TONE AND THE ASSOCIATIVE CONSTRUCTION IN AKAN[1]

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The associative morpheme in Akan appears to have historically lost its segmental representation in surface grammatical and phonological structure, leaving behind only its H tonal effect at the phonetic surface. We will demonstrate in this paper that the associative morpheme did not lose its segmental melody in *proto-Akan as such but rather, over time, the association of the segmental melody of the associative morpheme to its tone melody, underwent change. Hence, the segmental and tone melodies became toneless and segmentless respectively. We will also demonstrate in this paper that in phonological representations, the segmentless Associative H in Akan floats between the possessor and the possessed NPs in the associative phrase. But in phonetic representations it often lands on either the toneless segmental constituent of the associative morpheme in Fante and Akuapem or the initial syllable of the possessed noun-root in Asante. Furthermore, the association of the Associative H varies across the dialects of Akan, with each dialect associating it with one syllable or another in the Associative Phrase.

Le morphème associatif en akan paraît avoir perdu historiquement sa représentation segmentale en surface dans la structure grammaticale et phonologique, laissant derrière seulement son effet tonal H à la surface phonétique. Nous allons démontrer dans cette étude, que le morphème associatif n'a pas perdu, en tant que tel, sa mélodie segmentale en *proto-akan, mais plutôt, avec le temps, l'association de la mélodie segmentale du morphème associatif à sa mélodie tonale, a subi un changement. La mélodie segmentale et la melodie tonale sont devenues respectivement sans segment et sans ton. Nous allons également démontrer, dans cette étude, que dans les représentations phonologiques, le H associatif sans segment en akan flotte entre le possesseur et les GN (NPs) possédés dans le groupe associatif. Toutefois, dans les représentations phonétiques, cela retombe souvent soit sur le constituent segmental sans ton du morphème associatif en fante ou en akuapem, soit sur la syllable initiale de la racine nominale du nom jouant le rôle du possédé en asante. En outre, l'association du ton H de l'associatif varie d'un dialecte à l'autre en akan, chaque dialecte pouvant l'associer à une syllable ou à une autre dans le groupe associatif.

0. INTRODUCTION

Akan comprises a number of dialects including Agona, Akuapem, Akuamu, Asante, Asin, Akyem, Bono, Fante, Kwahu and Wassa. However, the data for this study are collected from its three major dialects of Fante, Asante and Akuapem. In this paper, therefore, examples or derivations that are peculiar to any of these dialects will be labelled (Fa.), (Ak.) and (As.) for Fante, Akuapem and Asante respectively.

Akan is an archetypical two-tone terraced level register tone language. At the underlying level of representation there are only high tone (H) and low tone (L), whereas at the phonetic level there are H, L, $^{!}$H (downstepped high tone, downstep for short) and what some authors and others respectively refer to as *automatic downstep* and *downdrift*, that is, every H following a L is lower in pitch than a H preceding the L, and a L following a L tends to be lower in pitch than the preceding L. The H and the L, occurring in phonological representations, are redundantly tonemes while the downstep H is an allotone of the high toneme. We exhibit explicitly in the vital segments of this paper that Akan has more than three phonetic tones, that is to say, in

[1] I thank the anonymous referee for his/her very valuable comments and suggestions which have been duly integrated into the final version of this paper. However, any shortcoming that might be associated with this paper is entirely mine.

addition to H, L and $^{!}$H, Akan has two contour tones, the falling (F) and rising (R) tones. In the previous studies falling and rising tones are said to have come about in the language only when two contrastive tone-bearing units (TBU) occur contiguously at the phonetic level of representation. Thus, a contiguous occurrence of L-H and H-L sequences will give rise to rising and falling tones respectively. See Obeng (1987, 1989) and Abakah (1993, 2000, 2003) for a detailed study.

It has hitherto been argued that a single tone-bearing unit does not bear a contour tone in Akan. However, Dolphyne (1988:62) was the first to report about the presence of falling tone on a single TBU in Fante on the final vowel of a verb in the past aspect form at precomplement environment. Abakah and Koranteng (2007) have also studied the tonology of the Akan verb and their findings on Akan contour tones give credence to Dolphyne's (1988) report. This study goes further to report on the presence of both falling and rising tones on a single TBU in Asante.

Another phonetic tone in Akan that has been generally overlooked by Linguists is the floating L probably because it does not have segmental support. Akan has two floating tones i.e. the floating H (Ḭ) and the floating L (L̰). We do not have empirical evidence as regards the Ḭ being phonetic inasmuch as its presence at the phonetic level (p-level) does not trigger any tonal perturbation in Akan. However, since the presence of an intervening L̰ at the output stage conditions an H following it to receive a lower pitch value relative to a preceding H, it is certainly not preposterous to claim phonetic status for the floating L in Akan, seeing that its absence at the p-level in that phonetic environment does not result in the downstepping of the following H. Some floating tones originate / are inherent in phonological representations of morphemes while others come about as a result of deletion of their segmental anchor by a phonological rule in the course of derivation. See Goldsmith (1990) for a detailed study of the theory of floating tones. Regardless of a L̰'s origin, if it does not dock to an adjacent TBU in the course of derivation, it floats at the phonetic stage to influence an adjacent H to receive a lower phonetic value than a H preceding it. However, a Ḭ occurring in a phonological representation in Akan as an associative morpheme (as we shall shortly observe) is morphemic but we do not have any empirical evidence about its tonemicity in Akan. Besides, it invariably docks to an adjacent TBU during derivation thereby appearing at the phonetic level as a linked H.

Tone is one of the areas of Akan phonology that has been extensively researched and, it has already been established in the literature that tone functions in Akan at the lexical and grammatical levels. See (Stewart 1962), Dolphyne (1986, 1988), Obeng (1989), Abakah (2000, 2002, 2005), among others. It is often impossible to carry out any meaningful syntactic analysis in certain areas of Akan syntax without reference to tone. Some of the areas of Akan grammar that rely heavily on tone for analysis include distinguishing a main clause from an adverbial clause of time, negative sentences from optative ones and many others. In his syntactic analysis of the Associative construction in Akan, Boadi (ms) has, for instance, argued that in many dialects of Akan the associative morpheme lacks segmental representation at the p-level and for that reason it (the associative morpheme) has an abstract representation. Studying the phonology-syntax interface in Akan with focus on Tone and Grammar, Dolphyne (1986, 1988) has asserted that in the Associative construction, in Akan, the possessed NP may undergo tone shifting or tone raising depending fundamentally upon the class to which the possessed NP belongs. Dolphyne (ibid.) does not necessarily consider the associative morpheme in Akan to be basically tonal.

In this paper, we assume that the associative morpheme in Akan has both segmental and tone melodies but are delinked at the underlying level (u-level) of representation. In other words, in phonological representations, the segmental component of the associative morpheme in Akan is toneless while its tone component is segmentless. This assumption is informed by the following theories of the associative morpheme in Akan discussed in the following section.

1. THE ASSOCIATIVE CONSTRUCTION IN AKAN

More often than not, if one refers to the Associative Construction then one is indeed referring to the association of two nouns to form a compound or complex noun with various semantic relationships represented in the association. However, in this paper we focus on the association of the possessive pronoun and the noun, or the noun and postpositions. The associative or genitive construction in Akan is therefore indicated by the concatenation of the pronoun/noun-noun sequence, i.e. NP_1's NP_2. The NP_1 could either be a lexical possessor noun or a possessor pronoun whereas the NP_2 stands for a noun or a postposition.

1.1. THEORIES OF THE ASSOCIATIVE MORPHEME IN AKAN

In many dialects of Akan, including those that are not studied in this paper, the possessive concord has lost its segmental representation in surface grammatical and phonological structure (Boadi ms), leaving only its H tonal effect behind at the surface level.[2] At the p-level in the dialects under investigation, the Associative morpheme in Asante is often realized as an H melody apparently having no segmental anchor while in Fante and Akuapem this H melody has a segmental support. In this paper, we propound three feasible theories about the associative morpheme in Akan; the first two are diachronic while the last one is synchronic.

1.1.1. Diachronic Theory I of the Associative Morpheme in Akan

This theory is cast within the framework of the broader African context where the associative morpheme, having no segmental representation but consisting entirely of tone, historically resulted from a morpheme which had both segmental and tonal representations. This morpheme occurred between the possessor and the possessed NPs in line with Greenberg's (1966) word-order universals but when the segmental melody was lost, the tonal content stayed behind. See the discussions in Welmers (1963) and Cahill (1985). It is, for this reason, legitimate to assume that the underlying segmental constituent of the associative morpheme was lost in proto-Akan leaving its lexical tone intact. But, in this paper, we presume that the associative morpheme, in Akan, did not lose its segmental melody in proto-Akan as such but rather somewhere along the line, the association line associating the segmental melody of the associative morpheme with its tone melody disengaged. As a result, the two melodies stayed apart, the segmental melody staying toneless and the tone melody staying segmentless.

This theory, whereby the associative morpheme has no segmental anchor, is not unique to Akan. Williams (1976), Hyman (1975), Goldsmith (1976, 1982), among other earlier scholars, have reported a parallel process in the Igbo language. Ma Newman (1971) and Kenstowicz (1994) have also claimed an identical process for

[2] It is worth noting that L in Akan never ever marks the association relationship in any of the varieties of Akan.

