

Tense, Aspect and Negation in Ikhin: The Role of Tone

Olaide Oladimeji

Department of Linguistics and Languages, Federal University, Oye-Ekiti, Ekiti State

ABSTRACT: A recurring feature is the role of tone in the grammar of Ikhin. The associative H tomorph as a general feature of Edoid languages is well demonstrated in Ikhin. So is evidence of tone function in tense, aspect and negation. This paper examines the realization of tone in verbal elements in Ikhin. In this paper, by verbal elements, I mean tense, progressive aspect, negation and verb stem. This language has two basic tones and a downstep. The classic ‘two tones plus downstep’ is the most widespread in Edoid. The analysis of Ikhin tone system as containing two tones and a downstep confirms that it is a terraced level tone system. Verb stems in Ikhin do not have tonal representation in the lexicon. The context in which a verb occurs determines what tone it takes. I argue, therefore, that verbal elements acquire tonal representation at the grammatical level. I propose that simple present and progressive aspects are indicated by a grammatical tone called “tomorph”. More generally still, I argue that the postulation of a grammatical tone, such as an H tomorph as a general feature of Edoid languages, receives independent support from negation in this language.

KEYWORDS: Associative H Tomorph, Downstep, Grammar of Ikhin, Verb stem, Negative Construction, Tense and Aspect.

INTRODUCTION

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. Their genetic unity is not in doubt (Elugbe, 19). However, as might be expected over such distances, the languages have diverged typologically, and tone systems are one area where a typological comparison can be interesting. Politically, Delta Edoid (DE) languages, found only in the central part of the Niger Delta, are located in Bayelsa and Rivers States. Southwestern Edoid (SWE) languages are found only in Delta State. The very extensive North-Central Edoid (NCE) languages are located in Edo State, while the

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Northwestern Edoid (NWE) languages are to be found in the northern parts of Edo State and in the northeastern parts of Ondo State.

In the 1960s, a major discussion arose in African tone studies, regarding a subgroup of Pike's broad group of Register tone languages (105). The debate centred on the typology of the tone system of the Ghanaian language, Akan and its dialects, especially Twi. At issue was what would later be called 'downstep', a phenomenon that led to the recognition of the typology of tone systems referred to classically as 'two tone plus a downstep'. The class of tone systems thus referred to were now said to belong to a terraced level subgroup of the Register tone systems which had been assumed to be all discrete, as supposedly typified by Yoruba. In Yoruba, before the arrival of downstep, it had been assumed that the three tones of the language were discrete and each tone dominated pitch ranges referred to as Low (L), Mid (M), and High (H). The pitch range of each tone was discrete in so far as the levels did not overlap. With downstep and terracing, the two tones of a two-tone system could overlap. However, the hallmark of a downstep system was the terracing, the gradual descending of the H tone in particular in terrace-like steps. The discovery of downstep can be traced to Winston (45), who wrote about a problematic 'Mid' tone in Efik. In 1965, Stewart's views on downstep were published in a famous little booklet titled *The typology of the Twi tone system*. It was actually a preprint of an article of the same title in the *Bulletin of the Institute of African Studies* of the University of Ghana. The basic outline of 'two tones plus downstep' systems was presented there.

Ikhin is an Edoid language. It belongs to the North-Central branch of the Edoid group. Edoid languages are part of what used to be known as Eastern Kwa. Along with the rest of Eastern Kwa, they are now classified as Benue-Congo (BC) where they are recognised as forming a putative West Benue-Congo (WBC) (Blench (34)). The Edoid group falls into four co-ordinate branches: Delta Edoid (DE); Southwestern Edoid (SWE); North Central Edoid (NCE); and Northwestern Edoid (NWE). Geographically, the Edoid languages spread from the eastern Niger Delta in the Rivers and Bayelsa States through Delta State and Edo State into parts of Ondo and Kogi States. Ikhin is spoken at Ikhin in Owan East Local Government Area of Edo State.

In this paper, I argue, following Aziza (12), in favour of the postulation of a grammatical tone, such as a H tomorph as an indicator of simple present, present continuous and negation. Tomorphs are floating tones which are grammatically significant in the language and exist independently of 'segmental' phonological strings (Elugbe (15)). I claim that the fact that we cannot elicit any minimal tonal contrasts on verb stems independently of

their grammatical contexts provides no basis for representing tone on verb stems in the lexicon.

