

Vowel lengthening in Anaañ

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Abstract

This article investigates vowel lengthening processes in the Anaañ language spoken in Akwa Ibom State of Nigeria. The study explores the possible phonological environments that permit vowel lengthening in Anaañ; examines the functions of lengthening and also probes the differences between length and lengthening in the Anaañ word structure. The autosegmental framework which was proposed Goldsmith (1976, 1990), provides the theoretical context for the study. Data for the study were sourced from personal interaction between the researcher and some participants coupled with the researcher introspection. The study discovers that vowel lengthening is a common phenomenon in Anaañ and is basically used for emphasis, and plurality including, lexical and grammatical contrasts.

Keywords: Vowel; Lengthening; Lexicon; Grammar; Anaañ

Abstract in Anaañ

Utom ami anam nduñu abaña anyan ujo-iko ke Anaañ, ke ukañ elem uchop- utun, ke iluñ Akwa Ibom, Nigeria. Iko Anaañ ade usem amaana ade anyiñ mbon Anaañ, anyiehe ntoi, ekamake enam iko anwanwa agwo. Utom ami nduñu mkpo abaña mme nsio-nsio itie ke ukpeb nkpo ujo iko eko akemeke inam jak ujo iko aniñ ke Anaañ, aduñu ache naña anyan ujo iko anam ufon ke nsio-nsio nneme ke Anaañ. Akaiso ache mkpo abaña naña anyan ujo iko anyie uliaña mme naña enam ujo iko anyiñ ke Anaañ. Utom ami ada ke ntutuñu nduñu ifiok Goldsmith (1976, 1979) – eko Auto Segmental Model, akemeke inam mme nsio-nsio ujo iko asaña keed mme ntoi, jak atom anwaña agwo. Etaña mkpo ekamake enam utom ami eto ke nsio-nsio nneme ke nsio-nsio ndaha ke ufoḍ anam utom

mme ibad-ibad mbon Anaañ. Nduñu ami ajiara anwa-anwa ke anyan ujo iko ade mkpo ema elioño ke akpaimo mbon usem ke ilak ekamba usem eko Lower Cross. Utom ami anam elioño ke anyan ujo iko anam nneme aneke anwaña agwo, amana agwod naña ekeme inam mkpo agwak, atunnu ntak anọ uliaña ke iko keere-keed mme ke nneme. Utom ami awo jak mbon nduñu mfen enam nduñu ebaña naña elad nsio-nsio elinam mme ifiok elian ke ujo iko ke Anaañ.

Akpan Iko: Ukpeeb mkpo ujo iko, Unyioñ, Unam ujo iko anyioñ, Usem, Anaañ.

Introduction

The Anaañ language genetically belongs to the Lower-Cross group of languages, a sub-family of the new Benue-Congo which is traceable to the Niger Congo phylum (Faraclas 1989; Connell 1994; Urua 2007). Anaañ is the second major language in Akwa Ibom State after Ibibio, with a linguistic homogenous heritage. Presently, the Anaañ language is spoken in eight local government areas of Akwa Ibom State as first language. These include: Abak, Ikot Ekpene, Essien Udim, Etim Ekpo, Ika, Obot Akara, Oruk Anam and Ukanafun, with very brief internal varieties among Obot Akara, Essien Udim and Ikot Ekpene. Every language has its own sound pattern, and the organization of sounds into meaningful units like words, phrases and sentences constitute the structure of a language. However, it is on the sound structure that sounds manifest their influence on each other within an environment. The knowledge of the sound system of a language by the native speakers provides insight into the different processes in which each sound undergoes within the phonological environment. It is on this premise that the present study seeks to identify the phonological environments in which lengthening occurs, in order to examine the functions of lengthening and further explore the differences between length and lengthening in Anaañ.

Vowel lengthening is established to be a common phenomenon among the languages of the Lower-Cross family. Urua (2007), asserts that vowel lengthening in Ibibio, a closely related language to Anaañ, may be phonologically and morphologically conditioned depending on the word class. Urua (2007) further argues that the functional load of lengthening varies among the Lower Cross language. Hence, it may be a phonetic manifestation in some, distinctive in others, or even be morphophonemic in some others. Urua (2007) identifies several forms of vowel lengthening which include: lexical contrast, lengthening indicating frequentative actions, and compensatory lengthening, among others. The present study focuses on Anaañ, and insights from the above studies will be extended to provide the basis for examining the processes and types of lengthening in Anaañ. The findings will provide information on the peculiarity and/or similarities when compared to

other languages that shares similar characteristics in the Lower-Cross languages of the Niger Congo phylum.