Ga'anda. The archetypal Igbo example often quoted in support of this claim is [**ègbà éŋwè**]/[**àgbá èŋwè**] ('monkey' + 'jaw'). These two nouns are L-toned in the isolative style in both the Aboh Igbo and the Central Igbo varieties. But in the combinative style, an unrelated H appears at the p-level in both varieties of Igbo but in different shapes. It is discernible from the information in the literature that the associative H̥ in Igbo lost its segmental support completely in *proto-Igbo. So, in Aboh Igbo the floating H docks to the initial TBU of the possessed noun on its right while in Central Igbo it associates to the possessor noun on its left as follows:

(1)

	Aboh Igbo	Central Igbo	
Underlying Representation.	L L H L L | | | | | **ɛgba eŋwe**	L L H L L | | | | | **agba eŋwe**	
Floating H Spreading	L L H L L | | ╲ ╪ | **ɛ gba eŋwe**	L L H L L | ╪ ╱ | | **agba eŋwe**	
Phonetic Representation	L L H L | | ╲ | **ɛgba èŋwe**	L H L L | ╱ | | **agba eŋwe**	
	[**ègbà éŋwè**]	[**àgbá èŋwè**]	

Obviously the unconnected H in question has to be accounted for. Williams (1976), Hyman (1975), Goldsmith (1976) and others have argued that this H is a segmentless morpheme serving as a genitival linker just in the same way as Goldsmith (1990), Ma Newman (1971) on the one hand and Kenstowicz (1994) on the other have claimed for Mixtecan and Ga'anda respectively. Cahill (1999) has also remarked that Kɔnni, a Gur language spoken in the northern part of Ghana, operates a similar system but on a limited scale in that the genitival floating H operates only when the possessor noun is the 3sg.

1.1.2. Diachronic Theory II of the Associative Morpheme in Akan

In the case of Akan, since the associative morpheme frequently has segmental support in some of the dialects, it could be argued that the segmental melody of the associative morpheme was completely lost in proto-Akan, thereby leaving behind its tone melody of an absolute tonal morpheme like our presumed case of the Igbo varieties. However, sometime later when the language had to reassociate the segmental melody to the tonal melody, it was realized that the segmental anchor had been completely lost.[3] Consequently, the pronoun was copied to serve as the segmental melody of the associative morpheme to which the floating H of an associative morpheme associates in synchronic terms. (2), data on associative phrases in Akan, illustrate this point.

[3] This gives credence to Goldsmith's (1976:30) assertion that when a tone-bearing unit (TBU) deletes the tone it bears does not delete.

(2)	Underlying Representation	Fante/Akuapem[4]	Asante	
a.	**(á)mí** 'me' **+** Ass. **+ sɪ̀ká**	**(á)mí mí sɪ̀ká**	**mí mí sɪ̂ˈká**	'my money'
b.	**ɔ́wɔ́** 'you sg.' + Ass. + **sɪ̀ká**	**ɔ́wɔ́ wɔ́ sɪ̀ká**	**wɔ́ wɔ́ sɪ̂ˈká**	'your money'
c.	**ɔ́nɔ́** 's/he' + Ass. + **sɪ̀ká**	**ɔ́nɔ́ ní sɪ̀ká**	**ɔ̀nɔ́ ní sɪ̂ˈká**	'his/her money'
d.	**ɪ́hɛ́ń/jɛ́ń** 'we' + Ass. + **sɪ̀ká**	**ɪ́hɛ́ń hɛ̀ń sɪ̀ká**	**jɛ̃́ĩ́ jɛ́ɛ́ sɪ̂ˈká**	'our money'
e.	**hɔ́ḿ/mɔ́** 'you pl'+ Ass + **sɪ̀ká**	**hɔ́ḿ hɔ̀ḿ sɪ̀ká**	**mɔ́ mɔ́ sɪ̂ˈká**	'your money'
f.	**ɪ́hɔ́ń/wɔ́ń** 'they' + Ass. + **sɪ̀ká**	**ɪ́hɔ́ń hɔ̀ń sɪ̀ká**	**wɔ́ń wɔ̃̃́ sɪ̂ˈká**	'their money'

A brief study of (2) reveals that the associative morpheme (Ass.) in Akan is a copy of the pronoun. The initial morphemes in the output forms from (2a) through (2f) represent the nominative pronouns in Akan while the middle ones represent the genitive forms. The segmental component of the nominative pronominal in Akan is not prelinked to any tone in phonological representations, but the phonetic H they bear in terms of (2a) - (2c) happens to be a grammatical tone. The Fante/Akuapem examples (2d) - (2f) also demonstrate clearly that the segmental melody of the associative morpheme in Akan is toneless in that as its final TBU becomes the landing site of the associative floating H, the initial TBU receives a default L.

1.1.3. The Synchronic Theory of the Associative Morpheme in Akan

The third theory we advance for this segmentless, toneless associative morpheme in Akan is dissociated from the general diachronic phenomenon associated with African languages and the Akan language as noted above. In synchronic terms, as the examples in (2) demonstrate, we repeat for emphasis that, the associative morpheme in all the dialects of Akan is a copy of the personal pronoun, contrary to the claim made by some scholars of Akan Linguistics that the associative morpheme does not have any segmental representation in the Asante dialect at all. This synchronic approach underscores why it is possible to construct the associative phrase in Akan without either the pronoun or the segmental component of the associative morpheme and the phonetic representation will be grammatically impeccable. Data (3a) - (3f) is an alternative version of the forms in (2) without any change in meaning. We have given (3g) - (3n) as additional examples, made up of varied nouns at the possessed NP position to buttress our point.

(3).	U-Level	P-Level Fante/Akuapem	Asante	Gloss
a.	**mɪ sɪ̀ká**	**mí sɪ̀ká**	**mì sɪ̂ˈkáˊ**	my money
b.	**wʊ sɪ̀ká**	**wɔ́ sɪ̀ká**	**wɔ̀ sɪ̂ˈkáˊ**	your sg. money
c.	**nɪ sɪ̀ká**	**ní sɪ̀ká**	**nì sɪ̂ˈká**	his/her money
d.	**hɛn sɪ̀ká**	**jɛ̀ŋ́ sɪ̀ká**	**jɛ̀ǹ sɪ̂ˈká**	our money
e.	**hʊm sɪ̀ká**	**mɔ́ sɪ̀ká**	**mɔ̀ sɪ̂ˈká**	your pl. money
f.	**hɔn/wɔŋ sɪ̀ká**	**wɔ́ń sɪ̀ká**	**wɔ̀ǹ sɪ̂ˈká**	their money
g.	**kɔ̀fí nɪ sɪ̀ká**	**kɔ̀fí ní sɪ̀ká**	**kɔ̀fí sɪ́ˈká**	Kofi's money

[4] Fante and Akuapem have identical tone melodies but Fante examples have been given to represent both Fante and Akuapem even though the Akuapem segmental melodies in terms of (2d-f) are different from those of Fante as follows: the Akuapem 1PL, 2PL and 3PL are **jɛ́ŋ́/jɛ̀ŋ́ sɪ̀ká**, **mɔ́/mɔ́ sɪ̀ká** and **wɔ́ŋ́/wɔ̀ŋ́ sɪ̀ká** respectively.

h.	**àsàrì nɪ kènté**	**àsàrì ní kènte**	**àsàrì kénté**	Asare's kente cloth
i.	**nɪ ŋàmí**	***ní* ŋàmí**	***nì* ŋá$^{!}$mí**	his/her God
j.	**wo nàná**	***wó* nàná**	***wò* ná$^{!}$ná**	your grandchild
k.	**jɛn kùbé**	***jɛ̀ń/hɛ̀ń* kùbé**	***jɛ̀ɛ̀* kú$^{!}$bé**	our coconut
l.	**hɔm hĩ̀ã́**	***mɔ́/hɔ̀mí* hĩ̀ã́**	***mɔ̀* hĩ̂$^{!}$ã́**	your pl poverty
m.	**wɔn nàŋ̀tɕɥí(é)**	***wɔ̀ń*næ̀ŋ̀tɕɥi(Ak)/ *wɔ̀ɔ̀mɔ̀* nǽŋ̀tɕɥí(é)**		their cow
		***hɔ̀ń* nèŋ̀tɕɥí(Fa)**		
n.	**mɪ bàŋ̀tɕí**	***mí* bàŋ̀tɕí**	***mì* báŋ̀tɕí**	my cassava

When we compare the examples in (3a) - (3f) with those in (2), it becomes evident that the segmental representation of the associative morpheme is toneless not only in the Asante but in Fante and Akuapem like all the other dialects of Akan not covered in this paper. In (2a) - (2c), the singular associative morpheme is realized on H in all the dialects of Akan while in (3a) - (3c) it is still realized on H in Fante/Akuapem but on L in Asante. In (2a) - (2c), since the segmental melody of the genitival morpheme does not have its own tone it takes the tone of the preceding possessor pronominal. In (3) the associative floating H docks leftwards to the toneless possessor pronominal in Fante and Akuapem. In Asante, this floating H docks to the right, specifically to the initial TBU of the possessed NP root. (Graphic account of this approach can be found in derivation (4) below using example (3n)). This scenario becomes clearer when we look at the plural forms of the associative morpheme in (2d) - (2f) and (3d) - (3f)/(3i) - (3l). The same tone sandhi rules apply to examples (3g) - (3n). See Abakah and Koranteng (2007) for a detailed study of the graphic account of this type of tone sandhi process in Akan.

(4) Fante/Akuapem Asante

a.


b.


c.


[**àsàrì ní kènté**] [**àsàrì kénté**]

It is worth restating that the associative morpheme **nɪ** in Asante does not receive any tone and phonetic content at all at the p-level and for this reason it is phonetically vacuous. In the above derivation, (4a) is the underlying representation. In (4b), like Central Igbo, the floating Associative H docks leftwards to the toneless Associative morpheme in Fante and Akuapem while in Asante, unlike Central Igbo but like Aboh

Igbo, the Associative H docks rightwards to the possessed NP, dislodging its initial L-toned TBU. (4c) is the derived output.

