37.	Cloth	/òdé/	[òdé]	LH	ode
38.	Cloud	/édèdá/	[édèdá]	HLH	ededa
39.	Cock	/òxòxèkpà/	[òxòxèkpà]	HLHL	okhokhekpa
81. 40.	Flow Compound	/isúsu/afésè/	[isúsu/afésè/]	LHL	isúsu/afésè
41.	Cooking pot	/úfìmàtójèni/	[úfìmàtójèni]	H !HLHL	ushimátóyèni
42.	Corpse	/òdžimòwà/	[ò!džimòwà]	LLHL	ojimòwua
43.	Cotton	/úlú-ègbià/	[ú!légbjà]	H!HL	ulu-egbia
44.	Cow	/èlá/	[èlá]	LH	èla
45.	Crab	/áwùfi/	[áwùfi]	HLL	awushi
46.	Crocodile	/èkùkù/	[èkùkù]	LLL	ekuku
47.	Cutlass	/òpià/	[òpià]^	LL	opia
48.	Darkness	/úbìkpí/	[úbìkpí]	HLH	ubikpi
49.	Daughter	/òmòfi/	[òmòfi]	HLL	omoshi
50.	Dawn	/àròmógbè/	[àròmógbè]	LLHL	aromogbe
51.	Day	/édè/	[édè]	HL	èdè
52.	doctor	/óbò/	[óbò]	HL	òbo
53.	Dog	/áwà/	[áwà] [ábuà]	HL	awa/abua
54.	Donkey	/ùtòmáfi/	[ùtòmáfi]	LLHL	utomashi
55.	Door	/ùkpá/	[ùkpá]	LH	ukpa
56.	Dream	/ébèfià/	[ébèfià]	HLLL	ebeshina
57.	Dry season	/ókàsè/	[ókàsè]	HLL	okasè
58.	Duck	/ídàngbò/	[ídàngbò]	HLL	idangbo
59.	Dusk	/ògbìkwà/	[ògbìkwà]^	HLL	ogbikua
60.	Dwell	/átijàjà/	[átijàjà]	HLHL	atiyaya
61.	Ear	/ésò/	[ésò]	HL	esò
62.	Earth	/èxè/	[èxè]	LL	ekhe
63.	Egg	/éxè/	[éxè]	HL	ekhe
64.	Elder brother	/òdíèsè-òkpà/	[ò!djesè-òkpà]	H!HLH	Odièseokpa
65.	Elder sister	/òdíèsà-òkpà/	[ò!djesà-òkpà]	H!HLHL	Odiessaokpa
66.	Elephant	/àládžà/	[àládžà]	LLL	Alaja
67.	Eye	/ìrèrhò/	[ìrèrhò]	HLL	irerho (àrò)
68.	Faeces	/isò/	[isò]	LL	isò
69.	Farm	/òjè/	[òjè]	LL	oyè
70.	Father	/ítà/	[ítà]	HL	ita
71.	Fear	/ùrùfi/	[ùrùfi]	LLL	urushi
72.	Feather	/ùlèlè/	[ùlèlè]	LLL	ilele
73.	Female	/èsà/	[èsà]	LL	èsa
74.	Fetish	/izòbò/	[izòbò]	LLL	izobo
75.	Fight	/òxò/	[òxò]	HL	okhò
76.	Finish	/òfó/	[òfó]	LH	ofò
77.	Fire	/ètà/	[ètà]	LL	eta
78.	Firewood	/etàtà/	[ètàtà]	HLL	etata
79.	Fish	/ètsè/	[ètsè]	LL	etse
80.	Flat	/kpètèkpètè/	[kpètèkpètè]	LHLH	petekpete

82.	117.	Flower	In law (wife)	/úròrò/ / ɔ̀gɔ̀esà/	[úròrò] [ɔ̀gɔ̀esà]	H!HLL	urorhe
83.	118.	Fly	Iron	/ifíàná/ / úkùrù/	[ifíàná] [úkùrù]	LHLL	ifiana
84.	119.	Fog	Jaw	/ɔ̀gbàrí/ / àkàrà/ / ɔ̀wàgbà/	[ɔ̀gbàrí] [àkàrà] [ɔ̀wàgbà]	H!HLL	ogbarikara
85.	120.	Food	King	/énèrè/ / ɔ̀dáfè/	[énèrè] [ɔ̀dáfè]	HLL	enarhe
86.	121.	Foot	Kite	/ídʒígèkà/ / k̀pèrè/	[ídʒígèkà] [k̀pèrè]	LHLL	iigsker
87.	122.	Fowl	Knee	/ɔ̀xɔ̀xɔ̀/ / ikpò/	[ɔ̀xɔ̀xɔ̀] [ikpò]	HLL	okbokho
88.	123.	Friend	Knife	/ɔ̀tʃiàri/ / amùè/	[ɔ̀tʃiàri] [amùè]	LHL	ochiari
89.	124.	Fruit	Kola nut	/ùmó/ / irèbùè/	[ùmó] [irèbùè]	L!HLL	umomote
90.		Goat		/énà/	[enà]	HL	ena
91.		God		/èvèʃò/	[è!vèʃò]	H!HL	evesho
92.		Gown		/sàrò/ / àyùrúwùrù/	sàrò] [àyùrúwùrù]	LL	saro/aghuruwuru
93.		Gross		/ódídí/*	[o!dídí]	H!HH	odidi
94.		Green		/òdiàébè/	[òdjàébè]	LFHL	aghere/odjaebe
95.		Grinding stone		/ègbàxjè/ / ixó/	[ègbàxjè] [ixó]	LHL	egbakhia/ikho
96.		Ground		/èxè/	[èxè]	LL	ekhe
97.		Ground nut		/òkpàdʒè/	[òkpàdʒè]	LLL	okpanje
98.		Guest		/ó!fàmítʃì/	[ó!fàmítʃì]	H!HLL	ofamishi
99.		Guinea corn		/ázù/	[ázù]	HL	azu
100.		Guinea fowl		/étòno/	[étòno]	HLL	etono
101.		Guts		/éjàniájèmè/	[èjàniájèmè]	HLFLL	eyanieyeme
101.		Hair		/itsù/	[itsù]	LL	itsu
102.		Hand		/óbhò/	[óbhò]	HL	obho
103.		Hat		/àkàtà/	[àkàtà]	LLL	akata
104.		Hawk		/ókperè/	[ókperè]	HLL	okperè (òtòtó)
105.		Head		/úkwè/	[úkwè]	HL	ukwe
106.		Heart		/ájèmè/	[ájèmè]	HLL	ayeme
107.		He goat		/òxiò/	[òxjò]	LL	okhio
108.		Hoe		/ègwé/	[ègwé]	LH	egue
109.		Horn		/òkpà/	[òkpà]	LL	okpa
110.		Horn (car)		/ó!kpánótʃiwèkè/	[ó!kpánótʃiwèkè]	H!HHHLL	okpanoshiweke
111.		Horse		/átʃì/	[átʃì]	HL	achi
112.		Housefly		/ikjà/	[ikjà]	LL	ikia
113.		Hunger		/òxjà/	[òxjà]	LL	okhia
114.		Hunter		/òdùfiè/	[òdùfjè]	LLL	odufie
115.		Husband		/òsùnù/	[òsùnù]	LLL	osunu
116.		In law (husband)		/ɔ̀gɔ̀esè/	[ɔ̀gɔ̀esè]	H!HHL	ogò (ese)

125.	Lake	/àmóbúráfì/	[àmóbú!ráfì]	LH!H!HL	amoburashi
126.	Leaf	/óbè/	[óbè]	HL	obe
127.	Leg	/òwè/	[òwè]	LL	owe
128.	Leopard	/èkpè/	[èkpè]	LL	èkpè
129.	Liver	/iwò/	[iwò]	LL	iwo
130.	Lizard	/ámèné/	[ámèné]	HLL	amèné
131.	Maize	/òpòbò/	[òpòbò]	LLL	òpòbò
132.	Man	/òmòsè/	[òmòsè]	HLL	òmòsè
133.	Market	/òxi/	[òxi]	LL	okhi
134.	Masquerade	/ódzì/	[ódzì]	HL	odji
135.	Mat	/àbí/	[àbí]	LH	abi
136.	Meat	/àdò/	[àdò]	LL	adò
137.	Medicine	/ìkù/	[ìkù]	LL	iku
138.	Millet	/gìoró/	[gìoró]	HH	gioro
139.	Money	/úkùbá/	[úkùbá]	HLH	Ukuba
140.	Monkey	/èxà/	[èxà]	LL	èkha
141.	Moon	/ùxi/	[ùxi]	LL	ukhi
142.	Mortar	/áxièrè/	[áxièrè]	HLL	akierè
143.	Mosquitoe	/úfuè/	[úfwè]	HL	ufue
144.	Mother	/ìpò/	[ìpò]	LL	inyò
145.	Mountain	/ìkòfè/	[ìkòfè]	LLH	ikoshe
146.	Mouth	/únù/	[únù]	HL	unu
147.	Mud	/ébhètè/	[ébhètè]	HLL	ebhètè
148.	Finger nail	/ìréfíà/	[ìréfíà]^	HHL	irefia
149.	Nail (metal)	/ùbò/	[ùbò]	LH	ubò
150.	Name	/óvà/	[óvà]	HL	ova
151.	Navel	/òxò/	[òxò]	HL	okò
152.	Neck	/ùtùrù/	[ùtùrù]	LLL	uturu
153.	Needle	/úrùmè/	[úrùmè]	HLL	urume
154.	Night	/ìsàsù/	[ìsàsù]	HHL	isasu
155.	Nose	/ìfuè/	[ìfwè]	LL	ifue
156.	Oil	/òβiri/*	òβiri]	LLL	ovbiri
157.	Oil palm	/òβiriólòlò/	[òβiriólòlò]	LHHLL	obhiriolòlò
158.	Okro	/ósómògbò/	[ósómògbò]	HHLL	osòmogbo
159.	Oracle	/éva/	[éva]	HL	eva
160.	Orange	/òròmí/	[òròmí]	LLH	oromi

161.	Palmwine	/ónìò/	[ónjò]	HL	onyio
162.	Penis	/írẹ̀fì/	[írẹ̀fì]	HLL	irẹ̀shi
163.	Pepper	/áxìé/^	[áxjé]^	HL	akie
164.	Person	/ògbò/	[ògbò]	LL	ogbo
165.	Plant	/ítòkò/	[ítòkò]	HLL	itoko
166.	Plantain	/ògẹ̀dátòbẹ̀tà/	[ògẹ̀dátòbẹ̀tà]	LLHLLL	ogẹ̀dawatoweta
167.	Rain	/àmótúẹ̀/	[àmótúẹ̀]	LHL	amotuo
168.	Rainy season	/ótuàmẹ̀/	[ótúwàmẹ̀]	HLL	otuame
169.	Rat	/òd̀zì/	[òd̀zì]	LL	odji
170.	Refuse (dirt)	/íkíésíd̀zìò/*	[íkj!ésíd̀zìò]*	HHHL	ikiesi-ijio*
171.	Request	/ísà̀mì/	[ísà̀mì]	HLL	Isami
172.	River	/ìpò/	[ìpò]	LL	ipo/oke
173.	Road	/órẹ̀/	[órẹ̀]	HL	ore
174.	Room	/érẹ̀mòwà/	[é!rẹ̀mòwà]	H!HLL	eremowa
175.	Root	/ú̀mínòtẹ̀/	[ú!mínòtẹ̀]	H!HLL	uminiote
176.	Rope	/ú̀rídíà/*	[ú̀rídjà]	LLL	Uridia
177.	Rubish(heap)	/ìkù/	[ìkù]	LL	Iku
178.	Saliva	/òsẹ̀/	[òsẹ̀]	LL	ose
179.	Salt	/ùbù/	[ùbù]	LH	ubu
180.	Sand	/òwàfì/	[òwàfì]	LLL	owashi
181.	Sea	/òfìminà/	[òfìminà]	LLLL	oshimina
182.	Seed	/é̀muókò/	[é̀mwókò]	H!HL	emuoko
183.	Sheep	/òsù̀mà/	[òsù̀mà]	HLL	osuma
184.	Shoe	/ìfìbàwẹ̀/	[ì!fìbàwẹ̀]	H!HLL	ishibawẹ̀
185.	Skin	/ìfìbẹ̀gbẹ̀/	[ì!fìbẹ̀gbẹ̀]	HHLL	ishivbegbe
186.	Skin n(flay)	/ìfìébà/^	[ìfjébà]^	HHL	Ishienba
187.	Sky	/édèdà/	[édèdà]	HLL	Ededa
188.	Smell	/ìwẹ̀wẹ̀/	[ìwẹ̀wẹ̀]	HHL	iwẹ̀wẹ̀
189.	Smoke	/èwò/	[èwò]	LL	Ewo
190.	Snail	/únò/	[únò]	HL	unọ
191.	Snake	/é̀nẹ̀bjẹ̀/	[é!nẹ̀bjẹ̀]	H!HL	enebie
192.	Snow	/èfẹ̀-àmófjórò/	[èfẹ̀-àmófjórò]	LLLHH	esheamofioro
193.	Song	/ùwòrò/	[ùwòrò]	LLL	Uworo
194.	Soup	/òsò/	[òsò]	LL	osọ
195.	Spear	/ògbòdò/	[ògbòdò]	LLL	Ogbodo
196.	Star	/ùkpá/	[ùkpá]	LH	ukpa
197.	Stick	/óte/	[óte]	HL	ote
198.	Stomach (int)	/úvù/	[úvù]	LL	uvu
199.	Story	/òxà/	[òxà]	HL	okha
200.	Sun	/òvò/	[òvò]	LL	ovọ
201.	Sunshine	/òvísàn/	[òvísàn]	LHL	ovisan
202.	Tears	/ámóvíẹ̀/	[ámóvjẹ̀]	HHL	amovie
203.	Thief	/òd̀zì/	[òd̀zì]	HL	oji