Literature review

The convergence of sound systems and the resulting phonetic convergence vary across languages that manifest in the shortening and lengthening of elements among speakers. Schertz & Paquette-Smith (2023) argues that phonetic convergence is complex speech process influenced and modulated by cognitive, social and linguistic factors that determine duration between the release of a stop and the onset of periodicity in the following sound. The duration is important in determining shortening and lengthening. Nielson (2011) explains the asymmetry between shortened and lengthened voice onset time (VOT). According to the author, producing shortened VOT automatically introduces ambiguity with the next phonological category (voiced stops), shortened VOT stimulates longer processing times when compared to lengthened VOT, shortened VOT could be less perceptually salient in comparison to lengthened VOT.

In Nigeria, scholars have investigated vowel shortening and lengthening among speakers of many indigenous languages. For instance, Utulu (2014) examines monphthongisation process among educated Urhobo-English bilinguals. Utulu's study which focuses on vowel lengthening shows that there occurs something more than the deletion of one of two elements of closing diphthongs. This process is called homogenous diphthongs (Roca & Johnson, 1999). In this process, certain phonetic mechanisms adequately account for weight dependent processes like diphthong monophthongisation and vowel lengthening processes (Utulu, 2014). Danis (2020) asserts that among the Yoruba, vowel deletion occurs in the process where the vowel that remains after an adjacent vowel deleted is slightly but significantly longer than a short vowel in non-deletional contexts. This manifestation controls the inherent vowel duration, the manner and articulation of close consonants (Akinlabi & Oyebade, 1987; Orié & Pulleybank, 2002, Ajiboye et al. 2011). Ibibio, a closer language to Anaañ, is examined by Essien (2020) who deploys the statistical moraic and acoustic approach to ascertain that Ibibio speakers of English habitually monophthongise diphthongs where the lengthening process inevitably occurs naturally for weight conservation to lengthen vowels in final open stressed syllable. This agrees with the claim that lengthening is a phonological phenomenon and it also occurs prominently in the speech events among speakers of languages within the Niger Congo phylum (Urua, 2007). Lexical and compensatory lengthening, among other forms of lengthening have

been identified in the languages of the Niger Congo phylum (Urua, 2007; Udoh, Anyanwu & Osuagwu, 2019).

Udoh, Anyanwu and Osuagwu (2019:94) argue that lexical lengthening occurs in closed syllable, where there is a contrast between CVC and CVVC structures, these type of lengthening may be phonologically conditioned. Udoh et al (2019), further identified compensatory lengthening, which involves the lengthening of a segment as a result of the deleted one. However, Udoh et al. (2019) viewed this phenomenon as a distinctive feature in Anaañ. Michael (2009) opined that vowel lengthening can occur in Anaañ as a result of certain morphological processes. This is possible when two identical vowels occur in an adjacent position at word boundary, thereby creating room for identical $V_1 V_2$. The occurrence of vowel length is also supported by contrastive vowel length. Existing literatures have attested that, the pace of utterance can be influence by vowel length in a language. For instance, in rapid speech, a sequence of two identical vowels realised as a long vowel maybe articulated separately in a normal speech (Bassene, 2012). This argument supports the claim that vowel lengthening can be morphologically conditioned. These contributions motivated interest in the present study which aims to examine the dimensions of lengthening in Anaañ to ascertain the similarities or otherwise with other languages in the same family.

Theoretical framework: Autosegmental theory

The autosegmental theory was proposed by Goldsmith in (1976) due to the inadequacies of classical generative phonology (Chomsky & Halle, 1968). The most important feature of the autosegmental theory is that tone is given an autonomous status, a separate tier because an association line indirectly links tone to actual vowel sounds through the skeletal tier (Goldsmith, 1976). The autosegmental theory recognises tiers, hence the name ‘Multi-tiered analysis.’ The multi-tiered representation was first introduced by Leben (1971), although he did not give a detailed analysis of the mapping of tones to the segments. After him, Williams (1976) and Odden (1980) attempted to develop the multi-tier model. This attempt led to the development of skeletal tier or ‘CV tier’. Katamba (1993, p. 156) provided a detailed analysis thus, “the skeletal tier holds together the different phonological tiers in the same way that binding holds the pages of a book together.” Meaning that an association line indirectly links tone to actual vowel sounds through the skeletal tier.