2. THE TONOLOGY OF THE ASSOCIATIVE CONSTRUCTION IN AKAN

Every noun in Akan has a nominal prefix which could be deleted even in the isolative style (Abakah, 1993). This prefix could be a vocalic or a consonantal sonorant. Customarily, the quality of the vocalic or consonantal prefix of the possessed NP in an associative construction in Akan conditions the sort of tone sandhi or non-sandhi rule that must characterize the derived output. In the same vein the structure of the possessed NP can also largely determine the sort of tone rule that must apply to the entire associative tone phrase. Therefore, in the following sections, we will study diverse tone rules that go with varied nominal prefixes and structures of the possessed NPs in Akan.

2.1. TYPES OF NOUN AND THE ASSOCIATIVE CONSTRUCTION

Based on underlying tones of Akan noun roots and the fact that nouns belonging to the same tone class behave tonally the same in Akan, Abakah (2003, 2005, 2006) has classified Akan nouns into six classes as follows:

- Class I nouns have underlying LH melody e.g. **sĭká** 'money'
- Class II nouns have underlying HL̥H/H!H melody e.g. **ká!sá** 'speech'
- class III nouns have underlying L melody e.g. **sàkàsàkà** 'centipede'
- Class IV nouns have underlying H melody e.g. **pápá** 'good'
- Class V nouns have underlying H-HL̥H/H-H!H melody where the initial/pre-dash H anchors on a low vowel of a nominal prefix. Nouns belonging to this class behave tonally the same but different from Class II nouns e.g. **á-dáá!dzí** 'the adaadze plant'
- Class VI nouns have underlying HLH melody e.g. **húńtùmá** 'dust'

Despite the fact that nouns belonging to the same class behave tonally the same in Akan as pointed out above, we will not dwell on these nouns class by class in this paper inasmuch as in the associative construction in Akan all nouns generally behave tonally the same. However, some subclasses of classes I and II nouns behave tonally differently from the general behaviour of all nouns occurring in the possessed NP position in an Associative Construction. Abakah (2003, 2005) has discussed the subclass of Class II nouns in question and their behaviour in Associative Construction in Akan has been studied in detail and for this reason, we will not discuss it in this paper. However, we focus on two subtypes of Class I nouns in §2.3 and study how their behaviour in the Asante dialect differs significantly from that of Fante and Akuapem which consistently follow the common behaviour of all nouns occurring at the possessed noun environment in the Associative Construction in Akan.

2.2. POSSESSED NPS WITH [+LOW] VOCALIC NOMINAL PREFIX

The Associative Floating H tone docking, as we have noted above, becomes a complicated enterprise when we come face to face with nouns that begin with a vocalic nominal prefix of a TBU that is specified as [+Low] regardless of the underlying tone melody of the possessed NP. Here, the landing site of the docking

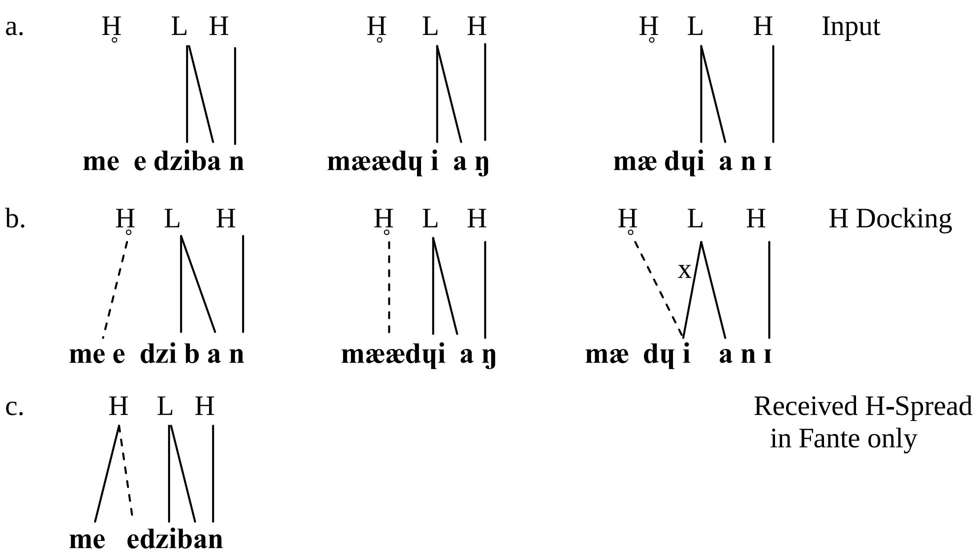
floating associative H is realized differently in all the three dialects of Akan. Let us study data (5) for illustration.

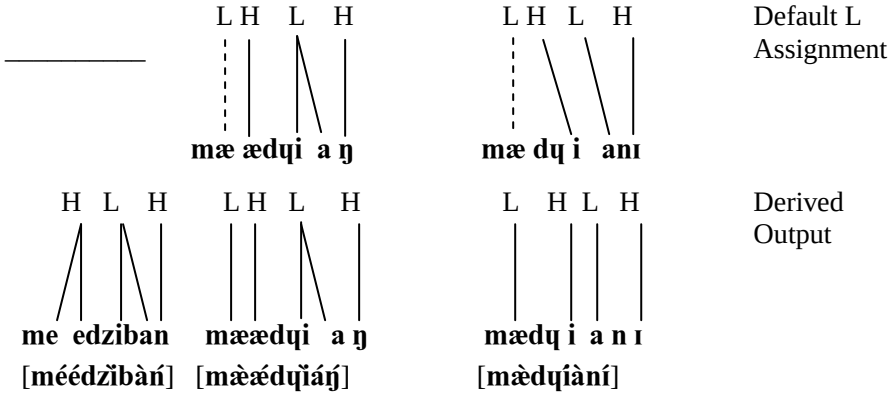
(5)	UR	Fante	Akuapem	Asante	English
a.	**mɪ +** H̥ + **a-nùòjámʊ̃́**	**méé̃ɲ̀ɪ̃m̀ɲám̃́**	**mæ̀ǽnùòjám̃́**	**mæ̀núòjám̃́**	my dignity
b.	**mɪ** + H̥ + **a-ɥ̀ɪrɛ̀hʊ́ẃ**	**mááɥ̀ɪrɛ̀hʊ́ẃ**	**mààɥ̀ɪrɛ̀hʊ́ẃ**	**màɥírɛ̀hʊ́ɔ́**	my sadness
c.	**mɪ** + H̥ + **a-kʊ̀á**	**máákʊ̀wá**	**máàkʊ̀wá**	**màkʊ́ꜜwá**	my servant
d.	**mɪ** + H̥ + **a-dʑɥúmá**	**méédʑɥúmá**	**mæ̀ǽdʑɥúmá**	**mæ̀dʑɥúmá**	my work
e.	**mɪ** + H̥ + **a-ɗ̀ibàní**	**méédzɪ̀bàń**	**mæ̀ǽdɥ̀iáŋ́**	**mæ̀dɥíàní**	my food
f.	**mɪ** + H̥ + **a-bɪ̀rɪ̀wá**	**máábɪ̀rɪ̀wá**	**mààbɪ̀rɪ̀wá**	**màbírɪ̀wá**	my mother
g.	**mɪ** + H̥ + **a-dàɱ̀fʊ̀**	**máádàɱ̀fʊ̀**	**màádàɱ̀fʊ̀**	**màdáɱ́fʊ̀**	my friend
h.	**mɪ** + H̥ + **a-kʊ̀má**	**máákʊ̀má**	**màákʊ̀má**	**màkʊ́mà**	my heart
i.	**mɪ** + H̥ + **a-sɛ́ḿ**	**mááꜜsɛ́ḿ**	**màáꜜsɛ́ḿ**	**máꜜsɛ́ḿ**	my case
j.	**mɪ** + H̥ + **a-dùá**	**méédùwá**	**mæ̀ǽdɥ̀iá**	**mæ̀dɥíꜜá**	my beans

It is detectable from the above data that in Fante the associative H̥ reassociates with or lands on the segmental melody of the associative morpheme. Subsequently, the toneless nominal prefix of the possessed noun copies the received H of the preceding possessor pronominal. In Akuapem, the toneless TBU of the vocalic nominal prefix of the possessed NP becomes the landing site of the docking associative H̥. Consequently, the toneless possessor pronoun receives L by default at the p-level. In Asante, the docking associative H̥ consistently lands on the initial TBU of the root of the possessed NP.

Let us capture the above scenario graphically as (6).

(6) Fante Akuapem Asante





In the above derivation, (6a) is the input with the underlying tone melodies and phonetic segmental melodies. In (5b), the floating Associative H docks to the toneless associative pronoun in Fante, to the toneless nominal prefix in Akuapem and to the initial TBU of the possessed NP in Asante. (6c) applies to the Fante dialect only where the received/docked H spreads to the toneless nominal prefix. Looked at from another perspective, the toneless vocalic nominal prefix in Fante copies the received H of the possessor pronominal. In (6d), the default tone assignment rule applies assigning an L to the toneless possessor pronoun in Akuapem and Asante, while (6e) is the derived output.

2.3. TYPES OF SYLLABLE STRUCTURE OF THE NOUN ROOT IN POSSESSIVE NP POSITION

It is only Fante that has been registered in the existing literature as having a contour tone, specifically, the falling tone on a single TBU as noted above. In this section, we demonstrate that depending on the syllable structure of the possessed NP, its tone pattern and the quality of the nucleus vocalism of its initial or final syllable, the Asante dialect may have a falling or rising tone on the said syllables in the derived output. In this subsection we will study two subclasses of Class I nouns occurring as possessed NPs. In one subclass both constituents of the LH melody of the possessed NP are each singly linked and borne by syllabic **r** and **a** respectively that occur contiguously even as the noun has the CCV structure. In the other subclass the L is necessarily singly linked while the H could be either singly or multiply linked.