204.	Thigh	/írévò/	[í!révò]	HHL	irevò
205.	Thing	/èni/	[éni]	HL	eni
206.	Thorn	/ùgbà/	[ùgbà]	LL	ugba
207.	Thread	/ùlù/	[ú !lù]	H !H	ulu
208.	Toad	/íremà/	[íremà]	HLL	irema/irema
209.	Tobacco	/òtábà/	[òtábà]	LHL	otaba
210.	Tongue	/írerè/	[írerè]	HLL	irerhe
211.	Tooth	/írekò/	[írekò]	HLL	ireko/akho
212.	Tortoise	/égù/	[éwù] [òkpákù]	HL	egu/Lokpaku
213.	Town	/éβòri/	[éβòri]	HLL	evbori
214.	Tree	/òtè/	[òtè]	HL	ote
215.	Uncle (mat)	/ódíjòèsà/	[ódíjòèsà]	HHLLL	odinyonesa
216.	Uncle (pat)	/ódíjòèsè/	[ódíjòèsè]	HHLLL	odinyoese
217.	Urine	/éfàmè/	[éfàmè]	HLL	efame
218.	Vagina	/ídzi]	[ídzi]	HL	iji
219.	Village	/évoríókékè/	[évoríókékè]	HHLHHL	evoriokeke
220.	Vomit	/ibábà/	[ibábà]	LHL	ibaba
221.	Vulture	/águlè/	[águlè]	HLL	agule
222.	Wall	/égbédzi/	[égbédzi]	LHL	egbeji
223.	War	/óxo/	[óxo]	HL	okho
224.	Water (something)	/isàmèsàmè/	[isàmèsàmè]	HLLLL	isamesame
225.	Water	/àmè/	[àmè]	LL	ame
226.	Water pot	/útímádàmè/	[útímádàmè]	HHHLL	utimadame
227.	Well (water)	/òkàngá/	[òkàngá]	LLH	okanga
228.	Wet	/fwòrò/	[fwòrò]	LL	fuoro/itsemise
229.	Wife	/òsà/	[òsà]	LL	osa
230.	Wind	/òfùmù/	[òfùmù]	HLL	ofumu
231.	Wine	/àtò/	[àtò]	LL	ato
232.	Wings	/ífuà/	[ífwà]	HL	ifua
233.	Woman	/ómòsà/	[ómòsà]	HLL	omosa
234.	Woods	/ètè/	[ètè]	HL	ete
235.	Word	/imhè/	[imhè]	LL	imhe*
236.	Worm	/ígwólìgò/	[ígwólìgò]	HHLH	iguoligo
237.	Yam	/óbilà/	[óbilà]	HLL	ovbila
238.	Year	/erùkpè/	[erùkpè]	HLL	erukpe
239.	Younger brother	/útúmásèsè/	[útúmásèsè]	HHHLL	utumasese
240.	Younger sister	/útúmásèsà/	[útúmásèsà]	HHHLL	utumasesa
241.	Ring	/utosa/	[utosa]	LLL	utosa
242.	Bride	/ovbiko/	[ovbiko]	H!HL	ovbiko
243.	bottle	/ukpalaba/	[ukpalaba]	LH!HL	ukpalaba
244.	people	/ígbikémà/	[í!gbikémà]		igbikema
245.	book	/óbè/	[óbè]	HL	obe

No	GLOSS	Phonetic	Phonemic	Tone	Orthography
246.	Bad	/óbièbiè/	[óbjèbjè]	HLL	obiebie
247.	Big	/óṛèrè/	[óṛèrè]	HLL	orhere
248.	Black	/óbìbì/	[óbìbì]	HLL	obibi
249.	Blunt	/àmú/	[àmú]	LH	amu

Collection of some Qualifiers/Adjectives

250.	Cold	/úrini/	[úrini]]ifófò]	HLL	urini (ifọfọ)
251.	curved	/gonigoni/			
252.	Dirty	/idiò/	[ídjò]	HL	idio
253.	Dry	/ókàkà/	[ókàkà]	HLL	okaka
254.	Far	/ódzìmà/	[ódzìmà]	HLL	ojima
255.	Fat	/ìkpòrò/	[ìkpòrò]	LHL	ìkpòrò
	Flat	/kpètékpeté/	[kpètékpeté]	LHLH	kpètékpeté
256.	Full	/òvó/	[òvó]	LH	ovoivotse
257.	Good	/òtjètjè/	[òtjètjè]	LLL	ocheche/osom oshe
258.	Hard	/ókòkòrò/	[ókòkòrò]	HLLL	okokoro
259.	Heavy	/ìyóyó/	[ìyóyó]	LHL	ìghoghò
260.	Hot	/ìnjíó!mísè/	[ìnjíó!mísè]	LH!HL	ìnyomise
261.	ill	/égbètù/	[égbètù]	HLL	egbetu
262.	Large	/ítàlì/	[ítàlì]	LHL	itali
263.	Left (side)	/óbòfì/	[óbòfì]	HLL	obhoshi
264.	Long	/ìgólò/	[ògólò]	LHL	ìgolo/ogolo
265.	Loose (not tight)	/wògòwògò/	[wògòwògò]	LHL	wògòwògò
266.	Male	/ésè/	[ésè]	HL	ese
267.	Narrow	/dénè/	[dénè]	LL	dene
268.	New	/ófè/	[ófè]	HL	ofe
269.	Old	/ókpa/	[ókpa]	HL	okpa
270.	Old person	/ókpagbò/	[ókpagbò]	H!HL	okpagbo
271.	Red	/ólóló/	[ólóló]	HLL	ololo
272.	Rich	/òjàni/ /ògbò-órèrè/	[òjàni] [ògbò-órèrè]	LLL	oyani, ogbo-orere,
273.	Right (correct)	/òsánà/	[òsánà]	LHL	osana
274.	Right (side)	/àxjòbádèni/	[àxjòbádèni]	LLHLL	akhiobhadeni
275.	Rotten	/ìkèjà/	[ìkèjà]	LHL	ikeya
276.	Round	/kìrìjébwè/	[kìrìjébwè]	LLHL	kiriyebue
277.	Rough	/fàkìfàkì/	[fàkìfàkì]	LLLL	shàkìshàkì

276.	Rub	/iʃíʃè/	[iʃíʃè]	LHL	ishishee
277.	Sharp	/imúùmù/	[imúùmù]	LHL	imumu
280.	Short	/tèxè/	[tèxè]	LL	tèkhe
281.	Small	/òkékè/	[òkékè]	LHL	okeke
282.	Sticky	/màʃimàʃi/	màʃimàʃi	LLLL	mashimashi
283.	Smooth	/seríserí/	[seríserí]	LHLH	seriseri
284.	Straight	/ókòviri/	[ókòviri]	HLLL	okoviri
285.	Strong	/òkókórò/	[òkókórò]	HLLL	okokoro
286.	Swell	/ifúnù/	[ifúnù]	HLL	ifunu
287.	Sweet	/ómù/	[ómù]	HL	omu, owerọ
288.	Thick	/íkòʃí/	[íkòʃí]	HLH	ikoshi
289.	Thin	/dèné/	[dèné]	LL	dene
290.	Warm	/mjèmjè/	[mjèmjè]	LL	miemie
291.	Wide	/itáli/	[itáli]	LHL	itali
292.	White	/òfwò/	[òfwò]	LL	ofuo
293.	Yellow	/ékpò/	[ékpò]	HL	ekpo

294.	at	/àtí/	[àtí]	LH	ati
295.	always	/iʃíkiʃí/	[iʃíkiʃí]	HLHL	ichikichi
296.	how	/àtínódi/	[àtínódi]	LLHL	atinodi
297.	near	/ókpàsè/	[ókpàsè]	HLL	okpase
298.	neither	/àkí/	[àkí]	LH	aki
299.	other	/ákpò/	[ákpò]	HL	akpo
300.	Yearly	/èrùkpè/	[èrùkpè]	LLL	erukpe

Collection of some Verbs

Nos	GLOSS	Phonetic	phonemic	Tone	Orthography
301.	Abuse	/ítʃìè/	[ítʃìè]	H L	ichie
302.	All	/èkèké/	[èkèké]	LLH	ekeke
303.	Arrive	/ìsáduò/	[ìsádùò]	LHL	isaduo
304.	Ask	/zàmi/	[zàmi]	LL	zami
305.	Beat	/ìgbégbè/	[ìgbégbè]	LHL	igbegbe
306.	Beat (drum)	/ìkpèrì/	[ìkpèrì]	LHL	ikperi
307.	Begin	/ìbégà/	[ìbégà]	HHL	bega
308.	Bite	/ìrómi/	[ìrómi]	LHL	iromi
309.	Blow (wind)	/ìfíórò/	[ìfíórò]	LHL	ifioro
310.	Blowout	/ìfúsè/	[ìfúsè]	LHL	ifuse (imani)
311.	Break (pot)	/ìʃàʃì/	[ìʃàʃì]	LHL	ishashi
312.	Break (stick)	/ìbúnù/	[ìbúnù]	LHL	ibunu
313.	Build	/ìmámà/	[ìmámà]	LHL	imama/ ijigi
314.	Burn	/ìtuòsè/	[ìtuòsè]	HLL	ituoşè
315.	Bury	/ìsòsò/*	[ìsòsò]*	LHL	isòşò
316.	Buy	/ìdédè/	[ìdédè]	LHL	idèdè
317.	Call(Summoned)	/ìsàsù/	[ìsàsù]	LHL	isasu
318.	Carry	/[ìkpàkpà/	[ìkpàkpà]	LHL	ìkpàkpà, ifuafua
319.	Carve	/ìkàrì/	[ìkàrì]	LHL	ìkàrì
320.	Catch	/mù/	[mù]	L	mu
321.	Choose	/ʃè/	[ʃè]	L	şè
322.	Climb	/ìʃèʃè/	[ìʃèʃè]	LHL	ìşèşè
323.	Close	/ìwíésè/	[ìwíésè]	LHL	ìwíesè,
324.	Come	/kàsé/	[kàsé]	LH	kase
325.	Cook	/ìɲéɲè/	[ìɲéɲè]	LHL	ìnyienyie
326.	Count	/ìdólì/	[ìdólì]	LHL	ìdólì
327.	Cover	/ìwésè/	[ìwésè]	LHL	ìwese
328.	Cut	/ìkúrù/	[ìkúrù]	LHL	ìkuru
329.	Dance	/ìʃìmi/	[ìʃìmi]	HLL	ìşìmi
330.	Defecate	/ìdèguàjé/	[ìdègwàjé]	LLLH	ìdeguaye
331.	Descend	/ìkíómè/	[ìkíómè]	LHL	ìkiomè
332.	Die	/ìwújà/	[ìwújà]	LHL	ìwuya/ìrewu
333.	Dig	/ìsòsò/	[ìsòsò]	LHL	ìtsòtşò
334.	Divide	/ìkémì/	[ìkémì]	LHL	ìkèmi
335.	Drink	/ìdádà/	[ìdádà]	LHL	ìdada