According to Katamba (1989), phonological representations are like a multi-storied building, with the syllables as the structural pillars and beams, which support the weight of the building at different levels. In this building, various activities such as stress level, and

tone, can take place at different levels independently, without having any effect on what goes on at another level, though inter-connected. This implies that autosegmental phonology is a multi-tier approach to phonological organization, and that the tiers are related. Goldsmith (1976) came up with a powerful convention called ‘the well-formedness condition’. This condition provides guidance on how the autosegments may be linked to the segments which bear them. This convention has the capacity to delete or add association lines at any point throughout the derivation. Goldsmith (1990) expressed the well-formedness condition thus: -

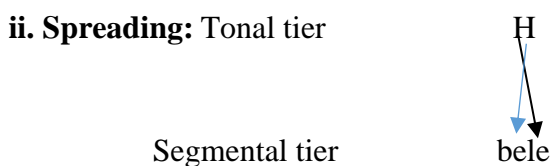
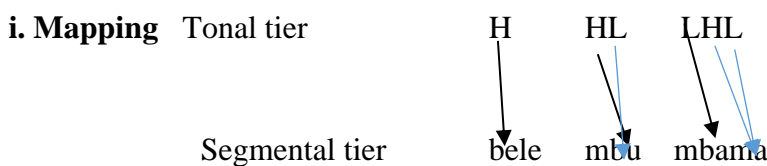
- i. All vowels are associated with at least one tone.
- ii. All tones are associated with at least one vowel
- iii. Association lines do not cross.

The first and the second conditions have undergone a lot of modifications such as mapping, spreading and dumping by several scholars such as, (Ewen etal 2001; & Leben, 1978 in Katamba, 1993)

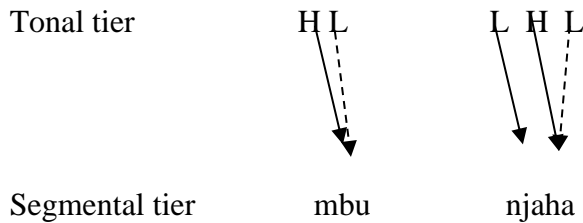
.The above modifications are described below:

- i) **Mapping:** Associate each tone with a vowel mapping from left to right.
- ii) **Spreading:** If there are fewer tones than vowels, associate the final tone with all the remaining vowels.
- iii. **Dumping:** If there are fewer vowels than the tones, associate all remaining tones with the final vowel (Ewen & Hulst, 2001).

In view of this principle, Leben, (1978) (in Katamba, 1993) presents the following illustrations from the Mende language:



iii. Dumping: Tonal tier



From the above illustration, it is observed that multi-tier representation permits many-to-one association as in (iii) and one-to-many association as in (ii). Furthermore, contour tones are given adequate representations as shown in (i & iii) above where two tones are mapped to one tone-bearing segment. However, the main aim of phonological theory is to establish the language specific as well as universal principles which regulate the connection of these autonomous parameters. This is what Goldsmith refers to as autosegmental. Justify why this theory is relevant to your analysis

Methodology

This study adopts a qualitative approach for data collection and analysis. The study area covers three Anaañ speaking local government areas in Akwa Ibom State, Nigeria, which are Abak, Etim Ekpo, and Oruk Anam. Fifteen participants were randomly selected for the study. These constitute five women, five men, between the age range of 50 to 80 years, and five youths between the age range of 18 and 35 years. Data were collected through observation, semi-structured interviews and meta-linguistic conversations with participants who speak Anaañ as their first language. The observation enabled the researcher to study the real world activities of language use among the Anaañ people; to see how sounds behave and function in an utterance. This approach also allows the researcher to identify the possible phonological environments that trigger lengthening processes in Anaañ. Using semi-structured interviews, the researcher was able to interact directly with the participants to ask questions about the sociolinguistic functions of long vowels.