2.3.1. Possessive NP roots with CVCV/CCV[5] syllable structure and the rising tone

To begin with, when the C of the final –CV# syllable of a disyllabic CVCV possessed NP root in an associative NP in Asante is a liquid, **r**, and the V is specified as [+ Low] the L-bearing TBU of the possessed NP root becomes the attractive landing site for the Associative H̩. When the Associative H̩ docks to the L-toned initial TBU of the root of the possessed NP in Asante, the L it bears disassociates and docks to the following H-toned final vowel, **á**. Nevertheless, the H which the final **a** bears

[5] In Akan the second C (C_2) of a CCV noun stem is invariably a syllabic liquid and redundantly a TBU by reason of the fact that the original TBU deletes causing the liquid to receive the tone of the lost TBU. See also Clements (2000).

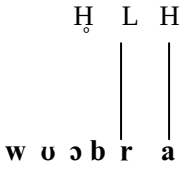
does not delink. This inevitably results in a phonetic R on the -final **a** at the p-level in Asante. Let us study the following data (7) for exemplification.

(7)	UR	Fante	Akuapem	Asante	English
a.	**wʊ ŋ-kɾ̀á**	**wó ŋ́kɾ̀á**	**wó ŋ́kɾ̀á**	**wò ŋ̀kɾ́ă**	your message
b.	**wʊ ɔ-bɾ̀á**	**wó bɾ̀á**	**wó bɾ̀á**	**wò bɾ́ă**	your life (on earth)
c.	**wʊ n-sɾ̀á**	**wóńsə̀rá**	**wóńsə̀rá**	**wòǹsə́ră**	your visit
d.	**wʊ a-wùrá**	**wééwùràbá**	**wǽæwùrá**	**wæ̀wúră**	your lady
e.	**wʊ ɲ-ɕɪ̀rá**	**wóɲ́-ɕɪ̀rá**	**wóɲ́-ɕɪ̀rá**	**wòɲ̀-ɕɪ́ră**	your blessings
f.	**wʊ a-kòrá**	———	**wàákòrá**	**wàkóră**	your old man/father
g.	**wʊ a-kùrá**	**wéékùrá**	**wǽækùrá**	**wæ̀kúră**	your village

Derivations (8a) and (8b) below capture the emergence of phonetic R in the Asante dialect of Akan graphically.

(8) a.

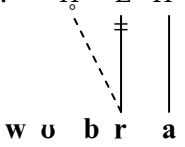
i. Underlying Representation



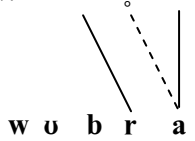
ii. Vowel Simplification

iii. Floating Associative H Docking

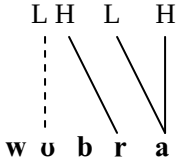
Vowel Simplification



iv. Dislodged/Floating L Docking

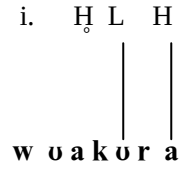


v. Default L Assignment

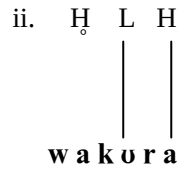


(8) b.

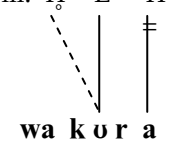
i.



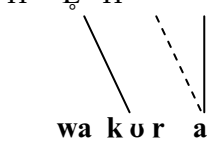
ii.



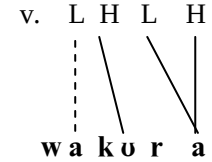
iii.



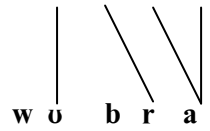
iv.



v.



vi. L H L H Derived Output vi L H L H



[**wʊ̀bŕă**]

[**wàk óră**]

In the above derivations, (i) forms represent underlying representations with (8a) and (8b) also representing Possessed NP roots with CCV and CVCV syllable structures respectively. In (ii), the vowel sequence at the boundary between the possessor NP and the possessed NP is simplified resulting in the truncation of the first vowel of the sequence if the second vowel has the [-Low] specification in its feature matrix as in (8a.ii), but where it (the second vowel) is specified as [+Low] then the first vowel deletes as in (8b.ii).[6] Consequently, the onsetless nominal prefix of a V syllable resyllabifies to the nucleus position of the preceding syllable, formerly occupied by the truncated vowel. In (iii), the associative floating H docks to the initial syllable of the possessed NP and dislodges its prelinked L. The resultant floating L also docks rightwards to the final TBU of the possessed NP, **a**, and joins with its lexical H thereby forming an R on this single TBU in (iv). In (v), the toneless possessor NP receives L by default while (vi) is the derived output.

2.3.2. Possessive NP with initial singly linked L and singly/multiply linked H

Data 9 present a scenario parallel to that of data (7) in the possessed NP, generating a falling tone on a single tone-bearing TBU at a diametrically different/opposite phonetic site in the associative construction, specifically on the initial TBU of the possessed NP.

(9)	UR	Fante	Akuapem	Asante	English Gloss
a.	**wʊ a-tàrí**	**wáátàŕ**	**wàátàrí**	**wàtâdíɛ**[7]	your dress
b.	**wʊ a-sàsí**	**wáásàásí**	**wàásàsí**	**wàsâsí**	your land
c.	**wʊ bàmîtɕ̀ím**	**wóbàmítɕ̀ím**	**wóbàmîtɕ̀ím**	**wòbâmîtɕ̀ínîé**	your big umbrella
d.	**wʊ n-sã̀fúf́úẃ**	**wóńsèéfúẃ**	**wóńsæ̀ǽfúẃ**	**wòǹsæ̂ǽfúó**	your palm wine
e.	**wʊ dàátɕ̀ī́**	**wódàátɕ̀ī́**	**wódàátɕ̀ī́**	**wòdâátɕ̀ī́**	your future
f.	**wʊ fàhódí**	**wófàhódźí**	**wó fàhódí**	**wò fâhódíé**	your freedom
g.	**wʊ a-dàdźírí**	**wáádàdźíŕ**	**wàádàdźí**	**wàdâdźíɛ́**	your leisure
h.	**wʊ a-mànádí**	———	**wàámànádí**	**wàmâdíɛ́**	your sent gift
i.	**wʊ dàmàtó**	———	———	**wò dâmàtó**	your bare room
j.	**wʊ bàɲ̀tɕ̀ī́**	**wó bàɲ̀tɕ̀ī́**	**wó bàɲ̀tɕ̀ī́**	**wò báɲ̀tɕ̀ī́**	your cassava
k.	**wʊ màǹsòtɕ̀ʊ́í**	**wómàǹsòtɕ̀ʊ́í**	**wómàǹsòtɕ̀ʊ́í**	**wòmáǹsòtɕ̀ʊ́í**	your litigation

[6] In Akan, the V_2 of a $V_1\#V_2$ (vowel) sequence occurring at a word boundary deletes if it is [-Low] as in (7b) above but where the V_2 is [+Low], it spreads to the V_1 in Fante and Akuapem whereas it deletes in Asante as in (7d, f-g) above and (9a-b, f-g). See Dolphyne (1988) and Abakah (2004) for a detailed study.

[7] In Asante and Fante, **d**, **r** and **l** are free variants and so this associative noun phrase may also be produced as **wáátàĺ** in Fante and **wàtâdíɛ** or **wàtâlíɛ** in Asante.

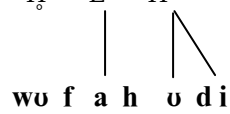
Indeed, a small number of nouns in the Asante dialect happen to belong to this subclass of class I nouns, examples of which constitute data (9). They all behave in the same way tonally if they occur in the possessed NP location in the Associative construction. With these nouns, as noted above, the redundantly singly linked L-toned V of the initial CV syllable of the possessed NP root is, like the scenario in §2.3.1., **a**, followed by (a) H-toned TBU(s). This singly linked L never dissociates when the floating associative H grounds on its segmental anchor in the course of derivation. The **a** therefore bears both tones namely, its lexical L and the invading associative floating H. Hence, another phonetic contour tone, specifically a F, unavoidably results on the initial single TBU of the possessed NP root in the Asante dialect only.

It is worth noting that where the V (i.e. **a**) of the initial CV syllable of the possessed NP occurs contiguously with a following identical V or C syllable type/TBU that also bears an L as in (9), the L of the initial CV delinks when the H̩ docks to its segmental support and relinks with the $\mathbf{a}_2$ or the C following the initial CV. In other words, when a L-toned TBU follows the post-H̩ L, it (the post-H̩ L) invariably delinks from its segmental anchor when the associative H̩ docks to it. The delinked L merges with the L of the following L-toned V_2/C syllable as examples (9j-k) demonstrate. At any rate, when the contiguous TBUs happen to be identical low vowels, (i.e. **aa/ææ**) provided the V_1 is L-toned and the V_2 is H-toned (i.e. **àá/æǽ**), the L of the V_1 as usual, will not delink at all thereby sharing the initial tone-bearing segment, **a**, with the docking/invading H̩ and, by so doing, redundantly causes a falling tone to form on the **a** whilst the V_2 retains its lexical H (e.g. **âá/æǽ)** as (9d, e) reveal.

Under such tonetic state of affairs, Fante consistently applies the docking of the associative H̩ to the toneless possessor pronominal while Akuapem docks the floating H to the toneless nominal prefix of the possessed NP, if any. But where the possessed NP does not have a toneless nominal prefix, Akuapem associates the H̩ to the toneless possessor pronominal as in (9c-h). Let us demonstrate this account peculiar to Asante graphically as derivations (10a) and (10b) which capture the emergence of phonetic F at the phonetic level in the Asante dialect of Akan.