336.	Eat	/ìrérè/	[ìrérè]	LHL	irere
337.	Enter	/ìduèsè/	[ìdwèsè]	LHL	iduese
338.	Extinguish	/ìfúséyà/	[ìfúséyà]	LHL	ifuseya
339.	Push	/ìmíjè/	[ìmíjè]	LHL	imisie
340.	Fall	/ìdédè/	[ìdédè]	LHL	idede
341.	Follow	/ìdúnà/	[ìdúnà]	LHL	iduna
342.	Forget	/zàminà/	[zàminà]	LLL	zamina
343.	Freeze	/ìfuòfwòfuènè/	[ìfwòfwòfwènè]	LHLLL	ifofofuene
344.	Fry	/ìrámì/	[ìrámì]	LHL	irami
345.	Get	/ìmjèmjè/	[ìmjèmjè]	LHL	imiemie
346.	Give	/ìtònà/	[ìtònà]	HLL	itona
347.	Give birth	/ìrébià/	[ìrèbjà]	H!HL	irebia/ibiabia
348.	Go	/vèrà/	[vèrà]	LL	vera/ivera
349.	Greet	/òfjè/	[òfjè]	HL	otie
349.	Grind	/ìwówò/	[ìwówò]	LHL	iwowò
350.	Hear	/ìfuésò/	[ìfwésò]	LHL	ifuesò/ifofò
351.	hit	/gbè/	[gbè]	L	gbe
352.	Hold/take	/ìmónì//mò/	[ìmónì]mò]	LHL	imoni/mò
353.	Hunt	/úfiè/	[úfjè]	HL	ufie
354.	Jump	/ìwànà//ìbóràjà/	[ìwànà]ìbóràjà]	HLL	iwana, iboranya
355.	kill	/ìgbéjà/	[ìgbéjà]	LHL	igbeya
356.	Kneel	/dèsìkpò/	[dèsìkpò]	LHL	desikpo,
357.	Lay	/ìtògbà/	[ìtògbà]	LHL	itogba
358.	Laugh	/égbià/^	[égbjà]	HL	egbia
359.	Live	/ùjájà/	[ùjájà]	LHL	uyaya
360.	Lick	/ìrárò/	[ìrárò]	LHL	Irarho
361.	Lie	/ìgué/	[ìgwé]	LH	igue
362.	Like	/ìgónì/	[ìgónì]	LHL	igoni
363.	Live	/áràrò/m	[áràrò]m	HLL	adadho
364.	Look for	/ìkiòròkià/^	[ìkjòròkjâ]	LLHL	ikiorokia
365.	Lose (misplace)	/zótó/	[zótó]	LH	zoto
366.	Make	/ìsèsè/	[ìsèsè]	LHL	itsese
367.	Many	/ébùbù/	[ébùbù]	HLL	ebubu
368.	Mould	/ìmámà/	[ìmámà]	LHL	imama
369.	Open	/ìguéyè/	[ìgwéyè]	LHL	igueye
370.	Pass	/ìrári/	[ìrári]	LHL	irari/rari
371.	Pay	/ìfáfà/	[ìfáfà]	LHL	ishasha
372.	Piece	/ìkúkúru/	[ìkúkúru]	LLLL	ikukuru
373.	Plait (hair)	/ìbábà/	[ìbábà]	LHL	ibaba
374.	Play	/òkà/	[òkà]	LL	oka
375.	Pound	/ìdúmù/	[ìdúmù]	LHL	idumu
376.	Pour	/ìkújù/	[ìkújù]	LHL	ikuju
377.	Pull	/ìbòbò/	[ìbòbò]	LHL	ibhòbhò

379.	Put on	/ikpákù/	[ikpákù]	LHL	ikpaku
419	Touch	/itòbhié/*	[itòbhié]*	LLLHL	itobhie
380.	Refuse	/itòbhié/*	[itòbhié]*	LHL	itobhie
420	Remember	/jèrínàrò/	[jèrínàrò]	LLL LL	yerisaro
381.	Turn around	/mùjéfinà/	[mùjéfinà]	LH!HL	muyefina/ikowò
421	Reply	/mùjéfinà/	[mùjéfinà]	LHL	muyefina/ikowò
382.	Turn around	/mùjéfinà/	[mùjéfinà]	LHL	muyefina/ikowò
422	Return	/itájéjànàsè/	[itájéjànàsè]	LLHL	itayeyanase
383.	Untie	/itájéjànàsè/	[itájéjànàsè]	LLHL	itayeyanase
384.	Roast	/itòtò/	[itòtò]	LHL	irami/itòtò
385.	Run	/ùgwé/	[ùgwé]	LH	ugue
386.	Say	/imhémhè/	[imhémhè]	LHL	imhemhe
387.	Scratch	/ikjèrè/	[ikjèrè]	HLL	ikiere
388.	See	/minè/	[minè]	LL	mine
389.	Sell	/itòzè/	[itòzè]	LHL	itòzè
390.	Sew	/ipàri/	[ipàri]	LHL	ipari
391.	Shoot	/ifíavà/	[ifíavà]	LHL	ifiava
392.	Show	/itòkàsè/*	[itòkàsè]	LHLL	itòkàsè
393.	Sing	/sùwòrò/	[sùwòrò]	LLL	suworo
394.	Sit	/ifítò/	[ifítò]	LHL	ishitò
395.	Sleep	/òvèsè/	[òvèsè]	HLL	ovese
396.	Smoke	/éwòrjòtábà/	[é!wòrjòtábà]	H!HLHL	eworiotaba
	(cigar)			L	
397.	Sow	/itòkò/	[itòkò]	LHLL	itòkò
398.	Spin	/iwúfè/	[iwúfè]	LHL	iwushe
399.	Spit	/tùòsè/	[twòsè]	LL	tuosè
400.	Split	/kièsè/	[kjèsè]	LL	kièsè
401.	Squeeze	/ifégèrè/	[ifégèrè]	LHLL	ishègèrè
402.	Stand	/imigídjà/	[imigídjà]	LLHL	imigija
403.	Stink	/iwèwóbìbì/*	[iwè!wóbìbì]*	LH!HLL	iweobibi
404.	Stick	/itímà/	[itímà]	LHL	itima
405.	Steal	/údži/	[údži]	HL	uji
406.	Suck	/iwewè/	[iwewè]	LHL	iwewe
407.	Surpass	/òvàsè/	[òvàsè]	HLL	ovase
408.	Swallow	/idódò/	[idódò]	LHL	idòdò
409.	Sweep	/ifémisè/	[ifémisè]	LHLL	ifiemise
410.	Swim	/iléβòkè/	[iléβòkè]	LHLL	ilevboke
411.	Take	/mò/	[mò]	L	mò
412.	Take off	/kpánitìè/	[kpánitjè]	HLH	kpanitie
413.	Taste	/imábeli/	[imábeli]	LHLL	imabeli
414.	Tie	/ifàri/	[ifàri]	LHL	ifari
415.	Think	/ùrórò/	[ùrórò]	HLL	uroro/roro
416.	Thirst	/òkòràrà/	[òkòràrà]	H!HLL	okorame
417.	Throw	/zò/	[zò]	L	zò
418.	Tie	/ikàri/	[ikàri]	LHL	Ifari

423	Urinate	/iféfàmè/	[iféfàmè]	LHLL	ifefame
424	Walk	/ìgókjà/	[ìgókjà]	H!HLLHLH	irokja
425	Went	/ixiòrò/	[ixiòrò]	LHL	ikhioro
426	Wash five (body)	/ìgwòlǎntíjè/	[ìgwòlǎntíjè]	LHLLLHHL	ikuguloantis
427	Weave	/izuòzuò/	[izwòzwò]	LHL	izuozuo
428	Weep	/óvíè/	[óvjè]	HL	ovie/ishimina
429	Wipe	/íjèjǎ/	[íjèjǎ]	LLHL	isheyeya
430	Work	/àkàṅà/	[àkàṅà]	LLL	akanya
431	Wring	/égbinéḡè/	[égbinéḡè]	HLHL	egbineḡe

Collection of some Ósósò Numerals

431	Eight	/ìnjéjǎ/*	[ìnjéjǎ]*	LHL	inyienyie
432	Eighteen	/ìgbáníjǎjǎ/	[ìgbáníjǎjǎ]	LHHHL	igbaninyeiye
433	Eighty	/ífjè/	[ífjè]	HLL	ifiene
434	Eleven	/ìgbánògwò/	[ìgbánògwò]	LHLL	igbanioquo
435	Fifteen	/ìgbánífè/	[ìgbánífè]	LHHL	igbanishe
436	Fifty	/ífjèvánítígbè/	[ífjèvánítígbè]	HLHHHL	ifievantigbe
437	Five	/íjǎ/	[íjǎ]	HL	ishie
438	Forty	/ífjèvá/	[ífjèvá]	HLH	ifieva
439	Four	/ènè/	[ènè]	LL	ene
440	Four hundred	/ífígbè-èvá/	[ífígbè-èvá]	HLLLH	Ifigbeeve
441	Fourteen	/ìgbánènè/	[ìgbánènè]	LHLL	igbanene
442	Hundred	/ífíjǎ/	[ífíjǎ]	HHL	ifishie
443	Nine	/ìsínì/	[ìsínì]	HHL	isini
444	Nineteen	/ìgbánísínì/	[ìgbánísínì]	HHHHL	igbanisini
445	Ninety	/ífjènéántígbè/	[ífjènéántígbè]	LLLHHL	ifienantigbe
446	One	/ògwò/	[ògwò]	LL	oguo
447	Seven	/ífwènà/	[ífwènà]	HLL	ifuena
448	Seventeen	/ìgb!ánífwènà/	[ìgb!ánífwènà]	HHHLL	igbanifuena
449	Seventy	/ífjèsánítígbè/	[ífjèsánítígbè]	HLLHHL	ifiesantigbe
450	Six	/èsésà/	[èsésà]	LHL	esesa
451	Sixteen	/ìgbánjèsésà/	[ìgbánjèsésà]	HHLHL	igbaniesesa
452	Sixty	/ífjèsà/	[ífjèsà]	HHL	ifiesa
453	Ten	/ìgbè/	[ìgbè]	HL	igbe
454	Thirteen	/ìgbánèsà/	[ìgbánèsà]	HHLL	igbanesa
455	Thirty	/ògwòlǎntígbè/	[ògwòlǎntígbè]	LLLHHL	ogwoloanitigbe
456	Twelve	/ìgb!ánèvà/	[ìgb!ánèvà]	HHLL	igbaneva
457	Twenty	/ògwòlò/	[ògwòlò]	LLL	oguolo

460	Twenty	/ògwòlòkpaná/	[ògwòlòkpaná]	LHHL	he
481	Few	/kpaná/	[kpaná]	LHHL	oguloant
482	four many	/ébùbù/	[ébùbù]	HLL	e ebubu
461	Twenty	/ògwòlòántísínì/	[ògwòlòántísínì]	LHHLHL	oguloantisi
483	Me	/ésè/	[ésè]	LHHLHL	oguloantisi
484	nine she	/ésà/	[ésà]	HL	ni esa
462	Twenty one	/ògwòlòántògwò/	[ògwòlòántògwò]	LLLHLL	oguloantio
463	Twenty seven	/ògwòlòántífwénà/	[ògwòlòántífwénà]	LLLHHHL	guo oguloantif uena
464	Twenty Six	/ògwòlòántèsà/	[ògwòlòántèsà]	LLLHLL	oguloantes a
465	Twenty three	/ògwòlòántèsà/	[ògwòlòántèsà]	LLLHLL	oguloantie sa
466	Twenty two	/ògwòlòántèvá/	[ògwòlòántèvá]	LLLHLL	oguloantie va
467	Two	/èvá/	[èvá]	LH	eva
468	Twohundred	/ífigbè/	[ífigbè]	HLL	Ifigbe
469	Threehundred	/ífigbéàniógwò/	[ífigbànógwò]	HLHHL	ifigbeanoguo
470	One million	/ífishièìgbé ó !rífishiè ìgbé	[ífishìgbé ó !rífishìgbé]	HLLH H !HLL	ifishigbeor ifishigbe

Collection of some Ósósò Conjunctions, Pronouns & Prepositions

Nos	gloss	phonetics	phonemics	Tone	orthography
471.	and	/àní/	[àní]	LH	
472.	because	/ùtúròβi/	[ùtúròβi]	LH!H!H	uturoβi
473.	if	/sàkí/	[sàkí]	HL	saki
474.	in	/èrémónì/	[éremónì]	H!HHL	eremoni
475.	with	/ímàβì/	[ímàβì]	H!H!H	Imaβi
476.	of	/oji/	[oji]	H!H	oyi
477.	on	/úkwémónì/	[ú!kwe!mò!ni]	H!H!HL	ukwemoni
478.	but	/àmá/	[àmá]	LH	ama
479.	under	/ìdžíónì/	[ìdžónì]	LHL	ijiṣoni
480.	off	/bàjíónì/	[bàjónì]	LHL	bayiṣoni