Semi-structured interviews allowed access to deeper knowledge and detailed information about the significance of lengthening process. The meta-linguistic conversations enhanced the sharing of knowledge and understanding of lengthening processes between the participants and the researcher. It also aided in identifying the sounds and in contextualising the lengthening process. This approach also enhanced the collation of contextual

information according to the participants' personal experiences and fluency in the language. Through these interactions, the researcher was able to evaluate the societal perception of lengthening process in Anaañ. However, all forms of conversations were investigated. A digital camera and audio recorder were used to snap and record all the interview sessions. Field notes were used for documenting the transcript of interviews and metadata of the participants. Data were coded into relevant thematic frames, translated and annotated. The researcher used the descriptive method for data analysis in the analysis and interpretation of data. This enabled the researcher to interpret the main features of the data and provide in-depth exploration based on the participants' views and perspectives. The researcher faced some challenges of translation as some words do not have direct equivalents with English.

Data presentation for the different phonological environments

The data for this analysis constitute the 7 phonemic vowels in Anaañ which are: /a, e, i, o, u, ɐ, ɔ/. These vowels are the phonological elements that make the lengthening process possible in any phonological environment. They can occur in both open and closed syllabic word structures thus:

- 5.1. /dá/ --- 'stand' CV
- /mé/ --- 'endure' CV
- /tá/-----'chew' CV
- /kpà/-----'cut with machete' CV
- /mèn/----'swallow' CVC
- /bán/ --- 'sharpen knife' CVC
- /tób/ ----- 'throw' CVC

Lengthening of the initial vowel segment

In Anaañ, lengthening equally affects adjectives in order to describe the degree and intensity of an object in terms of size, shape, weight, smell and colour. It is initiated with these two vowels /a, e/ at the initial position, in the case, the mid-front vowel /e/ function

as a concord marker. However, initial position lengthening can affect all the phonemic vowels in Anaañ. This is discussed in the data below.

	Word	Gloss
i.	/á-ákpón/	-- 'it is very big'
ii.	/á-ányiɔŋ/	-- 'he is very tall'
iii.	/á-átéwé/	-- 'very stinky'
iv.	/é-ériɔj/	-- 'they are very bad'
v.	/é-ésiáná/	-- 'they are very clean'
vi.	/á-áfád/	-- 'very dry'
vii.	/á-ákpàkà/	-- 'extremely interwoven'
viii.	/é-ébòkò/	-- 'very close to each other'

Lengthening of the medial vowel segment

The occurrence of long vowels in the middle position is a common phenomenon among the Lower Cross Languages. This is where short vowel contrast with long vowels to perform lexical contrast, and is common with verbs. They are shown in the following data:

Short vowel	gloss	long vowel	gloss
(i) ném	'be delicious'	néém	'crack (e.g. nuts)'
ii) bàk	'be early'	bààk	'be afraid of'
iii) bøk	'cook'	bòok	'nurture'
iv) bén	'carry'	béén	'carry'
v) nìm	drop	niim	'be diminished'
vi) køk	grind	kòok	'set trap'

Lengthening of the final vowel segment

Lengthening at the final position is achieved when an action is described ideophonically or to express emphasis. It is common with verbs in an open syllable structure CV, realized as

CVV/ CVVV structure. In Anaañ, this shows the intensity of an utterance and the duration the speaker intends to apply to convey the information. The process attracts the mid-back vowel /o/ to intensify the action. Consider the following examples:

Word	final position	Gloss
i. /kpá/	/kpá-á- ó/	‘die’
ii /tá/	/tá-á-ó/	‘chew’
iii. /ché/	/ché-é-ó/	‘look’
iv. /má/	/má-á-ó/	‘love’
v./bá/	/bá-á-ó/	‘stay’
vi./mé/	/mé-ó/	‘endure’

Similarly, lengthening in an open syllable can also perform persuasive function in Anaañ, to intensify an action, colour, size, weight or effect on something. Examine the following examples:

Word	Persuasive	Gloss
i, /kpé/	/kpèèè/	‘ pay’
ii. /diá/	/diààà/	‘eat’
iii. /tʃé/	/tʃéèè/	‘look’
iv. /tá/	/táàà/	‘chew’
v. /kpà/	/kpààà/	‘cut with machete’
vi /nɔ/	/nɔɔɔ/	‘ give’
vii. /bɔ/	/bɔɔɔ/	‘collect’

Ideophonic lengthening

Ideophonic lengthening is another form of lengthening that occurs in final position because it is usually in an open syllable, to perform emphatic functions in Anaañ. Consider the following example:

	Lengthening process	Gloss
i.	/wà-à-à/	‘pouring of water’
ii.	/wò-ò-ò/	‘dipping oneself inside river’
iii.	/kpó-ó-ó/	‘sound of broken pot’
iv.	/kpá-á-á/	‘sound of hard slap’
v.	/nyà-á-ú/	‘sound of frying’

Functions of lengthening in Anaan

In investigating the functions of lengthening in Anaan, the 7 phonemic vowels remain the phonological components to determine the functions.