METHODOLOGY

The methodology adopted in this paper is both descriptive and analytical. I obtained data from seven purposely selected native speakers in Ikhin town and one from Ibadan, using the 1000 word list of the Summer Institute of Linguistics and the University of Ibadan word list of 400 basic items. Additional data were collected from traditional stories, conversations, descriptive statements and isolated, unelicited utterances. The data were analysed using the speed filing system of the computerised speech laboratory.

Related Works

In a number of studies on Edoid languages, tone and verb stems have been exhaustively discussed. However, none has made mention of Ikhin tone systems. The only linguistic study on this language before now was done by Folarin (23). It dwells mainly on the phonetics of the language.

Therefore, this study investigates the phonology of Ikhin with a view to determining the typology of its tone system in general and tone realisation on verb stems in particular. Ikhin has similar linguistic features with Edo (Bini), Emai and Ghotuo languages. Elugbe (18) and Egbokhare (43) have both discussed tone and verb stems in Ghotuo and Emai respectively.

Emai, Ghotuo and Ikhin are spoken in Owan East Local Government area of Edo states. There is mutual intelligibility among the native speakers, however, each has its own linguistic peculiarities. Ghotuo which is geographically closer to Ikhin has three tones while Ikhin is a two tone language. In Ikhin, vestigial evidence of concord which is normally the hallmark of a noun class system in Edoid languages was discovered in modifiers such as demonstrative and possessive pronouns. The stability of phenomena, such as tone and nasalisation, and which was the foundation for autosegmental was also identified in Ikhin.

Further review on related works on Edoid languages has revealed that analysis of Ikhin tone system as containing two tones and a downstep confirms that it is a terraced level system as in other Edoid languages.

THEORETICAL FRAMEWORK

Goldsmith's Autosegmental Theory serves as the theoretical underpinning. This idea is used for the analysis and presentation of data. Chomsky and Halle's *Sound Patterns of English* (78), is widely considered the first comprehensive treatment of generative phonology. A critical characteristic was the seriousness with which sounds were portrayed as bundles of features. A comprehensive collection of properties was presented, as well as criteria for writing phonological representation. A single line was still used to express the phonological representation. Chomsky and Halle's first generation of graduate students were successful in applying the generative phonology approach to well-known languages including Russian, Japanese, French, and Spanish via an ordered set of rules. Numerous issues and research questions have been raised by a significant number of in-depth generative investigations. According to Paul Kiparsky (98), the alternations that drive abstract representations may be generated by rules that generalise the phonetic representation across the surface phonetic representation. The phonology of tone, nasality, stress, and length is incompatible with rules that modify the structure of features in a local context. There has been a lot of research done on these supra-segmentals, which have a big influence on how sounds are represented and regulated by grammar. Tone and nasality are vocalic qualities, although their phonological behaviour is fundamentally independent of the string of segments. By drawing on the work of Wil Leben Williams and others, John Goldsmith (50) contributed significantly to this subject by suggesting the expression of tonal and nasal features on a separate level (tier), which is linked to but different from the segmental level. To further ensure optimum connectivity, vowels may be eliminated while tone and nasality are kept on their own tier and mapped to an adjacent syllable if they are autonomous. This happens in Ikhin, where the nasal vowel of a single-syllabic verb is elided, and the vowel's nasality reattaches to the neighbouring vowel. Autosegmental theory's axioms are essential to any consideration of stability. Tone, nasalization, and vowel harmony may all be seen as independent and extended phonological processes under this non-linear paradigm. It's possible that many vowels or consonants might be affected by phonological processes concurrently. These representations are multi-dimensional and include numerous layers, according to this hypothesis Linguistic segments or arrangements are used to construct the layers of a model. Segments are linked by association lines that indicate how they should be pronounced on levels. To be clear, Goldsmith's dissertation in 1976 introduced generative phonology as a subset and modification of it. He claims that it's an attempt to better understand the phonetic aspects of language representation. " For him, it's all about the "absolute slice principle," which states that each segment of the representation is cut into tidy slices or slices, each nearly ordered

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and designed to have no sub-parts. He finds problem with this approach. For Goldsmith (178), autosegmental phonology is defined as the idea that phonological representations are composed of atomic units or segments and are cross-classified according to differentiating characteristics, on the same logical level as the SPE theory. Instead of using a single level of representation for all phonological segments, it suggests that the phonetic representation be made up of multiple parallel tiers, each of which is represented on a different level. The components of each tier are referred to as "autosegments" and are arranged in chronological order.