485	I	/ɛmɛ/	[ɛmɛ]	LL	ɛmɛ
486	Some	/ɛgwò/	[ɛgwò]	LL	eguo
487	Someone	/ɔ̀gbɔ̀gwɔ/	[ɔ̀!gbɔ̀gwɔ]	H!HL	ogboguo
488	That	/órɔ̀/	[órɔ̀]	HL	orɔ
489	There	/βárɔ̀/	[βárɔ̀]	HL	vbarɔ
490	They	/àwà/	[àwà]	LL	awa
491	This	/ónà/	[ónà]	HL	ona
492	Here	/ánà/	[ánà]	HL	ana
493	We	/ùgwàgwà/	[ùgwàgwà]	HLL	uguagua
494	What ?	/ènɔ̀kɛ́/	[ènɔ̀kɛ́]	LHH	enoke
495	When ?	/ɔ̀dàdòsíkɛ́/	[ɔ̀dàdòsíkɛ́]	HLLHH	ɔ̀dadiosikeis hiesieķe
496	Where	/bátikɛ́/	[bátikɛ́]	HLH	batike
497	Which ?	/òséwɔ̀kɛ́/	[òséwɔ̀kɛ́]	LHLH	osewɔķe
498	Who ?	/òsíkɛ́/	[òsíkɛ́]	LHH	osike
499	You (sg)	/ɛwɛ́/	[ɛwɛ́]	LL	ɛwɛ
500	You (pl)	/àwà/	[àwà]	LL	awa

Story 1: The Foolish Wise Tortois by Pa Akande Ayeni

Phonetic form:

ègù í jé ònǐ ní ìmhè, nó mǎ bí ixó, íghàrà, nó mááìmhè néné fǔ ònǐ. nó yé ònǐ kpí ìmhè yá zè. ònǐ ní ìmhè fjà, ònǐ kpí ìmhè já sè. ò tʃjà, ʃjà, tʃjà, ní véra. ò tʃjà, òtévbiatiòtè órèrè ósá dè zú òrèyà. òtè, òtè órèrè ò sá dè zú òrè ja, ókì jé ònǐ ʃjè nǎ, ònǐ ìkhó mò órò, érè nó tò jí bààrà, ójé ònǐʃjè, ixó mò òkí gbè bíòtè, ó khí dè ʃjòmèsé tʃíríírí, tʃíríírí, ògbò ò sá mígídžà nó yè: ènǐ ú dí wá! ná kɛ́? ó yé: khí ònǐ yé ònǐ ʃjè wána, ònǐ ní ìmhè fjà, ònǐ kpá wò já zè, nó yé, ò, ù ní ìmhè fjà nǎ? ó yé, ɛ. nó yé, sè bí ìdží ònǐ ónànànà fè. ú sè wò fè, ú míní átè, ú né rǎrì. ó séréjéóó. ò má sè bì ìdží ònǐ fè. ó jɛ ò, ònǐ jɛòniní ìmhè fià, ònikpí ìmhè yá sɛíkhí ònǐ á nì ìmhè. ó tó jèrinà, já ʃiè wiè.

Orthographic form:

eguì yé ɔ̀niní imhe, nó máá vbí ikhó, íghàrà, nó máá vbí oniimhè inéné vɔ̀ɔ̀ni, nóyɛ ònikpí imheyá zè. ɔ̀niní imhefiá, ɔ̀nǐ kpí ìmhè yá zè. nó chía, chía, chía, ní víra, ɔ̀ chía,

chía, chía ó tẹ atiótẹ ò sá dè í zú òrẹ kúá, òtẹ òrèrè ó sá dè zú òrẹ yà; ó khi yé òní chía sè vbí ána, òní ìkhó mórò, èrè nó tònishí, ó yé òní chiè, ìxó mò óró ò khi gbè vbiòtẹ, ò khi dè shiomèsé, shíríírí, shíríírí nó vbáro di, ògbò ó se, ọsá míjíjà, nó yè: èni ú dí wáná ké? ó yè: khi òní yé òní chiè ikhiòní ní ìmhè fià, òní kpá wò yá zẹ, ọgbọroyè, òò, ú ní ìmhè fià náá? ó yè, “èèogbọroyè, sè vbí ijí ọni anà nàna fè, ú sè wò fiè, ú míní átè, ú né ràrì. ó séré yé “óò”. ,ó má sè vbí ijí òní fè. nó yè, òní yèòní ní ìmhè fià, òní kpí ìmhè yá sè í khi ọní á ní ìmhè o. ó tò yèrinà, yá chiè vbiè.

Translation

The tortoise said he was too wise, so, he decided to mold some of his wisdom in a calabash and sell. He walked several miles but had to stop when he got to a spot where a big tree had fallen across the road, blocking it entirely. He tried climbing the fallen tree several times but each time, the calabash he strapped to his body will hit the trunk of the tree and roll off to the ground. It kept trying to cross over the tree until someone curious, came over and asked Tortoise what it was doing. Tortoise said that it was too wise and needed to sell off some of it’s wisdom. The stranger asked ‘you say you are wise? ‘yes’, it said’. ‘why not just simply pass through this opening at the bottom of the tree rather than labor since, climbing through the top’. Tortoise truly followed the advice and came out on the other side easily. ‘I thought I was having too much wisdom and even wanted to sell some, alas, I don’t even have enough’. He turned back and went home quietly.

Story 1: The Jealous Mate by Pa James Abu Oree

Phonetic Transcription

ómòsè m-ógwo ó kpi èsà m-avá. ògwò ó jání úkùbà, ògwò àmá jání éniko. ó!rè yání úkùbà rò, ọ nèsé tóní òfùfu ọni ìdì òtòβiòwà, óni èsè í lání ọ jání úkùbà órò, à kòmí mìménàní. óni èsà ó dí àvbárò, ògbé éde ògwonò jágè,èbe nó bùru zè ó dzè vbiétàtà, ọ vbièbè bùrù árófè nó máà kpí ómò, í kpí ómò nó tò vrètjì βí idzì òtè. ònikpómò vrètjì βí ìdiòtè, árófè nó sè nó mǒní ómò àniidékpa, ó kpàní tǒfè βí ukwemótè. ó bùrú èbè tǒβí ùbè nó jè, ‘àjii,* ‘ájii, mà já kpàrògí ómò, ó kátè βárò àkí má míní ómò. ‘ééh* ènekpónó ómò

ké? Ékúèè' ó nèsè kíòròníkíà, ó nèsè í kíòròníkíà. í kíòrò kíà, tíírííí ítǽí nó jé òní kp-árò
 tǽí ná, òmìnè kí árófè àní ómò vbà wí úkwémótè nó yé "tǽdè,tí ómò nó nǽ,mìnè tí ómò
 nó nǽ ò.òsò òní mìnè kíà ó.àbí òní tò jí vbánà nà òní a tǽí ògbò, òní á gbògbò,ówà òní má
 kpè vbèsè ná,òtò òní dí w-árò. tǽdè, tǽdè, tǽdè, tó ómò nó nǽ , óní árófè nó jé 'òní kí tí
 éné èjí nǽ, òníkponí ómò ná vrà ké? nó jé 'èní kí éné èjí ú já tó ní òní ké?' nó jé 'mìnè,
 ékékù ú já kíòrò. ékù ú já kíòrò gèdè, òní í tò nǽ, ómò ónà ó wèrì òní, òní tò yakpání. nó
 jé, 'èhèèn, òní kí dwâfè, wà zámò òní, wà jé ómò ké é? òní kí jé, 'úkùbà.... òní tí ómò zé
 vbí ifégwà é? ééyé ò, òmíní òní òní kíòrò o. ómò òní mònì sè,òní, òní móní dzé ò'wá
 gbé èfòrì,mìnè, èfòrì òrò ákí má jé óní árófè, ó nèsè jé 'èhèèn, míítí ómò ná rǽ, àmâ, òní
 tègbè tóní ómò nà rǽ,éjàní ení òníjá tó dí è írètè. éné fí khiíme ómò ó mú é wègbè ívàsì
 írèjàní. ónití írèjàní nǽ'.ó sówàná gíírìrì,írèjàní éní á sásù írèjàní pé, ó kwà nánì:èxò,
 àkpòfí, idéírèjàní, írèjàní é tí írèjàní, ó kwà ná nǽ:gí ílèlè, gí ìgòldì,gí èjí wí sásù díjàmòdì.
 árófè rǽ nó kù nó nǽ nǽ ómòsà mó orò, ó tègbè sówàná gíírìrì íkègbà á, éjùfwò á
 vbiégwà,wá vèsè, wá dí òní fu ema, ó kí sówàná ó dí òwásà, ó dí òwánè, ófùmù ikpònì
 ómò tǽíèèèèèsè vbábhòní. óníjǽ ò nèsè dzé wí imuèmùè. íxègbò,ígbíkèrà, wá dí
 kpíívèsè. wá dí òní fú írèjàní éròdzí àfè. wá kà tè bí òní àfè,óní èsè ó jágì òjè,óní èsà ó
 jágì òxì. Wá gwéjì ùkpá, wá bègà, wá kwérì s-émà òrò vbí òwà óní pé pé pé!ésà m-
 ókpà ó nèsèkpí òxì sè, èsà, nó jé, 'ah! ó jání ídàngbò ké? ó jání éná ké? ó jání ósumà
 ké? ó jání íxòxò ké? nó jé 'òrìrì nǽ.àtúú kpémíníà ké? ó t-únú óxà dùní óní òfùfù óní
 pé.óné fò, èsè ó sádwò, ó kí bègà vbòní óxà. ó tón dùnú óní èsè pé. óní èsà mó jé'èhèèn,
 èhèn, íkhí òníńí fítò nàixiófùfù óní, òrè vàsì ónívbííbúròta? óní já kúrú èbè, òníńí
 jânésé íkúrú èbè kíà ó kí já tí írèrò rí òní ómòfí orò. ó tí írèrò rí ófùfù órì. ó kí jágì wí
 òní àtí....àbí nó xòxò rá rí. ó né kp-ómò já vréfi wí òní árò. ó tó búrú èbè víràéǽfí,
 óníárófè nó kí sè. òsé, nó kí dùmó rǽ ómò kpà. òní ó kí búrú èbè tè bí àtí nó jó rí tè íjè
 òrì sárò. ó kí jèrìnà sé ó kà tè ß-árò, á gw-ómò, èrín á ró mèrì ògbò, ó tó mòmò kpárò
 fè, ó mìnè kí òní árófè ó mò n-ómò. nó jé 'òní tí úkùbà rǽi sù úkwè míónì ómò, i k-
 ònikpí ómò vírá? nó jé 'àbí ilé òma ké?nó yé'òní tièkù ú já kíòrò rè' nó jé ònímiè. árófè
 nó jé 'í khí òní kú írèjàní rǽ, kí òní kpí ómò ná vírá?' nó jé "òní miè.àh kí ódì àvâ
 mè, ká dúgú írèjàní óní vb-ówà. ó jé èwú tǽtòfá òní. nó jé" "èhèn.ófùmù ó dí fíèèèè. ó

kpónì ómò jání wí írèwòsà.úkwèmi jírì nó nésé kpà fè bí égwà í té bíówà.àbí nó nè dze vbiówà, á je. àtí ú dí fà ké? átí ú jè ké? ògbò àkì ma f-ónièsò. ó nésé dzevbiówà, ó sùkpa. óbó ró, írèfùfù á sò. óxà mí írèfùfù xó órò. írèfùfù á sò xí ómòsà mó kpákí dí ódì àvá nì. ògbò órò rè ó désiùkwè rě. évéfò ò kí nèsè gbùràsòni,ífi bá tò tíró kíà. íxí wá tègbè íxí bá tíró kíà, bá tègbè dí, ó jé ónìni já tí írèrò ónìvbiodievaòni. óni írèrò nó yá dí ró, á nóni re. órò ó xì tèbá áró.