In Anaañ, lengthening performs both lexical and grammatical functions. These is fully discussed below:

Lexical lengthening in Anaañ

This is a situation where a short vowel contrasts with its long counterpart. This phenomenon is peculiar with verbs, as no evidence was found in nouns. It is possible in a closed syllables, and the contrast is between CVC and CVVC structures, as we can see in the following example:

CVC	gloss	CVVC	gloss
i. /nám/	‘do’	/náám/	‘get intoxicated’
ii. /lèb/	‘fall’ (rain)	/lèèb/	‘dip ball of foofoo/gari in soup’
iii. /tób/	‘throw’	/tóób/	‘get stung by ants’

iv. /bàk/	‘slaughter’	/bààk/	‘be afraid’
v. /tʊk/	‘cheat’	/tʊʊk/	‘scrub’
vi. /wʊg/ -	‘report’	/wʊʊg/	‘bury’

Plurality through vowel lengthening

Apart from lexical contrast, vowel lengthening also performs certain morphological functions by changing a singular verbal form to a plural form. The plural function of lengthening is possible inter-consonantly in monosyllabic verbs. Also, the tone level on the verb root determines the tone level of the plural form. This implies that, if the tone on the CVC stem is low, the lengthened form will also be low. This shows that tone is stable hence, the tone on the root verb maintains its status in the plural formation.

	CVC		Gloss		Plural form		Gloss
a.	/tèm/ -		‘cook’		/tèèm/ -		‘cook many things’
b.	/bàd/ -		‘count’		/bààd/ -		‘count many things’
c.	/tàb/ -		‘lure’		/tààb/ -		‘lure many people’
d.	/tím/ -		‘pound’		/tíím/ -		‘pound many things’
e.	/bód/ -		‘mould’		/bóód/ -		‘mould many things’

Emphatic function of lengthening

Lengthening performs emphatic function in Anaañ, to indicate the mode of assertiveness in the expression. The process occurs in both monosyllabic verbs (CVC), as well as disyllabic verbs (CVCV) structure. Examples:

	Words		Gloss		Words		Gloss
a.	/bén/		‘carry’		/béén/		‘carry’ (emphatically)
b.	/tábá/		‘dish’		/tààb/		‘dish’ (emphatically)
c.	/kpɔk/		‘loose’		/kpɔɔk/		‘loose’ (emphatically)
d.	/fʊk/		‘cover’		/fʊʊk/		‘cover’ (emphatically)

e. /kpád/	‘shift’	/kpáád/	‘shift’ (emphatically)
f. /dàbá/	‘remove from fire’	/dááb/	‘remove’ (emphatically)

Emphatic lengthening can as well be morphologically conditioned, the verb is reduplicated to derive the emphatic form. This is illustrated below.

Words	Gloss	Words	Gloss
a. /bòk/	‘tream’	/bóó-bòk/	‘more emphatic’
b. /kpij/	‘matchate’	/kpii-kpij/	‘more emphatic’
c. /nyàm/	‘sell’	/nyáá-nyàm/	‘more emphatic’
d. /tá/	‘chew’	/táá-tá/	‘more emphatic’
e. /nwɔŋg/	‘drink’	/nwɔɔ-nwɔŋg/	‘more emphatic’
f. /kpók/	‘cut’	/kpóó-kpók/	‘more emphatic’

Compensatory vowel lengthening

The frequentative action of the verb is achieved by simply lengthening or doubling the vowel. This type of lengthening arises as a result of suffixation, the final consonant of the verb gets deleted and creates an empty slot that enables the lengthening process to take place. The CVC structure automatically becomes CVVCV, and this occurs in Anaañ as in the following examples:

CVC	Gloss	Frequentative	Gloss
a. /tób/	‘throw’	/tóó-mó/	‘throw’ (frequently)
b. /tád/	‘loose’	/táá-rá/	‘loosen’ (frequently)
c. /fĩd/	‘close a container’	/fĩĩ-rè/	‘close a containers’ (frequently)
d. /kpók/	‘cut’ things	/kpòòŋó/	‘cut many things’
e. /bàk/	‘slaughter’	/bààŋá/	‘separate’ (from each other)
f. /kpɔk/	‘loose’	/kpɔɔŋɔ/	‘loose’ (many things)

g. /bèd/ ‘close’ (door) /bèèré/ ‘open’ (many doors).