This theory's core tenet is association convention.

Association Convention

Each morpheme in Ikhin is composed of two distinct components: On the one hand, segmental content; on the other, a tone. Thus, the underlined representation appears as follows:

o \ gbe \ a \ ki 'He killed a toad'
H L H L

On the surface every tone needs to be linked to some vowel due to the so called Association Convention.

- a. No 'floating' tones are permitted on the surface; each tone must be associated with a vowel. The tonal association convention is part of a broader set of criteria for phonological structure, which requires that each element in a phonological representation be connected to the other elements in the structure.
- b. Align-tone: All tones want to be as close to the right edge of the word as possible, given other conditions of the language. In many tone language of the world, the effect of ALIGN TONE is observed: tones tend to move to the right ('spread').
- c. Well-Formedness Condition (WFC): every tone in the output representation should be linked to exactly one vowel, and vice versa.

Given the absolute nature of thee WFC in Ikhin- it is not absolute in all languages as we will see later. The best we can do to maximally satisfy ALIGN TONE is the following.

o gbe a ki o gbe a ki
| | / | | | | |
H L H L H L H L

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Now, each tone corresponds as nearly as possible to the one on the other side. That 'no tone should be coupled with more than one vowel' and that 'no vowel should be toneless' were two examples of concurrent WFC requirements. The study of contour tones is another excellent use of autosegmentalism. There are low, high, and contour tones in Ikhin (The language also has downdrift, downstep and downglide). There are two ways to handle such an issue theoretically. As a general rule, we may divide rising and falling tones into four distinct categories: low-to-high, high-to-low, or low-to-high-to-low, respectively.

Tone Typology

Two yardsticks have been used in separating tone languages into two types. The first yardstick is based on the phonetic characteristics of tone and the second is based on the functions of tone in different languages. Pike (32) bases his classification of tone languages on the phonetic nature of tone. He notes that there are two types of tone languages. The first type consists of languages with mostly level tones and the second type consists of languages with mostly gliding or contour tones. The distinction between contour and registered tone languages is not absolute. Most systems display some of the qualities of each of the two types.

The Typological Classification of Ikhin tone system

Many kinds of tone system have been reported by researchers in the Edoid field. Two of which are **two discrete tones, without downstep of any type and two tones plus downstep and downdrift.**

The classic terraced level type system is common in Edoid and is in fact the most widely reported. This kind of system has automatic downstep (i.e. downdrift) as well as non-automatic downstep. This kind of system is reported for two languages in SWE– E_ruwa_ (Akinkugbe, 12) and Urhobo (Aziza 54). In NCE, it is reported for Edo (Amayo 102), Yekhee (Etsako) (Elimelech, 28), and for Emai (Egbokhare, 81). The Oloma (NWE) system is very similar to that of Yekhee. Our knowledge of tone in NWE is not as advanced or accurate as in the other arms of Edoid. The third type is **two tones and a downstep, but no downdrift.**

As is now generally accepted, a system can operate a downstep without its automatic version. The two DE languages, Degema and Engenni, have been reported as having only downstep (Kari 65, for Degema, Thomas, 63 for Engenni). In the Edoid languages, monosyllabic stems are very common. However, there is evidence that PE stems often had a second syllable.

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These second syllables have survived in quite a number of Edoid languages and are responsible for disyllabic stems. Thus, it is simpler in a comparison of tone in nouns to take the prefix tone plus a monosyllabic stem. Therefore LH, for example would mean a L prefix and a H stem.