Orthographic form:

ómòsè mógwòò kpíèsà màvá.Ògwò òyání úkùbà, ògwò àmá yání éniko. Òyání úkùbà órò, ònèsè tònì òfùfuòni ídì ótòvbiòwà, ònièsè í láníóní óyání úkùbà órò, à kòmì mimhenàni.Ònièsà ò dí àvào, ògbèdèògwònó jágè,èbenòbùruzè.ò jè vbiétàtà, òvbièbè búrù,òkpí ómòvrèshivbí ijí òtè.árófè nó sè,nòmóní ómòàniidékpa,òkpàni chiè vbí ukwémótè.òni búrú èbè tèvbi ùbè nòyè, ‘àjii, ‘àjii, mà yá kpàrògí ómò.ò kátèvbàrò,àkí má míní ómò. ‘ééh!ènekpiónómò ké? “”Ékùèè” ònèsèíkioroònikíàtííííí íchí nòyèòni kpàrò chiè ná,òminé kí árofè àní ómòvbà vbí úkwémótè.nòjé“chédé,tí ómònoni,minè tí ómò noni ò.òsò ònìminékíà ó.àbí ònítòyí vbáná ná,òni a chí ògbò,òni á gbé ògbò,ówà òni má kpévèsè ná,òtòòni dí vbàrò. chédè, chédé, chédé, tíómònoni.Òni árófenòyè‘ kí,òni íné tíenèyí nẹ, kí ònikpóní ómòná ké? nòyè ‘èni kí ènè èyi ú já tònì òni ké?’nò jé ‘minè, ékékù ú yá kíòrò. ékù ú já kíòrò gèdè, òní í tònè, ómòòná òwèrì òni, ònítòyáákpaní. nò jé, ‘èhèn, òní kí dwâfè, wà zámòòni, wá jé:ómò ké? òni kí jé, ‘òni tí ómò zé vbí ifégwà é? éyé ò, òmíní òniònikíòrò o. ómòóní mònì sè,òni ònimònì jé ò “wá gbé èfòrì,minè, èfòrì òròákí má yé óní árófè, ònèsè yé‘èhèn, miítí ómòná yè, àmâ, ònítègbè tí óniómòná yè,éjàniénòni já tò dí éirètè. èné fí khíímheómòò mú èwègbè ívàsì irèyàni. òni tí irèyàniné’.ósówàná gùirirìi,írejàni,éni á sàsù irèyàni pé,ò kwà nàni:èkhò, àkpòtì, idé,irèyàni é tí irèyàni, òkwà ná nì:gí ílèlè, gí ìgòldì,gí èyí vbí sàsù díyàmòndì. árófè rònòkù nònìómòòrò.ótégbè sówàná gùirirìi,ìkègbà éjùfwòvbiégwà,wá vèsè, wá dí òni fu ema, ò kí sówàná ó dí òwàsà, ó di òwánè, ófúmù ikpí òni ómòtjìèèèè,nèsè vbí àbhòni. òniíyónònèsè jè vbí imuémùè. íkhègbò,ìgbíkèrà, wá di kpíívèsè. wá di òni fú irèyàni èrò jàfè. wá kà tèvbi òni àfè,ònièsèòjágì òjè,òni èsà óyági òkhi. Wá gwéyì

ùkpá, wá bègà, wá kwéí sí émà óròvbi òwà ọ́nǐ pé pé pé!ésámòkpà ọ́nèsèkpí òkhi sè,
 ésa, nọ́jè, ‘ah! ọ́jání ídàngbò ké? ọ́jání éna ké? ọ́jání ósùmà ké? ọ́jání íxòxò ké? nọ́ jé
 ‘ọ́nìni nọ́.àtúú kpémínià ké? ọ́túnú ọ́khà dùni ọ́nǐ òfúfú ọ́nǐ pẹ.ọ́nẹ̀fóná,èse ọ́sádwo,ọ́ kí
 bègà vbòni ọ́khà. ọ́tónidúnú ọ́nǐ èsèpẹ.ọ́nǐ èsà mọ́jé‘èhèhèn, íkhiónìni shìtónà,íkhiófùfù
 ọ́nǐ, órẹ̀vàsì ọ́nǐvbiíbúròta? ọ́nǐyá kúrú èbè, ọ́nìni yànesé íkúrú èbè kíarọ́.ọ́ kí yá tí
 írẹ̀rò níoni ọ́mòshìọ́rọ́. ọ́tí írẹ̀rò ní ófùfù ọ́nǐ. ọ́ kí jágì, àbí nọ́mi ọ́khò nání. ọ́ né
 kpómoyá vrẹ̀shì vbi ónárọ́. ọ́tóbúru èbè víra.éshèshì, ọ́nǐarófè nọ́ kí sè. ọ́sé, nọ́ kí
 dùmóniọ́mòkpà. ọ́nǐ ọ́ kí búru èbè tẹ̀vbí àtí nọ́yónitẹ̀,ọ́ nèsarọ́. ọ́ kí jèrìnà sé.ọ́ ká
 tẹ̀vbárọ́, á gwómọ́, èní á ró mènì ọ́gbọ́, ọ́tómòmòkpárò shiè, ọ́mìnè kí ọ́nǐarófè ọ́móní
 ọ́mọ́. nọ́yé ‘ọ́nǐtí úkùbà nẹ́í sù ùkwèmíoni ọ́mọ́, í kí ọ́nikpí ọ́mòvírà? nọ́ jé ‘àbí ilé
 òmakè?nọ́yè’ọ́nǐtíèkú ú yá kíòrò nẹ́’nọ́jèònimíé. arófè nọ́jè‘í kǐ ọ́nǐ kú írẹ̀yàni nẹ́, kí
 ọ́nǐ kpí ọ́mòna vírà?’nọ́jèọ́nǐ mié.“Ah! kí ọ́di àvǎ mẹ́, ká dúgú írẹ̀yàniòni vbi ówà.
 ọ́jèwú tótòfá ọ́nǐ” Arofenọ́jè” “èhèhèn”.ófùmù ọ́ dí fièèè. ọ́kpóni ọ́mòyání vbi
 írẹ̀wòsà.ùkwèmijiri nónésé kpà fèvbí égwà í tẹ̀vbíowà.àbí nọ́ nè jé vbiowà,ọ́gbọ́ á
 yé:àtí ú dí shià ké? àtí ú yè ké? ọ́gbòàkí mǎfóniésọ́. ọ́nésé jévbíowà,ọ́sùkpà.
 ówọ́rọ́, írẹ̀fùfù á sò. ọ́khà mí írẹ̀fùfù khòrọ́. írẹ̀fùfù á sò kǐ ọ́mòsà mọ́kpákí dí ọ́ di
 àvǎ nì. ọ́gbọ́ kǐ dá yàniidésiùkwènè,évéshò ọ́ kí nèse gbùràsónì,íshí wǎ tẹ̀gbè itirò
 kǐà,vbǎ tẹ̀gbè dí, ọ́jèònìni yá tí írẹ̀rò vbiodievaòni. ọ́nǐ írẹ̀rò nọ́yá di rọ́, á nònì re. órò
 ó kǐ tẹ̀vbiárọ́.

Translation

One man married two wives. One had money, the other had nothing. The rich one now
 turned her mate into slave at home. The husband was afraid of the rich wife, he didn't
 dare caution her. The second wife, one day, decided that she will go about selling leaves,
 she went to the bush to cut leaves with her child, but a bird came to carry her child,
 whom she had laid at the bottom of a tree. The bird came along, carried the child with
 the swaddle to the top of the tree. She had cut to a point before she now said to herself,
 ‘ah, I need to check on the the child I laid down at the bottom of the tree’, when she got
 there however, she did not see the child.

Distraught, she began searching everywhere for the child. She searched everywhere,
 until she now decided to look up. On looking up, she found a bird held her child with it
 at the top of the tree. She pleaded for her child to be returned saying ‘give me my child, I am

suffering enough in this life, as I am here, I do not insult anybody, I do not beat anybody, eventhe house I came from, I am used like a slave there, please, please, give me my child”, she pleaded severally, for her child to be returned to her untilthe bird now said: “can’tI give you something else, and carry this child away?”“what will you give me?” She asked: The bird said“call any amount,I shall give you.This child appeals to me,that is why I carried her”.The woma now answered ‘if I return home and they ask after my child, I should now tell them that I sold the child at the farm? no o, I want my child, the child I came with is what I want to go back with’. They both argued and argued until, the birdagreed to return the child eventually. ‘I will return this child, but before I do that, there is something I will give you as gift. Seeing that motherly passion in you exceeds love for wealth, I will give you wealth”

The bird gave a loud cry and wealth unimaginable appeared: domestic animals, boxes, cloths, beads, gold, diamond, and all; the bird dashed the woman. By the time the woman shouted, all those at the farm came out, people gathered. Then, with cool breeze, the bird came and dropped the child in her arms gently. The woman started rejoicing. Everybody now helped her to carry all the wealth to her house. They opened the door and helped her arrange everything. Just as they finished, her mate arrived, asking who owned all the wealth in the compound. The woman came out and narrated exactly all that happened to her. Just as she finished, their husband arrived, so she wentto explain to him too.

The senior wife began to think to herself “so she would just sit down and allow her junior mate to become wealthier than her? No,I am going to the farm to cut leaves and become wealthy too”. So, she took her child and following exactly all her mate had told her, she placed her child at the exact spot the mate had described. Truly, the bird came and carried the child. When she had cut leave to the exact spot her mate said she got to, she too stopped and returned back to where she had laid the child. She found the child was gone and so she lifted her head up, she had previous knowledge anyway. She found the bird was truly with her child. Again, the bird offered money in exchange for the child.She asked how much the bird was willing to pay her. Shocked, the bird repeated itself and the woman told the bird that she heard the first time, that infactshe came because her mate told her the bird made her rich so she wants the bird to make her rich also! The bird quietly returned her child and flew away. It was with great shame that she returned to the village. She entered the house and shut herself in so nobody would ask her questions about her trip to see the bird. This is my story about jealousy. It is not good to be jealous. If someone you are bigger than respects you, and later, God now lifts the person up, instead of coming together to jointly work towards common good, you start to get jealous. See now, jealousy did not favour her nor does it favour anyone. This is the end of my story.

Story 3: The Elephant and Tortoise's fight

Phonetic Transcription

Égù àniàlàdžà vbí dómùrèsè. ọ́ní àlàdžà ọ́ jé, kí ọ́ní jǎ t-òwè tǎǎǎǎ ẹ̀ kwâ. ọ́ní égù ọ́ yé, ìgwé kiòní mà múéné nâ, wá í nè gbóni. ọ́ní í né gbóni ọ́ ví isò, ọ́ní í gbóni, ọ́ní kpèjǎnni, ú jǎmíniòzèñǎ, ọ́ní gbóni óviri úkwè móni ó tǎǎǎǎ nâ. ọ́ní àlàdžà ọ́ yé, árríràà, ßá k-édè tǎǎ naawà! wá k-édè ǎǎ. Wá já sé vbí írèbò. ọ́ní égù ọ́ jágíè, nó bósí íjòn ósámóni ókpà, íkhí ọ́ róníírotò, ọ́ tì írotò ná ni. ọ́ wòǎ ọ́ní ívú ùxò. ọ́ jágíè nó yíèèkó, nó jé ọ́ní èkó. ọ́ wòǎ ọ́ní èkó vbí ófwò ófwò. ọ́ tóni vbí ùkhó. ọ́ jágíè vbí isò elá. ọ́ wòrí isò elá vúgòò!

ọ́ té édí wá tóxovbí írèbhò. ọ́ní égù ọ́ vbóri èmù ùkhò ọ́rò. ọ́vbóra ¹b-ára. éè, émóxo nó óóó. óxo vbí yágíè, ọ́ wóra b-ára. áh-áhán! íkhègbò é nèsé úgwòni. èní íkhèkhè ọ́ní égù ọ́ kíòrò átè ǎǎ, ọ́ mọ̀nà jǎní vbí írèkè, ọ́ kpiùkhó vbí isò elá ércó, ọ́ tǎǎǎǎ ọ́ní ná ni, wá fo'kpò ò! isó édi pàràpàràpàrà wá jí ííííéeyííí! àlàdžà, árríràà. égù ọ́gbààlàdžà ọ́ sò fíisò?, ah! ọ́rò é má mà fúà gbíà, nó kpiùxó vbí írotò, ọ́ tǎǎǎǎ ọ́ní jǎnvbí úkwè, wá fó 'kpáá! á míni òsè vbí èxè túúú, éhéèkhèkhe, á! è dí dèné óóó. ọ́ní égbíà òròrò ọ́ mà khí fú à gbíà ọ́ khí kpi ùxó èkó ọ́tǎǎǎǎ ọ́ní jǎníúkwè kpáá! wá nèsé míniéméfùòfùò íkhiíkponiúkwè wésè. wá yí "ááhégù ọ́ gbàlàdžà yáá fúò ooooo, ọ́ gbàlàdžà yáà fúò òòòhhhh. àlàdžà? èní ú mìnè égù ọ́ tò nâ gbé é ké?" ọ́ yé, "kòní á né àbí nó tó nè gbóni ò. ọ́ní mìnè íkhí óviri ọ́ní ò sèré já tǎǎ vbí èkhe ò. ọ́ní míni úwèvi o, úwèvi ò sòró í tú ọ́ní, ọ́ní mìnèkhí òsè ó sòró kwá vèsè, ọ́ní á né íǎ ọ́ní fisò ò. "èhènnèè (people marveling). ọ́rò, ìmhè ìnèné égù ọ́ní ọ́ tò né gbàlàdžà, ìmhè ìnèné ọ́ró, ò só íkhí ígbíkè mà é màsé ọ́ní, wá tò né khí vàsè èfù, íkhí vàsè ọ́bè. ìmhè ìnèné ó sò khi á màsé è. ọ́rò ó tè vbáro.