Reversive function of lengthening

In Anaañ, lengthening performs reversive function, which can result in plurality. In most cases where the root verb bears a different tone from the suffix, the reversive form copies the tone level of the root word. Also, there is a harmonic process between the root vowel and the suffix after the geminate consonant. The components for this process are verbs with geminate consonant in a CVCCV structure leaving the derived form as CVVC. Consider the data below:

Verb	Gloss	Reversive	Gloss
a./làkká/	‘pull out’ (from under)	/lààk/	‘put under’
b./fákká/	‘un-insert’	/fáák/	‘insert’
c./kɔkkɔ/	‘unblock’	/kɔɔk/	‘block’
d./tèmmé/	‘uncook’	/tèèm/	‘cook’ (things)
e. /kɛkkɛ/	‘open’ (door)	/kɛɛk/	‘close’ (doors)
f./bɔkkɔ/	‘finsh cooking’	/bɔɔk/ (mbɔɔk)	‘cook’ (things)
g./wukkɔ/	‘exume’	/wuuk/	‘burry’
h./kɔbbɔ/	‘unhang’	/kɔɔb/	‘hang’ many things.
i./fiik/	‘un-press’	/fiik/	‘press-down’

Reduplicative function of lengthening

The interface between phonology and morphology manifest in lengthening process that is investigated in this article. The aim of the reduplicative form is to show the duration of an action or the extent of the verbal quality in an utterance. In Anaañ, the following examples were attested to:

i./m-béé-béné/	‘am carrying’
ii./ń-táá-támá/	‘am jumping’
iii./ń-ťéé-ťé/	‘am looking’
iv./á-miáá-miá/	‘he/she is beating’
v. /á-diáá-diá/	‘he/she is eating’
vii./á-tuáá-tuá/	‘he/she is crying’
viii./á-sɔɔ-sɔi/	‘he/she is peeling it’
ix./á-ɲwéé-ɲwèn/	‘is black’
x./á-ťáá-ťák/	‘he/she is smiling’
xi./mbóó-bók/	‘am gathering’
xii./ńnɔɔ-nɔ/	‘am giving’ (him or her)
xiii./ńtéé-tèm/	‘am cooking it’

Affirmative function of lengthening

The process of lengthening manifests in affirmative expressions to indicate a perfect completion of an action. This form of lengthening is not limited to the CVC structure, it can also occur in an open syllable. The sound [o] is obligatorily introduced, if the word is not repeated many times. Also, if the word ends with a consonant in a closed syllable, the final stop is bound to be weakened. However, whether the process indicates the duration of an action or the degree of the verbal property, the action is intensified by the lengthening of the final vowel originally or inserted. Consider the following examples:

i./ńťák/	[ńťák-ooooo]	‘I really laugh’
ii./mbéd /	[mbér-ooooo]	‘ I really waited’

iii./fád/	[fár-oooo]	‘hug’ (with much emphasis)
iv./bɔk/	[bɔɛ-oooo]	‘cook’ (with much emphasis)
v./tád/	[tár-oooo]	‘loose’ (with much emphasis)
vi. /bàk/	[bàɛ-oooo]	‘slaughter’ (with much emphasis)
vii./diá/	[dijá-oooo]	‘eat’ (with much emphasis)
viii./má/	[má-oooo]	‘love’ (with much emphasis)
ix. /mèn/	[mèn-oooo]	‘swallow’ (with much emphasis)
x. /bén/	[bén-oooo]	‘carry’ (with much emphasis)

Morphologically conditioned lengthening

Vowel lengthening may occur as a result of certain morphological processes in Anaañ. This process occurs when two identical vowels occur in an adjacent position at word boundary thereby creating room for V₁, V₂, this cause V₁ to assimilate V₂ at word boundary. This permits long vowels with open syllable structure. Hence, whether in a normal or rapid speech, lengthening is bound to occur. This phenomenon is illustrated in the data below.