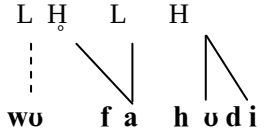
(10) a.

i. Underlying Representation



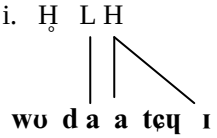
ii. H Rightward Docking

iii. Default L Assignment

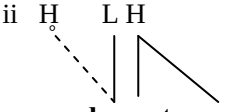


(10) b.

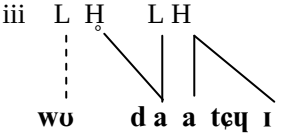
i.

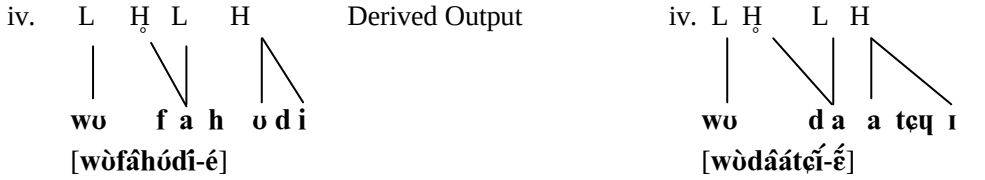


ii.



iii.





In the above derivations, (i) represents the underlying representation and in (ii) the H docks to the initial TBU of the possessed NP whereas the default tone assignment rule applies in (iii) to generate the derived output in (iv). It is important to note that after the derivation, the resultant Associative NP picks up a nominal suffix in Asante which being toneless, copies the preceding tone which is redundantly H.

It is discernible from data (7) and (9) that for any contour tone to occur in Asante, there must necessarily be the **a** vowel serving as the syllabic peak of either the initial or the final syllable of the possessed NP. In the light of the foregoing, it is plausible to argue that contour tones can occur on a single TBU in Asante only when the TBU is the low vowel, **a/æ** occurring as either the nucleus of initial or final syllable of the possessed class I NP in the associative construction in Akan. The **a** vowel, therefore, as so far discovered, invariably bears all the dynamic tones in Asante.

3. THE ASSOCIATIVE CONSTRUCTION AND THE NOMINAL PREFIX OF THE POSSESSED NP

It is established in the existing literature about tone in Akan that any tone phrase with an HLH melody at the u-level emerges at the p-level as HL$^{!}$H. It is also established that all nominal prefixes in Akan are underlyingly L-toned. See Dolphyne (1986, 1988), Obeng (1989) Abakah (2000, 2002) among others. As regards the phonological framework within which we have cast this study, however, it is argued that the claim that all nominal prefixes in Akan are by definition L-toned does not reflect the true state of affairs. If it did, then every noun with a H-toned final TBU followed by any noun that has a nominal prefix and an H-toned root in the associative construction in Akan, must necessarily result in the H-toned possessed NP being realized on a downstep. We have realized that time and again when this structure required for the application of the downstep process occurs at the u-level the downstep rule does not automatically apply thereby falsifying the theory that all nominal prefixes in Akan are preassociated to the L autosegment. Having therefore discovered that not all nominal prefixes are prelinked to the L autosegment, we classify nominal prefixes in Akan in the following subsection. It will be seen that nominal prefixes that belong to the same tone class undergo identical tone sandhi processes.

3.1. TONAL CLASSIFICATION OF NOMINAL PREFIXES IN AKAN

Nominal prefixes in Akan are subclassifiable trichotomously as follows:

- *Toneless.* The toneless nominal prefix receives a default L at the p-level and for that reason when it occurs between two Hs it does not condition the H it precedes to receive a lower pitch value than the one it follows.
- *L-Toned.* The L-toned nominal prefix intervening between two Hs in all the dialects of Akan invariably influences the following H to submit to the downstep process even if it floats as a result of losing its segmental anchor in the course of derivation.

- *H-Toned.* The H-toned nominal prefix does not undergo any perturbation or change throughout the tonology of Akan.

It is important to note that nouns that have identical nominal prefix in terms of u-level tone melody, barring the conditions discussed in the previous sections, undergo identical tone sandhi rules as noted above. In the following subsections we will study tonal perturbations associated with these types of nominal prefix as regards the nouns they are attached to in the associative construction in Akan.

3.2. POSSESSED NPS WITH L-TONED NOMINAL PREFIXES

In all the dialects of Akan, with the exception of the conditions specified in the previous sections, when an H-toned noun with an L-toned nominal prefix happens to be the possessed NP, all the dialects of Akan invariably relink the Associative H̩ to its segmental support thus providing the structure requisite for the application of the downstep process in Akan[8]. Here, the downstep process does not fail to apply and for this reason the output forms inevitably display downstep. For exemplification, let us study the following data.

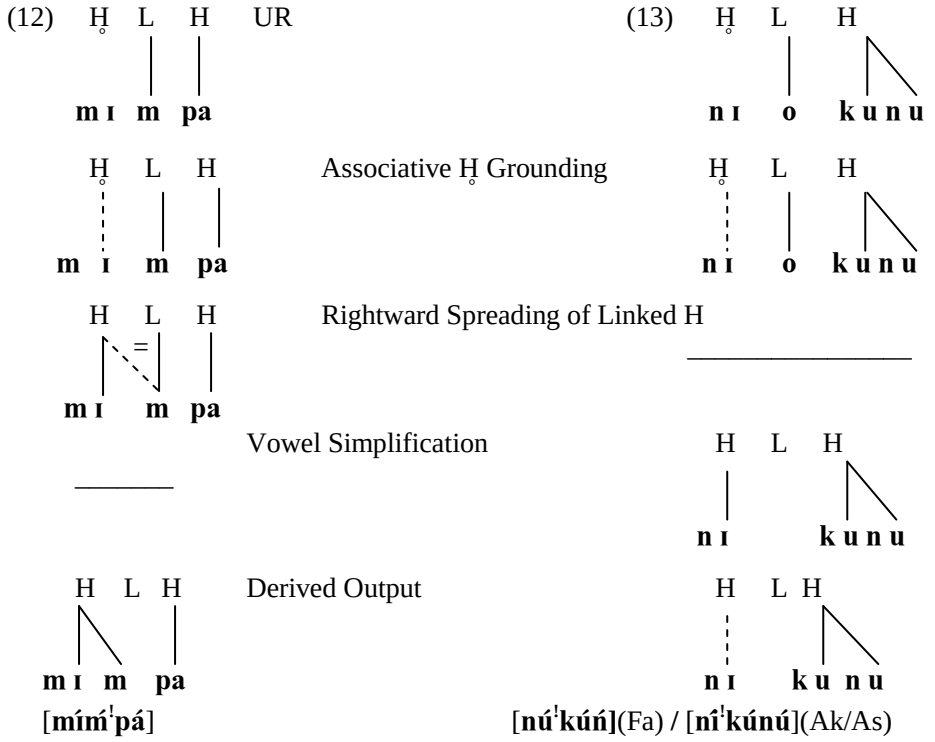
(11)	UR	Fante	Akuapem	Asante	English
a.	**mɪ** + Ass. + **m̀-pá**	**mímꜜpá**	**mímꜜpá**	**mímꜜpá**	my bed
b.	**mɪ** + Ass. + **ɔ̀-pónó**	**móꜜpóń**	**míꜜpónó**	**míꜜpónó**	my table
c.	**mɪ** + Ass. + **ɔ̀-bó**	**móꜜbó**	**míꜜbó**	**míꜜbóɔ́**	my price
d.	**mɪ** + Ass. + **à-bání**	**mááꜜbáń**	**mááꜜbáŋ́**	**máꜜbãĩ́**	my castle
e.	**mɪ** + Ass. + **ǹ-dá**	**míńꜜdá**	**míńꜜná**	**míńꜜná**	my grave
f.	**mɪ** + Ass. + **ɔ̀-dání**	**míꜜdáń**	**míꜜdáŋ́**	**míꜜdãĩ́**	my house
g.	**mɪ** + Ass. + **ǹ-sã́**	**míńꜜsã́**	**míńꜜsã́**	**míńꜜsã́**	my drink
h.	**mɪ** + Ass. + **ŋ̀-kwã́**	**móŋ́ꜜkwã́**	**míŋ́ꜜkwã́**	**míŋ́ꜜkwã́**	my life
i.	**mɪ** + Ass. + **ɔ̀-kwání**	**móꜜkwáń**	**míꜜkwáŋ́**	**míꜜkwãĩ́**	my way
j.	**nɪ** + Ass + **ò-kúnú**	**núꜜkúń**	**nîꜜkúnú**	**níꜜkúnú**	her husband
k.	**nɪ** + Ass + **à-síẃ**	**nááꜜsíẃ**	**nàáꜜsíẃ**	**náꜜsí**	his/her in-law
l.	**nɪ** + Ass + **à-fɛ́**	**nááꜜfʱɛ́**	_____	_____	his/her peer
m.	**nɪ** + Ass + **ɔ̀-híní**	**níꜜhíń**	**níꜜhíní**	**níꜜhíní**	his/her king
n.	**nɪ** + Ass + **à-tɕɪ̀rébá**	**nááꜜtɕɔ́rébá**	_____	_____	his/her sister

A brief inspection of (11) reveals that after the associative H̩ has relinked to its segmental anchor, the resultant linked H spreads to the intervening L borne by the nominal prefix of the possessed NP and dislodges it, if the nominal prefix is either a syllabic nasal or a [+Low] vocalic segment. The dislodged L then floats between the linked Hs causing the one it precedes to be downstepped. However, where the L of the nominal prefix is borne by a nonlow vowel, it (the nonlow vowel) deletes in line with the Akan phonotactics/the Akan vowel sequence structure condition by means of vowel simplification process.[9] The following derivations, (12) representing possessed

[8] In Akan any tone phrase with HLH melody surfaces with downstep, be it automatic or nonautomatic provided no tone rule applies to destroy the environment for the application of the downstep process..