Orthographic Form

Égù àní àlàdžà vbí dómú írèsè. ọ́ní àlàdžà ọ́ yé, kí ọ́ní yǎ chí òwè chíàshì ẹ̀ kwâ. ọ́ní égù ọ́ yé, ìgwé, khiòní mà múéné nâ, wá í nè gbeòni. ọ́ní í né gbòni, ọ́ fí isò, ọ́ní í gbò ọ́ni, ọ́ni

¹ Code switches to Yorùbá- "ara" in place of 'egbe' for body

kpeyànwà yá míní òsè, ọ̀nì í gbòní óvírí úkwẹ̀mòní ó chíáshì nà. ọ̀nì àlàdjà ọ̀ yé, árrííràà, wá kẹ̀dẹ̀ shí nà àwà! Wá á kẹ̀dẹ̀ shí vbá yá sé vbí írẹ̀bò. ọ̀nì égú ọ̀ yágíè, nó bósí íyónósá mòníòkpaíkí ọ̀ rónnì íròtò, ọ̀ tí íròtò ná nì. ọ̀ wòshì ọ̀nì í wú ùkhò. ọ̀ yágíè ní ọ̀ nyièkọ̀ nó yé ọ̀ rónnì èkọ̀. ọ̀ wòshì ọ̀nì èkọ̀ vbí ófúò ófúò. ọ̀ tònì vbí ùkhó. ọ̀ yágíè vbí isò èlá. ọ̀ wòrí isò èlá wúògòò. ọ̀ tíédí wá tọ̀ kònì ókhò vbí írẹ̀bhò. ọ̀nì égú ọ̀ vbórí èmù úkòkò ọ̀rọ̀. ọ̀ vbórà b-àrà (Yorùbá –ara/body). ee, émiókhò nó óóó. ókhò vbí yágíè. íkhègbò é nèsé fú úgwò ọ̀nì, íkhèkhè.

ọ̀nì, égù ọ̀ kíòrò àtẹ̀ shí. ọ̀ kpí ùkhó vbí isò èlá éró. ọ̀ chíáshì ọ̀nì ná nì, wá fú kpò ọ̀! isò èdíparàpàràpàrà wá yí ííííéeyíí! àlàdjà, árríírràrà. égù ọ̀ gbaaladja ọ̀ suofi iso o?, ah! ọ̀rò é má màà fò à gbíà, nó kpiùkhó vbí íròtò, ọ̀ chíáshì ọ̀nì yànvbí úkwè, wá fọ̀ kpá á! á míní òsè vbí èkhè túúú, éhéé, á!, è dí dẹ̀nẹ̀ ọ̀. ọ̀nì égbíà ọ̀ròrò ó mà kí fò, egu ọ̀khi kpí ùkhó èkọ̀ chíáshì ọ̀nì yànvbí úkwè kpá á! wá nèsé míníémé éfùò-éfùò íkhié kponiukwevèsè. wá yí ááhégù ọ̀ gbá àlàdjà yáá fúò, ooooo, ọ̀ gbéàlàdjà yáà fò ọ̀. àlàdjà, èní ú míní égù ọ̀ tọ̀ nà gbè è kẹ̀? ọ̀ yé, kònì á né àbí ọ̀tọ̀ nè gbòní. ọ̀nì shamìnéíkí óvírí ọ̀nì ọ̀ sẹ̀rẹ̀ yá chíà wí èkhé. ọ̀nì míní úwèví ọ̀ sòrò tú ọ̀nì, ọ̀nì míní kí ọ̀zẹ̀ ó sòrò kwá vèsè, ọ̀nì á né íshí ọ̀nì fisò ọ̀. èhènnè hèn (...people marveling). ọ̀rò, ìmhè ìnènnè égù ọ̀nì ọ̀ tọ̀ né gbéàlàdjà, ìmè ìnènnè ọ̀rò, ọ̀ só íkhi ígbíkè mà é màsẹ̀ ọ̀nì, wá tọ̀ né kí vàsè èsù, íkhi vàsè ọ̀bè, ìmhè ìnènnè ó sò kí á màsẹ̀ è. ọ̀rò ó tẹ̀ vbàrò.

Translation

The Elephant and the Tortoise were boasting. The Elephant said it will use his leg to scatter small tortoise but the tortoise told the elephant that it only looks small but it can beat the Elephant and scatter its brain. The Elephant became furious and they both agreed on a day to come to the village square and fight. The Tortoise went to beg his elderly mother-in-law for Camwood. It also collected Pap plus cow dung and store all in different small calabash. On the set day, Tortoise and Elephant meet at the village square.

Tortoise strapped on his body like ammunition, all the calabash he had stored those items, then took a vantage position. Tortoise aimed the first calabash at the Elephant from the back and the people saw excrement pouring down from the elephants buttocks and began shouting that elephant had excreted on himself. Before they could recover, the tortoise aimed another calabash containing the camwood at the elephant's head. The people saw something reddish flowing down the elephant's head and started shouting

that blood was pouring out of the elephant's head. Finally, the Tortoise hit his head with the calabash containing the white pap and everybody screamed saying the Elephant's brain had burst open. They began asking the Elephant why he allowed the Tortoise to beat it so badly and he said it could not explain. All he saw was his brain on the floor. The tortoise used wisdom to beat the Elephant. So, wisdom pays. People conquer the devil with wisdom and evil people using wisdom. It is good to have wisdom. That is the end of this story.

FIELD LINGUISTICS: ÓSÓSÒSYNTACTICPARADIGM DATA (Oso_008)

Transcription ó!ní ómòsè ò gbénà kwá
 Underlying form óní ómòsèògbè enà kwá à
 Interlinear gloss the man he killgoat finish
 Translation **The man killed the goat**

Transcription ówà mèkón
 Underlying form ówà mèkí ónà
 Interlinear gloss house minebe this
 Translation **This is my house**

Transcription ómòfì ónàò sómótjè
 Underlying form ómòfì ónàòsómótjè
 Interlinear gloss child-female this is beautiful
 Translation **The girl is beautiful**

Transcription ònì ò sóxéóyòdè
 Underlying form ònì ò sé óxèóyòdè
 Interlinear gloss He SCM come stream yesterday
 Translation **Hecame to the stream yesterday.**

Transcription óní ómòsè òwúà
 Underlying form óní ómòsè ò wú jà
 Interlinear gloss The man he die finish
 Translation **The man died.**

Pronominal system: Subject Pronoun and negation

Transcription	èmi sé	-	èmasé
Underlying form	èmè mì sé	-	emeá sé
Interlinear gloss	me SCM come	- I neg	come
Translation	I came	-	I did not come

Transcription	ànì sé	-	ànàsé
Underlying form	ànì sé	-	ànì à sé
Interlinear gloss	We come	-	We neg come
Translation	We came	-	We did not come

Transcription	èwùfó	-	èwâ fó
Underlying form	èwè ùfó	-	èwè àfó
Interlinear gloss	You(sg) SCM heard(it)-		You (sg) neg hear(it)
Translation	You(sg) heard(it)/	-	You (sg) did not hear(it)

Transcription	èwu fi ó!níówàà	-èwâ fi ó!níówàà
Underlying form	èwè ù fóóní ówàà-èwè	á fó óní ówàà
Interlinear gloss	You (pl) SCM hear the shout	-You (pl) neg hear the sound
Translation	You (pl) heard the shout	-You (pl) did not hear the sound

Transcription	àwê ràdò	-	àwâràdò
Underlying form	àwà re' àdò	-	àwá à ré àdò
Interlinear gloss	They eat meat	-	They neg eat meat
Translation	They ate meat	-	They did not eat meat

Transcription	òna&miní óní ómòfi	-	òna&miní óní ómòfi
Underlying form	òni òmíní óní ómòfi	-	òni à míní óní ómòfi
Interlinear gloss	he SCM see the girl	-	he neg see the girl
Translation	He saw the girl	-	He did not see the girl

Transcription	òni sè	-	ònasé
Underlying form	òni í sè	-	òni á sé
Interlinear gloss	She PRE come	-	She neg come
Translation	She is coming	-	She is not coming

Transcription	àmí túè	-	àmatúè
Underlying form	àmè í túè	-	àmè à túè
Interlinear gloss	water PREdrop	-	water not pour
Translation	It is raining	-	It is not raining

Transcription	òní guè	-	ònâgúè
Underlying form	òni íguè	-	òniâgúè
Interlinear gloss	it is running	-	it not running
Translation	it is running	-	It is not running

Object Pronoun

Transcription	ònò mínèmè
Underlying form	òni ò míní èmè
Interlinear gloss	he SCM see me
Translation	He saw me

Transcription	ònò mínàni
Underlying form	òni ò míní àni
Interlinear gloss	he SCM see us
Translation	He saw us

Transcription	ònò kíorí ìmhé è
Underlying form	òni ò kíorí ìmhé è
Interlinear gloss	he SCM look for matter you

Translation **He loves you (sg)**
 Transcription ònìòkìórí ìmhé â
 Underlying form ònì ò kìóríìmhé â
 Interlinear gloss he SCM look formatter you (pl)
 Translation **He loves you (pl)**

Transcription ónómòsèè sásúónì
 Underlying form óní ómòsè ò sású ónì
 Interlinear gloss the man he called him
 Translation **The man called him**

Transcription ónómòsè ò sá!sú ó!nómòjì
 Underlying form óní ómòsè ò sá!sú ó!ní ómòjì
 Interlinear gloss the man he call the girl
 Translation **The man called her**

Transcription ónó mòjì ò gbón
 Underlying form óní ómòjì ò gbé ònì
 Interlinear gloss the lady SCM beat it
 Translation **The lady beat it**

Transcription àwíbià wà jì â
 Underlying form àwà íbià wà jì wà
 Interlinear gloss them children SCM greet them
 Translation **The children greeted them**

Pronoun qualifier

Transcription íshíawè èyànì kienà
 Underlying form íshí àwè èyí ànì kí ónà
 Interlinear gloss shoe legs it us is that
 Translation **This is our shoe**

Transcription ónàkpòèyànì nó
 Underlying form óní àkpò èyí ànì nó
 Interlinear gloss the bag it us be
 Translation **The bag is ours**

Transcription ó!vá mè kí Tàíwò
 Underlying form ó!vá mè kí Tàíwò
 Interlinear gloss name mine is Taiwo
 Translation **My name is Taiwo**

Transcription ó!wá mè nó
 Underlying form ó!wá mè nó

Interlinear gloss house mine be
Translation **The house is mine**

Transcription írèwè nɛ̀lá èyèwèyáβiùdè
Underlying form írèwè niɛ̀lá èyí ɛ̀wɛ è já vbí ùdè
Interlinear gloss breast of cow of you itbe on table
Translation **Your (sg) milk is on the table**

Transcription ítá wà á sósé nò
Underlying form ítá wà á sèsé nò
Interlinear gloss father you (pl)is teachers be
Translation **Your (pl) fathers are teachers**

Transcription óní ìfíbí èjìèné
Underlying form óní ìfíbí èjì ɛ̀wɛ nó
Interlinear gloss the spoon of you be
Translation **The spoon is yours(sg)**

Transcription ònífí èyè nó
Underlying form òní ìfí èyí ɛ̀ nó
Interlinear gloss the shoe of you be
Translation **The shoes are yours(pl)**

Transcription àkpòtíónì àtí ífíóbìbíísésón
Underlying form àkpòtí óníàtí ífí óbìbí ísésí óní
Interlinear gloss box him use skin black PREmake it
Translation **His box is made of black leather**