Ikhin¹ is a terraced level tone system. The typology of Ikhin tone system is ‘two basic tones plus a downstep’. These two basic tones are High (H) and Low (L). We shall describe downstep with the abbreviation DS and symbolize it with a floating L (\tilde{L}) in underlying forms, and with a raised exclamation mark (!) in surface forms. Since synchronic evidence exists showing that DS derives from low tones, every case of DS is assumed to have arisen from underlying L.

Ikhin also has downdrift (DD): lows (i.e. L and \tilde{L}) are realized on successively lowered level. In Ikhin, unlike in Edo (Bini) and Hausa, H does not have a DD effect on L. Besides, a H does not cause a following low tone to downdrift unless that low is in word final position, in which case, it downglides².

The low Tone

The low tone is phonetically realized as a low tone in word initial position or as the non-final tone in a tone sequence. The low tone ends with a downglide in final position. This final position may be at the end of a word or at the end of a tone phrase. Downglide refers to the lowering of a low tone in the word final position.

1. a. ákà / - _/ → [- -] 'basket'
- b. étùàgbò / ^ - - / → [- - -] 'bear'
- c. idâmà / - - / → [- -] 'heart'
- d. ilàlò / ^ - - / → [^ - -] 'beans'
- e. éhàworà / ^ - - / → [^ - -] 'back of tree'
- f. Ikpami / ^ - - / → [^ - -] 'seed'

The High Tone

Phonetically, the high tone is realized as a high in word initial position or after another high tone:

2. a. éké / ^ - / → [^ -] 'stomach'
- b. ékhì / ^ - / → [^ -] 'belly'
- c. éni`e / ^ ^ - / → [^ ^ -] 'breast'

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- d. ák`a /´ - / → [´ -] 'basket'
e. égbà /´ - / → [´ -] 'fat'
f. éhóró /´ - / → [´ -] 'swallow'

A high tone is lowered after a low tone.

- g. òsǎ /-´ / → [-´] 'thirst'
h. àsini /--´ / → [--´] 'cricket'
i. óm`óká /-´ / → [-´] 'orange'
j. ikòkó /-´ / → [--´] 'cocoa'

DOWNSTEP and DOWNDRIFT

It is necessary to describe in some more detail what is called 'downstep'. The alternate name for downstep is 'non-automatic downstep'. It is derived from 'automatic downstep', which is itself called 'downdrift'. It occurs where a series of High tones are progressively lowered by intervening low tones. The concepts of downdrift are exemplified with Edo data in (1):

- 1) Downdrift and downstep in Edo
a. LH o_wa_/_/_/_ [__ -] house
b. LH O_zo_/_/_/_ [__ -] a name
c. HLH a_s_l_/_/_/_/_ [____ -] cricket

Downstep is exemplified in (2):

- 2) Downstep in Edo
a. o_wa_ + _ + o_zo_ Ozo's house
house AM ozo
_o_w_ _o_zo_
_o_wo_ _zo_
_o_wo_zo_

Downdrift occurs in tone sequences involving alternating high (H) and low (L) tones. This was initially assumed to be a predictable matter of phonetic realization. In languages with downdrift, any H preceded by L is realized at a lower pitch level than an earlier H, in this sense, downdrift was distinguished from Downstepⁱⁿ which one H tone is realized at a lower pitch level than a preceding H tone without any apparent conditioning factor e.g Efik,

3. a. ðbóŋ 'mosquito
- b.. ðb!óŋ 'chief
- c. óbòŋ 'care'.

It is now widely accepted that downdrift and downstep in these limited meanings are symptoms of fundamentally the same event. e.g. Stewart's phrase (1981) "automatic downstep" (for surface HLH sequences) and "non-automatic downstep" (where no conditioning factor is present in the surface tonal string). There are five potential sequences if a language contains two level tones and one downstep or downstepped high tone for two-syllable things (i.e. disyllabic items).

Two-tone downstep scheme known as Ikhin. Although the 'downstep' phenomenon is not phonemic, these two tones are distinct.

According to contemporary mainstream analysis, a two tone + downstep system is really a two tone system, since the characteristic referred to as 'downdrift' is merely the influence of low tones on subsequent high tones, or in certain instances, high tones on subsequent low tones as well. In Edoid languages, the surface structure of the low tone that has reduced a high tone is lost. The absence of the conditioning low tone results in a variety of surface representations in which a high tone is followed immediately by a decreased high tone. The following are instances from languages having two fundamental tones, such as Ikhin.