[9] See Dolphyne (1988), Obeng (1989) and Abakah (1993, 2004) for a detailed study of elision of vowels in terms of vowel simplification as well as vowel sequence system in Akan.

nouns with L-toned [+Nasal] consonantal nominal prefix or a [+Low] Vocalic segment and (13) representing a nominal prefix that is neither a nasal consonant nor a low vowel, capture this account in graphic terms.



It is worth pointing out that a postvocalic low vowel in Akan and its vowel harmony-induced raised counterpart /**e**/ in Fante rarely deletes. It rather spreads to the preceding vowel invariably in Fante and often in Akuapem. This type of low vowel spreading is infrequent in Asante where the preceding vowel deletes causing the low vowel to resyllabify to the nucleus position of the preceding syllable as (11d), (11k) and (12) demonstrate.

3.3. POSSESSED NPS WITH TONELESS NOMINAL PREFIX

If the possessed NP in Akan happens to have a toneless nominal prefix, then downstep does not result due to the absence of the L tone as noted above and illustrated by the data below.

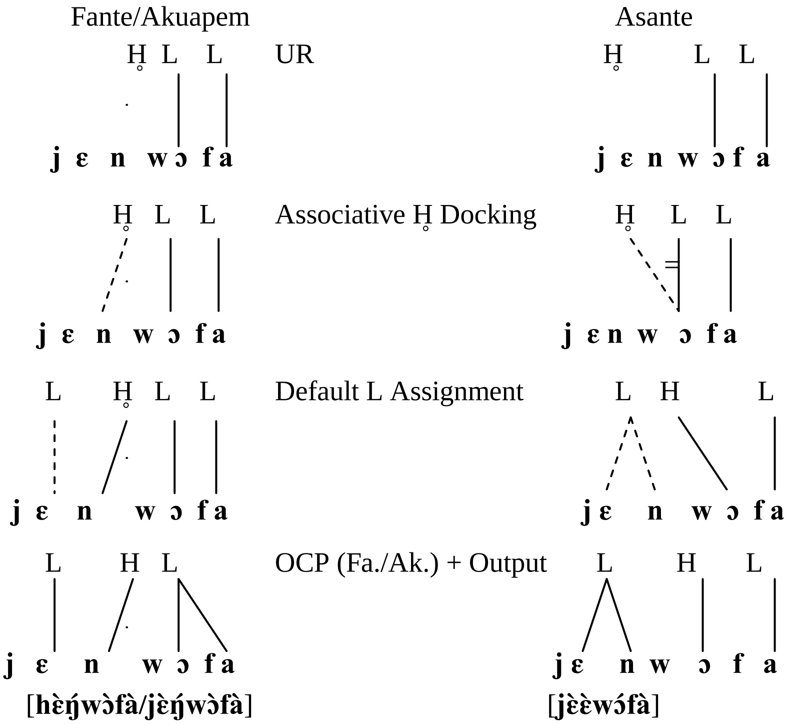
(14)	UR	Fante	Akuapem	Asante	English
a.	**wʊ** + Ass + **e-tírí**	**wútsír**	**wùtí**	**wùtí**	your head
b.	**wʊ** +Ass + **a-nî**	**wéɲí**	**wæ̀nî**	**wæ̀nî**	your eye
c.	**wʊ** + Ass + **ɛ-ɕɥíní**	**wúɕɥín**	**wòɕɥíní**	**wòɕɥíní**	your nose
d.	**wʊ** + Ass + **ɛ-kɔ́ń**	**wúkɔ́ń**	**wòkɔ́ŋ̀**	**wòkɔ̃́ɔ̃́**	your neck
e.	**wʊ** + Ass + **n-sá**	**wúńsá**	**wòǹsá**	**wòǹsá**	your hand
f.	**wʊ** + Ass + **a-bátɕɥérí**	**wábɔ́tɕɥér**	**wàbátɕɥé**	**wàbátɕɥé**	your elbow
g.	**wʊ** + Ass	**o-bóńtó**	**wúbóńtó**	———	——— your torso

h.	**wʊ** + Ass + a-**jáásí**	**wáájírɛ́dzɪ**	**wàjáásɪ́**	**wàjáásɪ́**	your groin
i.	**wʊ** + Ass + **ɛ-náń**	**wʊ́náń**	**wʊ̀náŋ́**	**wʊ̀nã̃í̃**	your leg
j.	**wʊ** + Ass + **ɔ-náńt͡írí**	**wúnéńtsír̃**	**wʊ̀nǽńtí**	**wʊ̀nǽńtí**	your heel
k.	**wʊ** + Ass + **a-bʊ̀fŕá**	**wáábʊ́fŕá**	**wàábɔ́fŕá**	**wàbɔ́fŕá**	your child
l.	**wʊ** + Ass + **a-bʊ́wá**	**wáábʊ́wá**	**wàbʊ́wá**	**wàbʊ́wá**	your animal
m.	**hʊmʊ** + Ass + **ɔ-bá**	**hʊ̀ḿbá**	**mʊ̀bá**	**mʊ̀bá**	your pl. child
n.	**hʊmʊ** + Ass + **ɔ-jírí**	**hʊ̀ḿjír̃**	**mʊ̀jírí**	**mʊ̀jírí**	your pl. wife
o.	**hʊmʊ** + Ass + **m-píná**	**hʊ̀ḿpə́ná**	**mʊ̀ḿpíná**	**mʊ̀m̀píná**	your pl. friend
p.	**hʊmʊ** + Ass **o-nîḿpá**	**hʊ̀ḿɲîḿpá**	**mʊ̀nîpá**	**mʊ̀nîpá**	your companion
q.	**hʊmʊ** + Ass + **ɔ-dɔ́bá**	**hʊ̀ḿdɔ́bá**	**mʊ̀dɔ́bá**	**mʊ̀ dɔ́bá**	your dear child
r.	**h/jɛn** + Ass + **ɔ-wɔ̀fà**	**hɛ̀ŋ́wɔ̀fà**	**jɛ̀ŋ́wɔ̀fà**	**jɛ̀ɛ̀wɔ́fà**	our uncle
s.	**h/jɛn** + Ass + **o-wúrà**	**hɛ̀ŋ́wùrà**	**jɛ̀ŋ́wùrà**	**jɛ̀ɛ̀wúrà**	our master
t.	**h/jɛn** + Ass + **ɔ-dɔ̀ŋ̀kɔ́**	**hɛ̀ńdɔ̀ŋ̀kɔ́**	**jɛ̀ńdɔ̀ŋ̀kɔ́**	**jɛ̀ɛ̀dɔ́ŋ̀kɔ́**	our slave
u.	**h/jɛn** + Ass + **ɔ-nànaˊ**	**hɛ̀ńnàná**	**jɛ̀ńnàná**	**jɛ̀ɛ̀nàná**	our grandparent
v.	**h/jɛn** + Ass + **ɔ-kʊ́ꜜrá**	**hɛ̀ŋ́kʊ̀rà**	**jɛ̀ŋ́kʊ̀rà**	**jɛ̀ɛ̀kʊ́ra**	our co-wife

It is deducible from the above data that all the nominal prefixes are toneless as a matter of fact and, consequently, the final output tone melodies are downstep free in the associative noun phrases. Here, when the landing site of the floating Associative H in Fante is consistently the final TBU of the possessor NP, the nominal prefix, having no tone of its own, takes the tone of the preceding TBU of the possessor pronominal NP as (14a) - (14l) show.[10] In Asante and Akuapem the floating H docks to the initial TBU of the possessed noun root even as the toneless possessor pronominal NP receives L by default. When the possessor NP happens to be disyllabic, the associative H̥ grounds on the final TBU of the possessor NP in Fante as exemplified by (14m)–(14v) and Akuapem also exemplified by (14r)–(14v). In Asante the associative H̥ consistently grounds on the initial TBU of the possessed NP. Derivation (15) captures this account in graphic terms.

[10] It is worth noting that vowel sequences ($V_1\#V_2$) occurring at morpheme/word boundaries in Akan often undergo the vowel simplification process as a result of which the V_1 deletes if the V_2 is specified as [+Low]. However, the V_2 deletes when it is nonlow. Where the V_1 deletes in the context of the associative construction in Akan, the V_2, being the nominal prefix of the possessed NP, resyllabifies to the nucleus position of the possessor pronominal, position previously occupied by the truncated vowel. Being underlyingly toneless, its new phonetic environment causes it to receive and bear the associative floating H.

(15)



3.4. H-TONED NOMINAL PREFIX AND THE ASSOCATIVE CONSTRUCTION IN AKAN

When nouns in Akan with H-toned nominal prefix occur at the possessed NP environment, the only tone rule that applies is the grounding of the associative H̥ on the segmental melody of the segmental representation of the associative morpheme. The entire u-level tone melody of the possessed NP appears at the p-level unperturbed. In other words, the underlying H, HL, HLH or HL̥H melody of the possessed NP appears to be mapped onto the entire output of the associative NP/construction. This appears so at the phonetic stage because when the toneless possessor NP receives the associative H̥, it (the grounded H) receives the same pitch height as the following H borne by initial TBU of the possessed NP. The following examples, extracted from the corpus of the Fante data at our disposal, exemplify this fact.