- i. /étí # /fkɔ// → [é-tíí-kɔ] good word
good word
- ii. /èkà # /àkpɔk/ → [è-káá-kpɔk] mother lizard
mother lizard
- iii. /álú # / útɔŋ/ → [á-lúú-tɔŋ] eardrum
hole ear
- iv. /àbè # /áfíð/ → [à-bèé-fíð] pit toilet
Pit toilet
- v. /ánwá # /àkpàrà/ → [á-nwáá-kpàrà] arena for prostitution

- arena prostitute
- vi. /étì/ # /ìní/ → [é-tíí-nì] good time
good time
- vii. /èté/ # /ènǎ/ → [è-tèé-nǎ] eno's father
father gift
- ix. /èkà/ # /ádʒén/ → [è-káá-dʒèn] mother
mother child
- x. /èrù/ # /úgwém/ → [è-rúú-gwèm] behavior
manner life
- xi. /àfija/ # /àfǒŋ/ → [àfijááǒŋ] white-cloth
white cloth

Length and lengthening

The data used to establish the distinction between length and lengthening in this study constitute the long and short vowels in Anaan, which are:

Short vowels

Vowels are short in closed syllable in a CVC syllable structure. In Anaan, all the 7 phonemic vowels can occur in a closed syllable thus:

Short vowel	Gloss
i. /bàd/	‘count’
ii. /téd/	‘pluck’
iii. /núg/	‘push’
iv./ tób/	‘throw’
v./bɔk/	‘cook’
vi./fib/	‘suck’

vii./tuk/ 'cheat'

Vowel length is one of the phonetic components that constitutes the phonology of a language thus forming the grammar of the language. It is the feature of sounds which have distinctively extended duration compared to other sounds in an utterance'. Length is a supra-segmental feature that can affect a single segment as well as a whole syllable while lengthening may be derived from phonological processes, such as coalescence and compensatory lengthening which can be conditioned by phonological features of the surrounding sounds and can only apply to the phonemic vowels in monosyllabic and disyllabic words as discussed previously. The lengthening process can occur in all the phonological environments in Anaañ, and marks lexical contrast, plurality, emphasis and grammatical categories. However, length is a perceived duration of a vowel sound during articulation. Three lengths of vowels can be distinguished in a language: short, lengthened and double. Examples in Anaañ:

Vowel length

Anaañ as other Lower-Cross languages, has both long and short vowels. These vowels are phonologically unconstrained in terms of length, as such, underlying vowel length can occur in Anaañ word stem. Examples are as follows:

Underlying vowel length

- | | | |
|------|-----------|-------------|
| i. | /è-dááhá/ | get erected |
| ii. | /abóón/ | has carried |
| iii. | /atáád/ | has loosen |
| iv. | /gũũk/ | pin |

In Anaañ, underlying vowel length can be phonemic, if presented in near minimal pair thus:

- | | | |
|------|-----------|---------------|
| i. | /è-dááhá/ | get erected |
| | /á-dááhá/ | pillar |
| ii. | /abéén/ | has carried |
| | /ábáán/ | has sharpened |
| iii. | /gwũũk/ | pin down |
| | /gwɔɔk/ | swim |

Derived Vowel Length

Derived vowel length occurs in Anaan, after the phonetic environment is altered through predictable morphophonological processes. Derived vowel length in Anaan can be achieved through a number of ways. First, through the process of assimilation, when non-identical vowels are concatenated at morpheme boundaries, derived vowel length has taken place. Consider the data below:

- i. /ètté àdgid/
/ètéèdgid/ our father
- ii. /ágwó ibàk/
/ágwiibàk/ wicked man
- iii. /imo ágwó/
/imóòdgdwò/ rich man

Second, derived vowel length in Anaan is as a result of concatenation of two heteromorphemic identical vowels as the data in the following examples attest to that.

- i. /àmá -ámi/ my lover
- ii. /áfia - áfɔŋ/ white cloth
- iii. /ɲwáŋá-ábè/ wide pit

The third, derived vowel length can occur through gliding. In Anaañ, when the first vowel in a VV sequence is a high front vowel /i/ or a high back vowel /u/, and precedes any of these four vowels /a, e, i, o/. The high front vowel /i/ glides to /y/ when followed by any of the vowels /a, e, o, u/ heteromorphemically. When this takes place, the following vowel lengthens to compensate for the mora lost as /i/ will automatically change to /y/. Consider the data below:

- | | Words | gloss |
|------|----------------------|--------------------------------|
| i. | /ifiyá/
/ifiáá/ | firewood
firewood |
| ii. | /áfiyóp/
/áfíóóp/ | African-salad
African-salad |
| iii. | /áfiyɔŋ/ | moon |