Edo (Bini)

6. a. /édé/ +/èné/ édé!né [' ' ']
 'crown' 'four' four crowns

Emai (Reduplication)

- /édè/ édè + édè [éd!édè]
 'day' 'day' 'day' 'daily'
 /ódà/ ódà + ódà [ód!ódà]
 different 'many different'

The term DS shall be used to refer to instances where the source of key lowering (downdrift) is not 'visible' that is, where there is no overt low tone at the surface to indicate the source of downstepped high (!H). In many cases, it is easy to show that a lost L is responsible for DS.

DOWNSTEP IN MORPHEMES AND SENTENCES

When a low-toned vowel before a high-toned vowel is erased after full reduplication, a downstepped high tone is formed in Ikhin morphemes.

7. input	by reduplication	→	by vowel elision\
a. óγò	óγò óγò	→	óγ!óγò
‘day’	day day		‘everyday’
b. àsò	àsò àsò	→	às!àsò
‘night’			‘everynight’
c. έγè	έγè έγè	→	έγ!έγè
‘time’	time time		‘everytime’

In Ikhin, downstep also occurs in sentences and is as a result of vowel elision. A high tone may be downstepped when a low toned vowel preceding a high toned vowel across a morpheme boundary is desyllabified:

8. a.	ójā	été	→	oŋ!étè
	She/he	climb		mountain
				she/e climbs mountain
b.	ódèèlà		→	ód!èlà
	she/he	buy		a cow
				she/he buys a cow
c.	ógbè	áki	→	ógb!áki
	She/he	kill		toad
				she/he kills toad

Each of the verbs above has a low tone, which has decreased the subsequent high tone in the underlying structure. The surface structure obliterates this same low tone. Numerous experts, notably Steward (63), have proposed that the primary aetiology of DS is floating low tone. It is not out of place to postulate a floating low tone, that is, L tomorph, for the downstepped high tone in Ikhin. When languages undergo vowel elision procedures, it is possible for the vowel or tone-bearing segment to be eliminated without removing the tone. The tone of the deleted section is then set floating, and its existence is indicated by the sort of impact it has on adjacent tones. The aforementioned phonological representations entail three phases, the first of which is vowel elision. The vowel is eliminated without affecting the tone, so reviving the tone. At this point, no vowel could be given to the tone. The second step is implantation of the DS. These two phases offer support to our hypothesis of a floating low tone that is eventually deleted during the third step.

Functions of Tone in Ikhin

Tone plays different functions in tonal languages and it does not necessarily play all the functions in all languages e.g. intonational, lexical and grammatical functions. By using a different tone for one word, the meaning of that word can be dramatically changed. In Ikhin, we are concerned with lexical and grammatical functions as shown below:

2.	Word	Meaning
	étò	‘burial’[HL]
	ètò	‘hair’ [LL]
	áki	‘toad’[HL]
	àki	‘market’[LL]
	ósà	‘thirsty’ [HL]
	òsà	‘hunger’[LL]

As we see above, the segments are the same within each word and the different meanings are carried by the different tone patterns on the disyllabic words. In some tone languages like Yoruba, it is possible for segmentally identical utterances to differ grammatically purely on the basis of tone.

For instance, in Ikhin, a declarative sentence differs from an interrogative sentence on the basis of tone as shown below:

(3) Declarative: ù vòrò lù jé ékó
 ‘you want to go to Lagos’

Interrogative: ú vòrò lù jé ékó
 ‘do you want to go to Lagos?’

In addition, it is possible for a tone language to have morphemes which are purely tonal (Tomorphs). Tomorph(tone morpheme) is a grammatical tone.

In Ikhin, for instance, tone alternation is a grammatical phenomenon. An associative H tomorph is a marker of attribution even when it is not segmentally visible. In Ikhin, all low tones on N₁ alternate with high tones if there is no intervening high tone. Alternation is however blocked if there is an intervening high tone.