(16)	U-Level	P-Level	English
a.	**mɪ** + Ass. + **á-ḿbɔ́d͡ɪ̂nɪ̂**	**máámbódzɪ̂ń**	my broom
b.	**mɪ** + Ass. + **ń-túń'tú**	**múńtúń'tú**	my caterpillar
c.	**mɪ** + Ass. + **ŋ́-káŋ́'kŕʊ́má**	**míŋ́káŋ́'kŕʊ́má**	my nkankroma berry
d.	**mɪ** + Ass. + **ḿ-púná**	**múḿpúná**	my log
e.	**mɪ** + Ass. + **ɪ́-tsíẃ**	**mítsíẃ**	my etsew food
f.	**mɪ** + Ass. + **ã́-'ɲɥɪ̃̀ẃ̃**	**mã́ã́'ɲɥʊ̃̀ẃ̃**	my onion
g.	**mɪ** + Ass.+ **á-bʊ́sʊ́máŋ́kɪ́'tsíẃ**	**máábʊ́sʊ́máŋ́kɪ́'tsíẃ**	my chameleon
h.	**mɪ** + Ass. + **ésɪ̂tɕ̩ɪ̀ré**	**méésɪ̂tɕ̩ə̀ré**	my sugar
i.	**mɪ** + Ass. + **ɪ̂-túŕ**	**mútúŕ**	my gun
j.	**mɪ** + Ass. + **áḿbɛ̀r̀**	**mááḿbɛ̀r̀**	my boat

k.	**mɪ** + Ass. +	**ámpɔ́ń**	**máámpɔ́ń**	my escape route
l.	**mɪ** + Ass. +	**é-kúáˈmía**	**méékúáˈmá**	my ekuama plant

4. POSTPOSITIONS AS POSSESSED NPS IN THE ASSOCIATIVE CONSTRUCTION

Postpositions in Akan have been established by Akan Linguists as nouns. In the words of Boadi (ms), for instance, "Like all other nouns postpositions have a prefix, which is phonologically a vowel, nasal consonant or zero." In given contexts, the vocalic nominal prefix may delete or stay at the phonetic level consequent upon the phonetic environment in which it occurs. Examples of these are readily deducible from the data we have already studied above. At any rate, see Abakah (2004b) for a detailed study of the conditions by which the process of elision comes about in Fante which conditions are in fact equally applicable to all the dialects of Akan. In line with the broad-spectrum phonological tradition of the Asante dialect, postpositions, like all relational nouns, have nominal suffix in the Asante dialect only. Like the nominal suffix, the postpositional vocalic suffix in Asante is underspecified for tone and so it copies the tone of the postposition root. Postpositions in Akan include the following.

(17)	a.	**dʊ/ɛ-sʊ**	'the top', 'surface';
	b.	**a-sí(ɛ)**	'the bottom part'
	c.	**(e-)mu**	'inside, the interior'
	d.	**e-tɕir/æ-tɕir(e)**	'the rear, the back, the farther side'
	e.	**e-ɲĩḿ/æ-nĩḿ**	'the face, the facial, the front'
	f.	**a-nʊ**	'the mouth, the bank, the boundary, the edge'
	g.	**beŋkúḿ/a-tebîŕ**	'left', the left hand side'
	h.	**eɲiɱfá/nifá**	'right, the right hand side'
	i.	**(ɛ)hó**	'the exterior'
	j.	**ɛtó(ɔ)/túń**	'the rear'

4.1. POSTPOSITIONS AND UNDERSPECIFICATION

The data for our study of the tonology of postpositions in terms of the associative construction in Akan are extracted from the Fante data at our disposal. Hence, this study is based on the Fante dialect only and for this reason any conclusion made here may not capture the generality of the process in all the dialects of Akan. To begin with, in the associative construction in the Fante dialect of Akan, the tonal perturbations exhibited by the tones of postpositions appear to have characteristics akin to that of Bantu languages whereby H and L tones lack equal status in the grammar (Odden 1995:464). It is assumed that in the Bantu languages, the contrast between H and L is not a matter of contrast between two equal members of a two-way opposition but rather a matter of contrast between a tone (i.e. the H) and lack of tone. See Meeussen (1954), Stevick (1969), Carter (1971, 1972), Odden (1981), among others, for a detailed study. In other words, only the H is specified in phonological representations in line with the various theories of underspecification. See Steriade (1987), Clements (1985, 1988), Mester and Itô (1989) as well as Kiparsky (1982, 1985), Archangeli (1984), Pulleyblank (1986), Archangeli and Pulleyblank (1989) for the various approaches to the theory of underspecification.

Fante, like all the dialects of Akan, generally practices prelinking and for this reason even though the default tone for a two-tone system like Akan is the L, not all p-level Ls in Akan are lexically underspecified. What this means is that some p-level Ls in Akan are prelinked to the L autosegment at the u-level. However, the tonology of postpositions in the Fante dialect provides evidence that among the members of this word class all Ls found on their TBUs are underspecified in the Akan lexical entries. This implies that in line with the underspecification theory (Kiparsky, 1982 and Pulleyblank, 1983), only the H, the marked feature for a two-tone system, is specified in Fante phonological representations with reference to postpositions only. Throughout the u-level and the p-level workings of the phonology, tone rules continually apply to underspecified forms. Thus, toneless TBUs or any TBUs that are not prelinked to the tonal tier are supplied with the unmarked tone feature L either in the course of or at the end of the derivation via the default tone assignment rule. In the following subsection we study the tone rules associated with the tonology of the postposition as the possessed NP in the associative construction in Akan.

It is interesting to note that just as postpositions behave like NPs in Akan, most of the few prepositions in Akan also behave like verbs inflecting for tense/aspect, inter alia. We will reserve the discussion of prepositions in Akan for another study, so, we will not study them in this paper. Thus, regardless of morphological, phonological and syntactic qualities and behaviours of postpositions they are essentially members of a completely different word category referred to as postpositions. Not all postpositions are toneless as can be found in data (18) and (19). Nouns occur in phrase-/sentence-initial, -medial and -final positions but postpositions occur in restricted syntactic or phonetic environment, that is, immediately after a noun.

4.2. TONE POLARIZATION, TONE COPYING AND POSTPOSITIONS IN THE ASSOCIATIVE CONSTRUCTION

Two types of toneless postpositions are noticeable in Akan, namely postpositions with overt prefix (call it postpositional prefix) exemplified by **e-tɕir** (the back, the rear, the farther side), **a-nʊ** (the mouth, nearer side) and those with covert postpositional prefix also exemplified by **dʊ** (the top, surface) and **mu** (inside, the interior). In the data below toneless postpositions have all been italicized. It is important to note that this study focuses on Fante data so, let us study the Fante data below.

(18)		Underlying Representation	Phonetic Representation	
a.	i.	**ɔ-dáɲ́** + Ass + ***dʊ***	**(ɔ̀-)dáɲ́ *dʊ̀***	‘on top of a house’
	ii.	**ɔ-dáɲ́** + Ass + ***mu***	**(ɔ̀-)dáɲ́ *mù***	‘interior of a house’
	iii.	**ɔ-dáɲ́** + Ass + ***e-ɲĭm̀***	**(ɔ̀-)dáɲ́ *é-ɲĭm̀***	‘front of a house’
	iv.	**ɔ-dáɲ́** + Ass. + ***a-sí***	**(ɔ̀-)dáɲ́ *á-sí***	‘underside of a house’
	v.	**ɔ-dáɲ́** + Ass. + ***e-tɕir***	**(ɔ̀-)dáɲ́ *é-tɕĭr̀***	‘flipside of a house’
	vi.	**ɔ-dáɲ́** + Ass. + ***a-nʊ***	**(ɔ̀-)dáɲ́ *á-nʊ̀***	‘mouth/entrance of a house’
b.	i.	**ɔ-póɲ́** + Ass. + ***dʊ***	**(ɔ̀-)póɲ́ *dʊ̀***	‘on top of a table’
	ii.	**ɔ-póɲ́** + Ass. + ***mu***	**(ɔ̀-)póɲ́ *mù***	‘inner part of a table’
	iii.	**ɔ-póɲ́** + Ass.**+ *e-ɲĭm̀***	**(ɔ̀-)póɲ́ *é-ɲĭm̀***	‘front of a table’
	iv.	**ɔ-póɲ́** + Ass. + ***a-sí***	**(ɔ̀-)póɲ́ *á-sí***	‘underside of a table’

	v.	**ɔ-póńˊ** + Ass. + ***e-tɕir***	**(ɔ̀-)póńˊ *é*-tɕi̋r̀**	'flipside of a table'
	vi.	**ɔ-póńˊ** + Ass. + ***a-nʊ***	**(ɔ̀-)póńˊ *á*-nʊ̀**	'mouth/edge of a table'
c.	i.	**m-pá** + Ass. + ***dʊ***	**m̀-pá *dʊ̀***	'on (top of) a bed'
	ii.	**m-pá** + Ass. + ***mu***	**m̀-pé *mù***	'in(side of) a bed'
	iii.	**m-pá** + Ass. + ***e-ɲîm̀***	**m̀-pé *é*-ɲîm̀**	'front of a bed'
	iv.	**m-pá** + Ass. + ***a-sí***	**m̀-pá *á*-sí**	'underside of a bed'
	v.	**m-pá** + Ass. + ***e-tɕir***	**m̀-pé *é*-tɕi̋r̀**	'flipside of a bed'
	vi.	**m-pá** + Ass. + ***a-nʊ***	**m̀-pá *á*-nʊ̀**	'mouth/edge of a bed'
d.	i.	**e-súˈtsíńˊ** + Ass. + ***dʊ***	**è-súˈtsíńˊ *dʊ̀***	'surface of a river
	ii.	**e-súˈtsíńˊ** + Ass. + ***mu***	**è-súˈtsíńˊ *mù***	'in(side of) a river'
	iii.	**e-súˈtsíńˊ** + Ass.+ ***e-ɲîm̀***	**è-súˈtsíńˊ *é*-ɲîm̀**	'nearer side of a river'
	iv.	**e-súˈtsíńˊ** + Ass. + ***a-sí***	**è-súˈtsíńˊ *á*-sí**	'underneath/bed of a river'
	v.	**e-súˈtsíńˊ** + Ass.+ ***e-tɕir***	**è-súˈtsíńˊ *é*-tɕi̋r̀**	'farther side of a river'
	vi.	**e-súˈtsíńˊ** + Ass. + ***a-nʊ***	**è-súˈtsíńˊ *á*-nʊ̀**	'mouth/bank of a river'