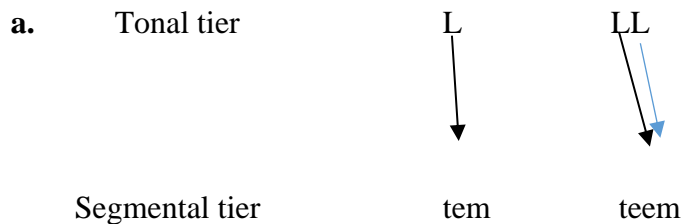
/áfioɔŋ/ moon

Similarly, in Anaañ, the high back vowel /u/ undergoes gliding when followed by any of the four vowels /a, e, i, o/ heteromorphemically. However, When the high back vowel glides to /w/, the following vowel/ a, e, i, o/ lengthens to compensate for the mora lost when /u/ glides to /w/.” See the data below:

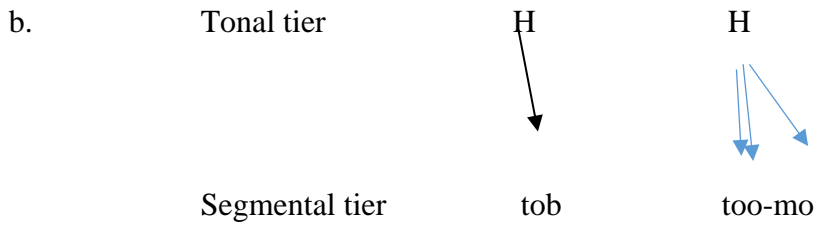
	Word	gloss
i.	/ikwuáá/	machete
	/ikúáá/	machete
ii.	/akwuɔk/	bee
	/akuɔɔk/	bee
iii.	/dwùòp/	ten
	/dùòòp/	ten

Application of auto segmental theory to the data

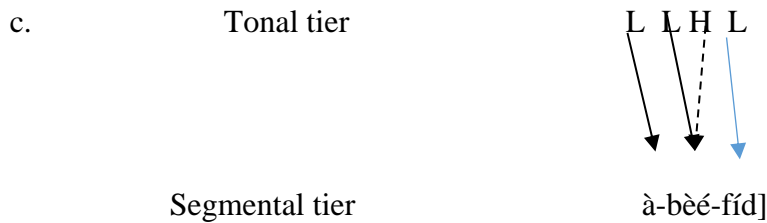
Applying the auto segmental theory to this process will reveal the function of tone and its autonomiticity in Anaañ as a tone language.



The illustration above shows how tone is linked to the segments using association lines expressing lexical contrast of long vowel /e/ with low tone.



This illustration explains the compensatory function lengthening in Anaañ, and how the tonal tiers are linked to segment /o/ with high tone



From the above, it is observed that multi-tier representation permits many-to-one association as in (a) and one-to-many association as in (b). Furthermore, contour tones are given adequate representations as shown in (c) as (èé) above where two tones are mapped to segments with Low-High in the same slot. However, the main aim of phonological theory is to establish the language specific as well as universal principles which regulate the connection of these autonomous parameters. This is what Goldsmith refers to as autosegmental phonology. Hence the adoption of this framework in this study because it captures rules involve in lengthening process in Anaañ.

Conclusion

Using Goldsmith's (1976, 1990) autosegmental theory, this study examined the lengthening process in Anaañ, and also investigated the possible environments lengthening process may likely occur including the functions of lengthening. The study equally discussed the differences between length and lengthening, and found out that, lengthening as a distinctive phonological process can occur in all the phonological environments.

However, in Anaañ word structure, lengthening affects vowels mostly for several reasons, such as plurality, emphatic declaration as well as lexical and grammatical contrast. It applies to CV, CVC verbs, CVVC with non-identical vowel and breaks the geminate consonant in a CVCCV structure. It can occur in both monosyllabic and disyllabic structures. The findings further showed that lengthening performs, reversive, reduplicative and persuasive functions amongst others. The study revealed that, length is a phonetic feature which can affect a single segment as well as a whole syllable while lengthening is a process of doubling the segment. However this work will aid a deeper understanding of Anaañ phonology and stimulates research in other areas of Anaañ grammar. For further studies, I recommend that researchers should consider other aspects of Anaañ phonology to deepen linguistic scholarship in the language.

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