Transcription óní ùxó ófè ójôn nó
Underlying form óníùxó ófè ójì óní nó
Interlinear gloss the cup new is him be
Translation **The new cup is his**

Transcription éniátòrénèrèòjónì éniótènó
Underlying form éní á tò ré énerè òjì òní éni ótè nó
Interlinear gloss that we use eat food own her that tree be
Translation **Her plate is a wooden plate**

Transcription éná tó fiòrítsùójíánó
Underlying form éní á tó fiòrì ítsù ójì óní nó
Interlinear gloss that we use comb hair own her be
Translation **The comb is hers**

Transcription ówàèjíaéfèfè èfómà

Underlying form ówà èjíaéfèfèè fó mà
 Interlinear gloss house their new it finish build
 Translation **Their new houses are completed**

Transcription ónòkhà éjía nó
 Underlying form óní òkhà éji ànó
 Interlinear gloss the games is them be
 Translation **The games are theirs**

Tense Markers: Present

Transcription òníóyè íkhì ékhí Nìgèríà íjé tàrò
 Underlying form òní òyè íkhì ékhí Nìgèríà í jè étàrò
 Interlinear gloss he SCM say that issue Nigeria it go front
 Translation **He says Nigeria is progressing**

Transcription ónómòsè òní khí òtùkwè` màni
 Underlying form óní ómòsè òní khí òtùkwè` mí àni
 Interlinear gloss the man he be head of us
 Translation **The man is our leader**

Transcription óní òtùkwè ò ßàkànyàgbè
 Underlying form óní òtùkwè ò ßí àkànyà gbè
 Interlinear gloss the president SCM in work beat
 Translation **The president is busy**

Past Tense

Transcription òní jékhì Nìgèríà íkhí í dżétàrò
 Interlinear gloss òní jéíkhì Nìgèríà í dżè étàrò
 Underlying form he say that Nigeria be go front
 Translation **He said Nigeria was progressing**

Transcription òní ómòsè òtùkwè` màni nò
 Underlying form òní ómòsè òtùkwè` miàni nò
 Interlinear gloss the man leader of us be
 Translation **The man was our leader.**

Transcription òtùkwè` màni ò vbiàkànyà gbe
 Underlying form òtùkwè` mi àni ò vbiàkànyà gbe
 Interlinear gloss leader of us SCMin work beat
 Translation **The president was busy**

Future tense

Transcription òní í sè
 Underlying form òní í sè
 Interlinear gloss he SCM come

Translation **He will come(later)**

Transcription ùgúàgàwé yágiòyè
Underlying form ùgúàgúà awáí yáí òyè
Interlinear gloss shall PRE go farm
Translation **We shall go to the farm**

Transcription ònàí dèòní òdé
Underlying form òní àí dé òníòdé
Interlinear gloss he neg buy the cloth
Translation **He will notbuy the cloth**

Aspect markers: Perfective Aspect

Transcription ònògbónàkànyàfó
Underlying form òní ògbé óníàkànyà fó
Interlinear gloss he SCM do the work finish
Translation **He has finished the work**

Transcription àní mínóní
Underlying form àní míní óní
Interlinear gloss we see it
Translation **We have seen it**

Transcription àní víràònótégbè sé
Underlying form àní vírà òní ótégbè sé
Interlinear gloss we go he SCM now come
Translation **We had gone before he came**

Habitual Aspect

Transcription òní í sèvbúnórénàédèkédè
Underlying form òní í sè vbiúnú órè nà édè ki édè
Interlinear gloss he SCM comein mouth road this day by day
Translation **He passes through this road daily**

Transcription òní ákèrésòyè
Underlying form òníá kèré sè òyè
Interlinear gloss she neg early come market
Translation **She used to come late to the farm**

Transcription ò gièkíòròìkíhíòkhisúwòrikàmínà
Underlying form ò gièkíòròìkíhíòkhi súwòrò íkàmínà
Interlinear gloss she usually look thatSCM be sing praise
Translation **She loves to sing praise song**

Progressive/Continuous Aspect

Transcription	àni& jàfè	- àniàíjáfè
Underlying form	àní jé àfè	- àniàí jéàfè
Interlinear gloss	we be go home	- we not go home
Translation	We are going home	- We are not going home
Transcription	òndíó!níómðseímìmhè	- òní àdíó!níómðsà í mímhè
Underlying form	òní ódíóní ómðsàímímhè	- òní àdí ó!ní ómðsàímímhè
Interlinear gloss	he SCM do man talk	- he neg do theman PRE talk
Translation	He is talking to the man	- He is not talking to the man
Transcription	òno jíéβióvèsè	
Underlying form	òní ójíé βí óvèsè	
Interlinear gloss	he SCM still in sleep	
Translation	He will still be sleeping	

Negative markers

Transcription	è	éjè
Underlying form	è	éjè
Interlinear gloss	yes	no
Translation	Yes	No
Transcription	ètshèshì	ígúè
Underlying form	ètshèshì	ígúè
Interlinear gloss	true	false
Translation	True	False
Transcription	èfèfi	bòrìmhémé
Underlying form	èfèshì	bòrìmhémé
Interlinear gloss	true	untrue
Translation	True/	Untrue
Transcription	ìbwèbwè	ivèsèré
Underlying form	ìbúèbúè	vèsèré
Interlinear gloss	happy	unhappy
Translation	happy	unhappy
Transcription	òfò mègbé	vèsèré
Underlying form	òfò múégbè	vèsèré
Interlinear gloss	calm/coldhold	body discomfort
Translation	Comfort	Discomfort

Constituent/Sentence negation

Transcription	ònd	sé
Underlying form	òní	ò sé

Interlinear gloss he SCM come
OTranslation **He came**

Transcription òná sé
Underlying form ònì á sé
Interlinear gloss he neg come
Translation **He did not come**

Transcription òní sé
Underlying form ònì í sé
Interlinear gloss he PRE come
Translation **He is coming**

Transcription ònàíjàní ònì
Underlying form ònì àíjàníònì
Interlinear gloss he neg own it
Translation **He will never get it**

Transcription ònògbè óníómòsèjà
Underlying form ònì ò gbéóníómòsè já
Interlinear gloss he SCM beat the man finish
Translation **He killed the man**

Transcription ònì à gbónómòsèjà
Underlying form ònì à gbé ó!nì ómòsèja
Interlinear gloss he neg beat the man finish
Translation **He did not kill the man**

Conjunctions and Disjunctions

Transcription ónómòsè àníómòfìwà se'óyòdè
Underlying form óníómòsèàníómòfì wà sèóyòdè
Interlinear gloss the boy and girl they come yesterday
Translation **He and she came yesterday**

Transcription òsé sávésé βí òwà
Underlying form òsésávésé βí òwà
Interlinear gloss he come now sleep in house
Translation **He came and slept in the house**

Transcription èwùnésè, ínèdíkí èwù sí sè
Underlying form èwè ù nésè ínèdíkíèwè ù sí sè
Interlinear gloss you SCM may come or maybe you SCM may come
Translation **You may come and you may not come**

Transcription gó!ní ómòsè, gó!ní ómòfìà yáníómìnìómìlòdó

Underlying form gí ó!ní ómòsè, gíóní ómòfí, à yání ó míní ómìlòdò
 Interlinear gloss be it man, be it woman, neg get it see boy
 Translation **Neither the man nor the lady saw the boy**

Transcription újàtʃiɛ βòg wòβèrèmióβilà àniéne
 Underlying form újàtʃéòg wòβí óβilà àní éné
 Interlinear gloss you will choose one in yam and beans
 Translation **You either eat yam or eat beans**

Transcription ònì ò sé àmá àmínímè
 Underlying form ònì ò sé àmá àmíní èmè
 Interlinear gloss he SCM come but neg see me
 Translation **He came but did not see me**

Transcription ó mówà ò jívbéré món
 Underlying form ó máàówà ò vbí éré mi ónì
 Interlinear gloss he build house he in belly in it
 Translation **He built a house and lived in it**

Transcription ònì ò mówà àmâ á jívbéré món
 Underlying form ònì ò maa ówà àmâ á jí vbí éré mi ónì
 Interlinear gloss him SCM build house but neg stay in belly in it
 Translation **He built a house but did not live in it**

Subordinators

Transcription ònì ò dé sè, mènánì
 Underlying form ònì ò dé sè, mènì ònì
 Interlinear gloss he SCM if come tell it
 Translation **If he comes, you should tell him**

Transcription éníótʃɛtʃɛnódikí ùsé
 Underlying form éní otchecheníódíiki·ù sé
 Interlinear gloss something good it be that you come
 Translation **It is good that you came**

Transcription òní í mínê ó dé sè
 Underlying form òní í mínè ó dé sè
 Interlinear gloss he will see he if come
 Translation **He will see you when he comes**

Transcription ómòsà èdíkhòβèrèmówà ísàsù è
 Underlying form ómòsà èdí khí òβí èrè mi ówà í sàsù èwè
 Interlinear gloss lady be that SCM in belly of house be call you
 Translation **The lady that is in the room is calling you**

Determiners

Transcription ómòsè
Underlying form ómò èsè
Interlinear gloss child male
Translation **A boy**

Transcription òpíà
Underlying form òpíà
Interlinear gloss cutlass
Translation **Cutlass**

Transcription	òwénà	-	òwérò
Underlying form	òwà éná	-	òwà érò
Interlinear gloss	house this	-	house those
Translation	This house	-	those houses
Transcription	ówérò	-	ówárò
Underlying form	òwà érò -	òwà	árò
Interlinear gloss	house that	-	house those
Translation	That house	-	Those houses

Transcription òròmí
Underlying form òròmí
Interlinear gloss orange
Translation **An orange**

Transcription àmè tónǎ
Underlying form àmè tó ná á
Interlinear gloss water small so
Translation **Some water**

Plurality/Number

Transcription ìfìbìèvá
Underlying form ìfìbì èvá
Interlinear gloss spoon two
Translation **Two spoons**

Transcription ínàmìgbé
Underlying form éná mì ìgbé
Interlinear gloss goat of ten
Translation **Ten goats**

Transcription àkpótǫí àvbífiè
Underlying form àkpó!tǫí àvbiífiè
Interlinear gloss box five

Translation **Five boxes**

Transcription éβòrì àβìjèjè

Underlying form évbòrì á vbiínyènyè

Interlinear gloss country be in eight

Translation **Eight Countries**

Transcription í!kókórèsésà

Underlying form íkòkòrò èsésà

Interlinear gloss key six

Translation **six keys**

Transcription ìshíbògwò

Underlying form ìshíbíogwo

Interlinear gloss spoon one

Translation **one spoon**

Transcription ìshíbí

Underlying form ìshíbí

Interlinear gloss spoon

Translation **A spoon**

Transcription ómòsè

Underlying form ómòsè

Interlinear gloss boy

Translation **A boy**

Transcription ónómòsèòvbánà

Underlying form òni ómòsè ó vbí áná

Interlinear gloss he boy SCM in here

Translation **He is here**

Transcription ónómòfìò vbánà

Underlying form óní ómòshì ò vbí áná

Interlinear gloss the girl SCM in here

Translation **She is here**

Sentence Types: Simple Sentence

Transcription ónómòsà òmìnó!nénà

Underlying form óní ómòshì ò mini oni éná

Interlinear gloss The lady SCM see the goat

Translation **The lady saw the goat**

Transcription èmíyámàsèòkhàébùbù

Underlying form èmè mí yá màsè okhaebubu

Interlinear gloss me I will surpass game many
Translation **I will win many**

Transcription ónómòsè òré óní énéè
Underlying form óní ómòsè ò ré óní énéè
Interlinear gloss the man SCM eat the food
Translation **The man ate the food**

Transcription íṣòlá ó ré èmíròfè édèkéde
Underlying form íṣòlà ò rè émáíròfè édèkéde
Interlinear gloss Sola SCM eat things bird day-by-day
Translation **Sola eats rice everyday**

Transcription òní í sè
Underlying form òní í sè
Interlinear gloss he PRE come
Translation **He is coming**

Transcription ònòṣítòḃèkhè
Underlying form òní òṣítò ḃí èkè
Interlinear gloss He SCM sit in ground
Translation **He sat down**

Complex Sentence

Transcription mì mínóníómòsè ṣṣí nó kpèvirà vbí àrò fé
Underlying form mì mí!ní ó!ní ómòsèṣṣí ní ó kpè virà vbí àrò fé
Interlinear gloss I see the man when that he from leave in there out
Translation **I saw the man when he was leaving the place**