(19) L-TONED NOUN ROOTS + ASS. + POSTPOSITION

		Underlying Representation	Phonetic Representation	
a.	i.	**pɔ̀** + Ass. + ***dʊ***	**pɔ̀ *dɔ́***	'surface of the sea'
	ii.	**pɔ̀** + Ass. + ***mu***	**pɔ̀ *mú***	'in(side of) the sea'
	iii.	**pɔ̀** + Ass. + ***e-ɲîm̀***	**pɔ̀ *è*-ɲîm̀**	'nearer side of the sea'
	iv.	**pɔ̀** + Ass. + ***a-sí***	**pɔ̀ *à*-sí**	'underside/bed of the sea'
	v.	**pɔ̀** + Ass. + ***e-tɕir***	**pɔ̀ *è*-tɕi̋ˊr̀**	'the farther side of the sea'
	vi.	**pɔ̀** + Ass. + ***a-nʊ***	**pɔ̀ *à*-nɔ́**	'the mouth/the shore of the sea'
b.	i.	**kèdzèèkù** + Ass. + ***dʊ***	**kèdzèèkù *dɔ́***	'the top of kedzeeku plant'
	ii.	**kèdzèèkù** + Ass + ***mu***	**kèdzèèkù *mú***	'inside of kedzeeku plant'
	iii.	**kèdzèèkù** + Ass + ***e-ɲîm̀***	**kèdzèèkù *è*-ɲîm̀**	'front of kedzeeku plant
	iv.	**kèdzèèkù** + Ass + ***a-sí***	**kèdzèèkù *à*-sí**	'under kedzeeku plant'
	v.	**kèdzèèkù** + Ass + ***e-tɕir***	**kèdzèèkù *è*-tɕi̋ˊr̀**	'back of kedzeeku plant'
	vi.	**kèdzèèkù** + Ass + ***a-nʊ***	**kèdzèèkù *à*-nɔ́**	'nearside of kedzeeku'
c.	i.	**àsàfò** + Ass. + ***dʊ***	**àsàfò *dɔ́***	'on top/task of Asafo warriors'
	ii.	**àsàfò** + Ass + ***mu***	**àsàfò *mú***	'within/among Asafo warriors'
	iii.	**àsàfò** + Ass + ***e-ɲîm̀***	**àsàfò *è*-ɲîm̀**	'in front of Asafo warriors'
	iv.	**àsàfò** + Ass + ***a-sí***	**àsàfò *à*-sí**	'underneath Asafo warriors'
	v.	**àsàfò** + Ass. + ***e-tɕir***	**àsàfò *è*-tɕi̋ˊr̀**	'at the rear of Asafo warriors'
	vi..	**àsàfò** + Ass. + ***a-nʊ***	**àsàfò *à*-nɔ́**	'the number of Asafo warriors'

d.	i.	**ŋkr̀àǹ** + Ass. + ***dʊ́***	**ŋkr̀àǹ *dʊ́***	‘on top/the duty of Accra’
	ii.	**ŋkr̀àǹ** + Ass. + ***mu***	**ŋkr̀àǹ *mú***	‘in(side of) Accra
	iii.	**ŋkr̀àǹ** + Ass. ***e-ɲîm̀***	**ŋkr̀àǹ *è-ɲîm̀***	‘the nearer side of Accra’
	iv.	**ŋkr̀àǹ** + Ass. ***a-sí***	**ŋkr̀àǹ *à-sí***	‘underneath Accra’
	v.	**ŋkr̀àǹ** + Ass. ***e-tɕir***	**ŋkr̀àǹ *è-tɕîŕ***	‘the farther side of Accra’
	vi.	**ŋkr̀àǹ** + Ass. ***a-nʊ́***	**ŋkr̀àǹ *à-nʊ́***	‘mouth/a boundary of Accra’

In (18) all the pre-postpositional possessor nouns are H-toned while all the possessor nouns in (19) are L-toned. It is fascinating to note that toneless postpositions with covert postpositional prefix like **dʊ** and **mu** in the Fante dialect invariably polarize with the tone of the final TBU of the preceding possessor NP as illustrated by (18a.i-ii, b.i-ii, c.i-ii, di-ii) and (19a.i-ii, b.i-ii, c.i-ii, di-ii) below. With reference to toneless postpositions with overt postpositional prefix, the prefix invariably copies the tone of the preceding possessor NP (like all postpositional prefixes do as illustrated by both (18) and (19)) while the tone of the postposition root constantly polarizes with the tone of its prefix as demonstrated by (18a.v-vi, b.v-vi, c.v-vi, d.v-vi,) and (19a.v-vi, b.v-vi, c.v-vi, d.v-vi,).[11] Hence, only two tone rules, namely tone copying and tone polarization are distinguishable as regards the tonology of postpositions in associative construction in Akan.

[11] The use of polar tones by **dʊ**, **mu, a-nʊ** and **etɕir** forms ties in with the general behaviour of toneless morphemes in Akan which may either take or polarize with the tone of an adjacent morpheme. See Abakah (2005) for a study of polarization of toneless adjectives and toneless intensifiers in Akan. In this paper, it is highly discernible from (18) and (19) that the toneless postpositional prefix does not undergo any polarization process but rather copies the tone of the preceding TBU. This is not to obscure the fact that in some parts of the grammar **dʊ** (produced in Asante as **sʊ**) and **mu** do at times copy the tone of an adjacent morpheme in Akan. In Asante and the Boka subdialect of Fante, for instance, **dʊ/sʊ** and **mu** often copy the tone of the preceding TBU as in the following examples.

	UR	SF/Ig./An.	Boka Fante	Asante	
a.	**ɛpónó nó dʊ** table the Ass. top/on	**èpóń nó dò**	**póń nó dó**	**èpónó nó sú** on the table	on top of the table
b.	**fíé nó mú** house the Ass. inside	**fíé nó mù**	**fíé nó mú**	**fíé nó mú** in the house	inside (of) the house
c.	**nó mu ńnípá** 3Sg. Ass. inside people	**nú mù ǹŋníḿpá**	**nú mù ǹŋníḿpá**	**èmú ńnípá**	the people inside/ the people in the interior
d.	**nó dʊ ndémḿbá** 3Sg. Ass. at top things	**nó dó ǹdzémḿbá**	**nó dò ǹnémḿmá**	**èsó ńníémá**	the things at the top

In all these examples we realize that whereas **dʊ/sʊ** and **mu** consistently polarize with the preceding H-toned **nó** in Sf/Ig/An, that is, Standard Fante, the Iguae and Anee subdialects of Fante, they consistently copy the tone of the preceding H-toned **nó** in the Asante dialect of Akan. However, in the Boka subdialect of Fante, **dʊ** and **mu** copy the H of the preceding **nʊ** determiner (occurring utterance-finally) as in (a-b) but polarize with the H of the **nó** 3Sg as in (c-d).The TBUs of all toneless postpositions with overt postpositional prefixes in Asante and Boka Fante also copy the tone of the preceding TBU as exemplified in (18) and (19) above and by **ɔ̀dáń nó *é/ǽ-tɕî*** (‘the back of the building’), **m̀-pá *á-nó́*** (‘mouth/edge of a bed’). In the standard Fante, Iguae and the Anee subdialects of Fante the root tones of these two toneless postpositions invariably polarize with the tone of the possessor NP which its postpositional prefix habitually copies. So, the preceding examples are produced as **ɔ̀-dáń nó *é-tɕîŕ*** and **m̀-pá á-*nò*** respectively.

5. CONCLUSION

In this paper, we have made the effort to demonstrate that even though the segmental melody of the associative morpheme in Akan does not appear at the p-level in some varieties of Akan, the associative morpheme in Akan has both segmental and tone melodies in all the dialects of Akan We have also explicitly established in this paper that Akan has both rising and falling tones as phonetic tones in addition to the long-established H, L and the ꜜH phonetic tones in the language. This fact has indeed received scant discussion in the existing literature. Another significant feature of this paper resides in our contribution to the study of tone terracing in Akan by reason of the fact that we have asserted in this paper that for downstep to emerge at the p-level in Akan the intervening L must necessarily be a preassociated one.

We concede the fact that in Linguistics Science, like every Science discipline, nothing is impossible. Hence we do not rule out the possibility that a toneless TBU intervening between two Hs could receive a default L and thereby consequently condition the H it precedes to receive a lower phonetic value relative to the preceding H. However, so far our study has not discovered any situation like that. So, we have no doubt in our mind that this new information presents a new dimension to the study of downstep in Akan. We have also challenged the assumption in the current literature that noun prefixes in Akan are invariably L in underlying representations by proposing a trichotomous classification of the nominal prefix in the Akan phonological representations as toneless, L-toned and H-toned thereby injecting yet another fresh dimension into the tonology of Akan in general. Tone polarization, like tone copying, in Akan has not received adequate attention in the literature and, to the best of our recollection, only Abakah (2000, 2003, 2005) has studied tone polarization in Akan and up to date no scholar has studied tone copying in Akan. It therefore goes without saying that this study contributes to the existing scant information on tone polarization and tone copying in Akan.

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