Examples:

(4)	LL + ´ LL	→HHL
	òè ònà	→ óénà
	leg this	this leg
	òbò ònì	→òbónì
	doctor that	that doctor

Tone and Verb Stem

The typology of the tone system of Ikhin is very well demonstrated by the various realisations of tone on verb stems. As in other Edoid languages such as Edo (Bini), (Amayo, 10) and Urhobo, (Aziza, 12), Ikhin verb stems do not have tonal representation in the lexicon. The context in which a verb occurs determines the type of tone it takes. Verb stems therefore acquire tonal representation at the grammatical level. The fact that we cannot elicit any minimal tonal contrasts on verb stems independently of their grammatical contexts provides no basis for representing tone on verb stems in the lexicon.

Examples:

(5)	de	'buy'	
Simple past	interrogative (past)	future tense	interrogative (future)
ó d!é	ó dè?	ó dê	ó dé?
'he bought'	'did he buy?'	'he will buy'	'will he buy?'

	ku	'pour'	
Simple past	interrogative (past)	future tense	interrogative (future)
ó k!ú	ó kù?	ó kû	ó kú?
'he poured'	'did he pour?'	'he will pour'	'will he pour?'

	fa	'pluck'	
Simple past	interrogative (past)	future tense	interrogative (future)
ó f!á	ófà?	ófã	ófá?
'he plucked'	'did he pluck?'	'he will pluck'	'will he pluck?'

	fi	'throw'	
Simple past	interrogative(past)	future tense	interrogative (future)
óf !í	ófì?	ófî	óff?
'he threw'	'did he throw?'	'he will throw'	'will he throw?'

The above paradigm applies to all monosyllabic verbs in this language.

The simple present tense construction on the other hand is indicated by a floating high tone called 'tomorph'. The simple present tense construction in this language is used to show habitual action.

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In order for this tomorph to be realised, the final vowel of the subject noun phrase is slightly lengthened to accommodate it such that if the subject noun phrase already ends on a high tone, it is easy to perceive the lengthening of both the high tone and final vowel. However, if the subject noun phrase ends in a low tone, the present tense ‘tomorph’ is segmentalised on the lengthened portion of the final vowel. Consequently, the first part of the vowel bears a low tone while the lengthened portion bears a high tone.

Examples:

(6) ò + ' dè + áwà → òódè áwà → [ǒdávà]

L (H) L H L LHL HL LHHL

he present tomorph buy dog he buys dog

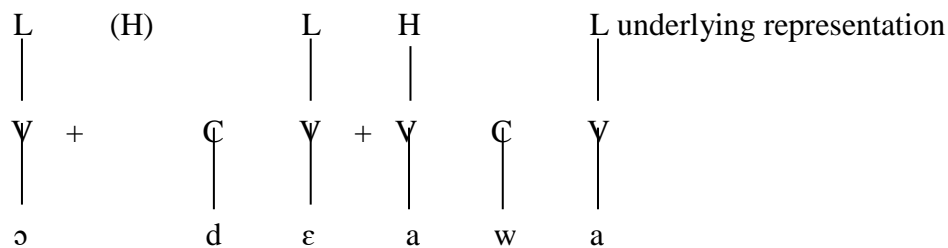
élà + ' jà + àmè → élàá jà amè → [élà/ àmè]

HLHL LL HLHL HLHL LL

cow present tomorph drink water cow drinks water

Sample derivation using autosegmental representation is presented below:

7 (i)