Transcription é!dé èdíkhí emàínè sàmínàgbâ
Underlying form édé èdíkhì èmè àí nè sàmínà gbâ
Interlinear gloss day which I neg never forget ever
Translation **The day which I will never forget**

Transcription òní ò shí óní ùkùbà ítòrì òní ó ṣìòrì ímé óní ómòse
Underlying form òní ò shà óní ùkùbà ítòrì òní ó ṣìòrì ímhé óní ómòse
Interlinear gloss she SCM pay the money because she SCM look matter the man
Translation **She paid the money because she loved the man**

Transcription ò sò íkhómòsèyàní ósà ókhí dàmíníògwò
Underlying form ò só íkhì ómòsè ó yàníósà ókhí dè á míníògwò
Interlinear gloss it good that man SCM have wife he if maybe see one
Translation **A man needs a wife if he can find one**

Compound Sentence

Transcription àní jésábòsì ónítààmāàmíànésò

Underlying form àní jésá bọ̀sì ọ́nì ítà àmá àmí àní ẹ̀sò
 Interlinear gloss we go to beg the man neg agree us ear
 Translation **We went to the man, begged him but he did not listen to us**
 Transcription ọ̀ḍzì ágbàrá ọ̀dàfẹ̀, ọ̀ròmù ọ̀dàfẹ̀
 Underlying form ọ̀ḍzì ágbàrá ọ̀dàfẹ̀, ọ̀ròmúọ̀dàfẹ̀
 Interlinear gloss He went palace king he meet king
 Translation **He went to the palace and he met the king**

Transcription ọ̀nì ọ̀gbàdúrání ọ́nì ọ̀mọ̀sẹ̀ àmá ọ̀fìèwúà
 Underlying form ọ̀nì ọ̀ gbàdúra ní ọ́nì ọ̀mọ̀sẹ̀ àmá ọ̀ fìè wú yà
 Interlinear gloss He SCM pray for the man neg he still die off
 Translation **He prayed for the man but he died eventually**

Transcription kàsé ká fìmì
 Underlying form kàsé káfìmì
 Interlinear gloss come do dance
 Translation **Come and dance**

Transcription ọ́nì ọ̀mọ̀sẹ̀ ọ̀mìnì ọ́nì ọ̀ḍzì àmá ọ̀yékhiàkò̀nì
 Underlying form ọ́nì ọ̀mọ̀sẹ̀ ọ̀mìnì ọ́nì ọ̀ḍzì àmá ọ̀ yé íkhi àkíò̀nì
 Interlinear gloss the man SCM see the thief neg SCM say that neg him
 Translation **The man caught the thief yet he denied the offence**

Imperative Sentence

Transcription fító!
 Underlying form fító!
 Interlinear gloss sit
 Translation **Sit down!**

Transcription fédèkwèsíùkpá!
 Underlying form fédè kwèsí ùkpá
 Interlinear gloss please shut door
 Translation **Please shut the door!**

Transcription sífè ísàsù
 Underlying form sí fè ísàsù
 Interlinear gloss don't out night
 Translation **Don't go out at night**

Transcription vrà!
 Underlying form vírà
 Interlinear gloss go
 Translation **Go**

Transcription viràβí ànà!
 Underlying form virà βí ànà
 Interlinear gloss out in/of here
 Translation **Get out**

Declarative Sentence

Transcription ònì kíorì ímhé óní ómòsè
 Underlying form ònì kíorì ímhé óní ómòsè
 Interlinear gloss he look for matter the lady
 Translation **He loves the lady**

Transcription óní ómòsà ókwéírì óníódzì ésò kwâ
 Underlying form óní ómòsà ókuéírì óní ódzì ésò kwâ
 Interlinear gloss the lady SCM slap the thief ear away
 Translation **She slapped the thief**

Transcription àkhiíkègbò àtégbè nàwá dzì
 Underlying form àkhi ikègbò àtí égbè nàwá dzì
 Interlinear gloss neg people that body put be like
 Translation **They are not trustworthy**

Transcription ómòsè mí dzì
 Underlying form ómòsè mí dzì
 Interlinear gloss boy I be
 Translation **I am a boy**

Yes / No Question

Transcription à né mìnégbè àkhi dé sù óní ódzì fó?
 Underlying form àní né mìnì égbè ákhi dé sù óní ódzì fó?
 Interlinear gloss we can see body if after bury the corpse finish?
 Translation **Can we see after the funeral?**

Transcription èwùmóní úfí?
 Underlying form èwè úmááóní úfí
 Interlinear gloss you SCM mould the pot
 Translation **Will you mould the pot?**

Transcription èwùnépí éniàbí ódàfè?
 Underlying form èwè uné jí éni àbí ódàfè?
 Interlinear gloss you SCM know cook things like king?
 Translation **can you cook as the king?**

Transcription	gwê ká dzibòsè
Underlying form	gwê ká dʒi íbòsè
Interlinear gloss	shall we do pray
Translation	Shall we pray?

Content/WH Question

Transcription	òsò yákpíóníiròròsékè?
Underlying form	òsí ó yá kpí óní iròrò sé kè?
Interlinear gloss	who SCM will carry the idea out QM?
Translation	Who will develop the idea?

Transcription	èdè sièwúyàsè vbíàgbàràkè?
Underlying form	èdè sí èwè ú yá sè vbí àgbàrà kè?
Interlinear gloss	day which you SCM will come in palace QM
Translation	When will you visit the palace?

Transcription	àtí Bólà ó dì ténì idé í vbátè kè?
Underlying form	àtí Bólà ó dì tí èní idé í vbí átè kè?
Interlinear gloss	how bola SCM do put them cloth for in arrange QM
Translation	How did Bola arrange the cloths?

Transcription	érimí àkpò ósì wò èwú yàtí óní ùkùbà fíkè?
Underlying form	érimí àkpò ósì wò èwè ú yé àtí óní ùkùbà fí kè?
Interlinear gloss	inside bag which of you SCM say put the money keep QM
Translation	In which bag will you keep the money

Transcription	àtíú kpé dóní òròmí kè?
Underlying form	àtí ú kpé dé óní òròmí kè?
Interlinear gloss	where you from buy the orange QM
Translation	Where did you buy the orange?

Transcription	ènésè ewú tókiesí èní á tónì è kè?
Underlying form	èní ésè èwé útókiesí èní wá tónì è kè?
Interlinear gloss	what happen you SCM to tear thing they (3rdP) give you QM?
Translation	Why did you reject the offer?

Transcription	àkpó òséwò èwúyàdèní íjèkè?
Underlying form	àkpó òséwò èwè ú yá dèní íjè kè?
Interlinear gloss	bag which you SCM will buy for mother QM
Translation	Which bag will you buy for your mother?

Transcription	èní fóní áwà ésò kè?
Underlying form	èní fí óní áwà esò kè?

Interlinear gloss what cause that dog ear QM
 Translation **What is wrong with thatdog?**

Structure of Phrases: Noun Phrase

Transcription óní íṅááòsómófè
 Underlying form óní íṅà ò sómófè
 Interlinear gloss the mother SCM beautiful
 Translation **a beautiful old woman**

Transcription íkègbò á βί Kàbbà
 Underlying form íkègbò á βί Kàbbà
 Interlinear gloss people that in Kabba
 Translation **The people of Kabba**

Transcription ábuàámásómòfè
 Underlying form ábuà ámá sómòfè
 Interlinear gloss dog neg beautiful
 Translation **An ugly dog**

Transcription óní ómòsà èdíkhí mì ró ménè
 Underlying form óní ómòsà èdí íkhí mì ró ménì èwè
 Interlinear gloss the lady that is me before tell you
 Translation **The lady that I told you about**

Verb Phrase

Transcription ònì ò yághì òkhi
 Underlying form ònì ò yághì òkhi
 Interlinear gloss he SCM go market
 Translation **He went to the market**

Transcription ònì í ré ònì énerè ódàdí ónà
 Underlying form ònì í ré ònì énerè ódàdí ónà
 Interlinear gloss he SCM eat the food by now
 Translation **He will have been eating that food by now**

Transcription ò sòkhí ómúóv̀hìkòβί ósé ósè
 Underlying form ò sòkhí ó mú óv̀hìkò βί ósé ó sè
 Interlinear gloss it good he hold wife in week it come
 Translation **He should be doing his marriage next week**

Transcription ònì í d̀zièvb̀òrì óyìβ̀ògìàkò
 Underlying form ònì í d̀zì èvb̀òrì óyì β̀ògì àkò
 Interlinear gloss he SCM go village be town tomorrow
 Translation **He is travelling to the town tomorrow**

Transcription wàjé óníénèrè fó
 Underlying form wà jéóní énrè fó
 Interlinear gloss they cook the food finish
 Translation **They have finished the cooking**

Transcription óní ómòfì ò gbé óní àkàràfó
 Underlying form óní ómòfì ò gbé óní àkàrà fó
 Interlinear gloss the lady SCM work the work finish
 Translation **She has finished the job**

Transcription â mínâ βóní èvbò
 Underlying form âmíni â βióní èvbò
 Interlinear gloss neg see them in the meeting
 Translation **They were not seen at the village meeting**

APPENDIX 4

ÓSÓSÒ DATABASE RECORD'

1. OSO_001_wordlist_Pa_Ore
2. OSO_002_wordlist_Pastor_Robert
3. OSO_003_wordlist_Catechist_Audu
4. OSO_004a_wordlist_mamaa
5. OSO_004b_wordlist_mamaa
6. OSO_005a_wordlist_Bethel
7. OSO_005b_wordlist_Bethel
8. OSO_005c_wordlist_Bethel
9. OSO_006a_wordlist_Bro_Jango

10. OSO_006b_wordlist_Bro_Jango
11. OSO_007_origin_Papa_Abdullahi
12. OSO_008_marriage_ceremony_Catechist_Audu
13. OSO_009_osume_male_rite_Pa_Akande
14. OSO_010_marriage_ceremony_Pa_Ore
15. OSO_011_obhiko_Pa_Akinyesi
16. OSO_012_the_tortoise_and_the_elephant_Pa_Ore
17. OSO_013_the_foolish_wise_tortoise_Pa_Akande
18. OSO_014_the-jealous_mate_Pa_Ore
19. OSO_015_The_Wicked_Law_against_Anger_Mr_Akinyesi
20. OSO_016_The_Thief_and_His_Mother_Pa_Akande
21. OSO_017_The_Wicked_Slave_Mrs_Akande
22. OSO_018_palmoil_making_Pa_Ore
23. OSO_019_okpakpanoba_profdata
24. OSO_020_The_Wicked_Human_Eating_Woman_profdata
25. OSO_021_The_King's_wicked_law_against_pounded_yam_profdata
26. OSO_022_Odumu_profdata
27. OSO_023_The_Wicked_Mate_profdata
28. OSO_024_The-Groom's_Unknown_Name_profdata
29. OSO_025_The_Tortoise_and_the_Kings_Daughters_secret_names_profdata
30. OSO_026_The_King's_kidnapped_daughter_and_seven_brave_men_profdata
31. OSO_027_The_Tortoise_and_the_King's_expensive_cloth_profdata
32. OSO_028_The_Tortoise_and_the_King's_Hidden_Wife_profdata
33. OSO_029_the_Barren_Woman_and_The_Possessed_Child_profdata
34. OSO_030_The_Hardworking_boy_bro_Jango
35. OSO_031_naming_ceremony_Pa_Akande
36. OSO_032_obhiko_rite_Mrs_Audu
37. OSO_033_origin_Pa_Ore
38. OSO_034_courtship_rites_pa_ore
39. OSO_035_how_tortoise_deceived_the-elephant_pa_ore
40. OSO_036_field_syntax_pa_ore
41. OSO_037a_field_syntax_Bethel
42. OSO_038_consent_mr_aiyejuro
43. OSO_039_consent_mrs_akande
44. OSO_040_Consent_pa_ore
45. OSO_00041_65verbs_Bethel
46. OSO_042_nominalization_Bethel
47. OSO_043_gerundization_nominalization_Bethel

48. OSO_044_lenis_fortis_mamma
49. OSO_045_dialectal_variants_mamma
50. OSO_046_dialectal_variants_pa_ore
51. OSO_047_minimal_pairs_pa_ore
52. OSO_048_song_pa_ore
53. OSO_049_staged_dialogue_1
54. OSO_050_odji_minimal_set_explained_by_Mr_Akinyesi
55. OSO_051_odji_minimal_set_Mrs_Pat_Ogedengbe
56. OSO_052_field_syntax_Mr_Murphy_lab