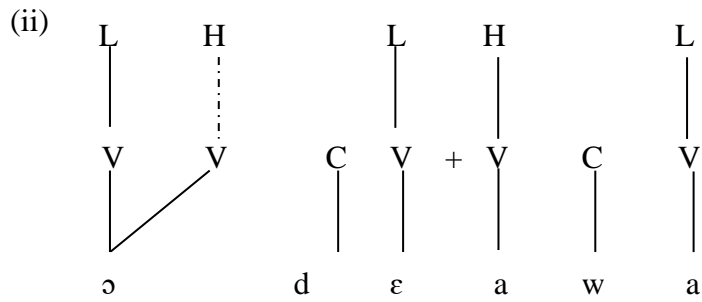
he pres. tomorph buy

dog

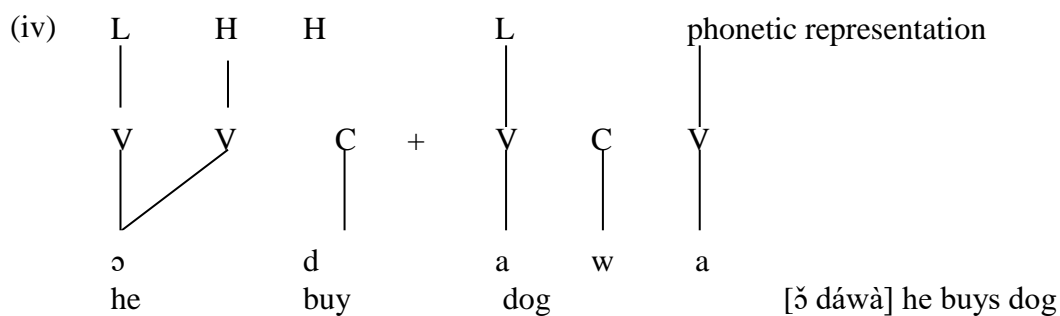
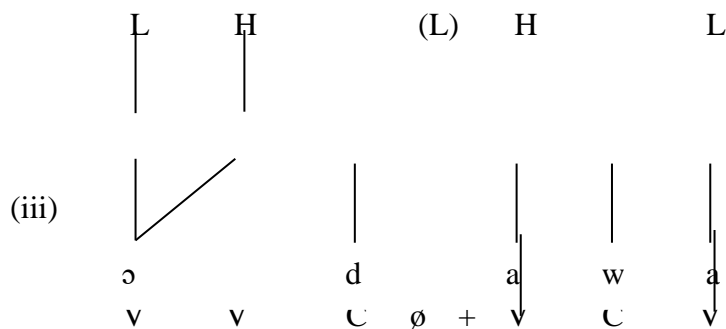
ò dè áwà

by segmentalisation of the present tomorph and lengthening of the final vowel of the subject pronoun.

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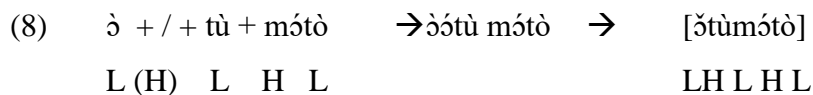


By vowel elision



This morpheme carries a high tone which in the underlying representation is floating and occurring at the end of the subject noun phrase.

Example:



He present prg. tomorph drive car He is driving a car

The above examples reveal that the H tomorph docks on a copy of the pronoun or a copy of the final vowel of the noun as the case may be. Urhobo, an Edoid language spoken in Delta State, is another example of Edoid languages that use H tomorph in this type of construction.

Tone in the Negative Construction

Negation is indicated in Ikhin by a high tone on the negative morpheme /i/. Example:

- (9) a. (i) ò dé ákà ódákà ‘he bought a basket’
 (ii) òí dé ákà ò ídákà ‘he did not buy a basket’
- b. (i) ò dé éwè òdèwè ‘he bought a goat’
 (ii) òí dé éwè ò í déwè ‘he did not buy a goat’
- c. (i) òdé úsò ò dúsó ‘he bought a head’
 (ii) òí dé úsò òí dúsó ‘he did not buy a head’

The realisation of a high tones in three different categories namely; present tense, progressive aspect and negation supports the postulation of a H tomorph in Ikhin.

CONCLUSION

This paper has established that verb stems in Ikhin do not have tonal representation in the lexicon. It reveals that the assignment of tone to verb stem is contextually determined. What this means is that simple past is indicated by a downstep high [!H] tone and simple future indicated by a falling tone [] . This paper supports the postulation of a grammatical tone (Amayo 10; Elugbe 15; Egbokhare 19; Aziza 12) such as an H tomorph as a general feature of Edoid languages as it works in the simple present and present progressive. This is ably supported with an H tomorph as a marker of negation. I claim that the fact that we cannot elicit any minimal tonal contrasts on verb stems independently of their grammatical contexts provides no basis for representing tone on verb stems in the lexicon. Verb stems are tonally empty in the lexicon and that they have tonal representation in the underlying phonological structure (Amayo, 32).

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