

VOWEL HARMONY AND TONE IN AKAN TOPONYMS

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Akan toponyms call into question several previously held generalizations made by linguists about vowel harmony and tone. Thus, because most toponyms were 'historically' phrases or even clauses but have become single words or are on the way to becoming single words, their phonological behavior regarding vowel harmony and tone may hold on to their original phrasal and clausal traces. Toponyms that are not completely lexicalized exhibit phonological behavior of phrases or sentences and may therefore be seen as exceptions to the Akan vowel harmony and tonal assimilation processes. However, completely lexicalized toponyms follow the vowel harmony process in Akan by which all the vowels in a word are either RTR or ATR and that ATR vowels can assimilate preceding RTR vowels into ATR. Also, with completely lexicalized toponyms, the vowel harmony process of raising can go beyond one syllable. Although only the ATR vowel harmony value is synchronically active today, there is evidence to show that RTR vowel harmony value was active some time ago. Thus, contrary to the assertion that RTR vowels are unable to lower ATR vowels to RTR, there is evidence to suggest that RTR vowels may be able to lower ATR vowels to RTR. The low ATR vowel, /æ/, can raise a RTR vowel to ATR. Concerning tone, a floating low tone may or may not cause a downstepping of a following high tone. A low tone associated with the initial vowel of the second element of a compound toponym may be changed to a high tone.

1. Introduction

This paper shows that a systematic attention to Akan toponyms calls into question several previously held generalizations made by linguists about vowel harmony and tone. A study of some Akan toponyms points to the fact that there are exceptions to previously stated generalizations about how vowel harmony and tone operate in Akan. The paper shows that because most toponyms were 'historically' phrases or even clauses but have become single words or are on the way to becoming single words (from a lexical or syntactic perspective), their phonological behavior regarding vowel harmony and tone may hold on to their original phrasal and clausal traces. Regarding vowel harmony, the paper shows that:

(1) Toponyms that have been completely lexicalized follow the vowel harmony process in Akan by which all the vowels in a word are either RTR or ATR and that ATR vowels can assimilate preceding RTR vowels into ATR.

(2) Contrary to the notion that a RTR vowel which has been raised to ATR cannot raise another preceding RTR vowel to ATR, there is evidence to show that with completely lexicalized toponyms, some RTR vowels raised to ATR raise other preceding RTR vowels into ATR. Thus, with completely lexicalized toponyms, the vowel harmony process of raising can go beyond one syllable;

(3) Contrary to the assertion that RTR vowels are unable to lower ATR vowels to RTR, there is evidence to suggest that RTR vowels may be able to do so. For example, close observation of the elements that form the toponym *Adankorono* [adaŋkɔrɔnɔ]—*a* [a] ‘a nominalizing prefix’ + *dan* [dan] ‘depend on’ + *kuro* [kuro] ‘town’ + *no* [nɔ] ‘the’—suggests that the RTR vowel [ɔ] of *no* [nɔ] ‘the’ lowers the ATR vowels [o] and [u] into [ɔ] and [ɔ̃] respectively. In *Odu-mase* [ɔdumasi]¹ formed from *odum* [odum] ‘a type of timber’ and *ase* [asi] ‘beneath’, the RTR vowel [a] lowers the ATR vowels [u] and [o] into [ɔ̃] and [ɔ] respectively.

(4) Contrary to the notion that the low ATR vowel, /æ/, cannot raise a RTR vowel to ATR vowel, there is evidence to show that /æ/ can do so.

Concerning tone, the paper explains that Akan toponyms are sometimes inconsistent with the generalization that if a segment or syllable is deleted, its associated tone should remain and exert an influence on the tone of an adjacent syllable. Specifically, I show that:

(1) If the final component of the toponym is the postposition *eso* [ɛsɔ] ‘on’ or ‘on top of’, the initial vowel [ɛ] is deleted and its associated low tone may or may not cause a downstepping of a following high tone.

(2) If the final component of the toponym is the postposition *ase* [àsɪ] ‘under’ or ‘beneath’, then the full form including the tonal pattern may be maintained. However, the low tone associated with the initial [a] vowel may be changed to a high tone.

2. Method

The data for this study consist of Akan toponyms from different parts of Akan areas in Ghana. The study involves a morphophonemic description of the toponyms. In particular, it involves a description of the morphophonological issues (that take place during the formation of toponyms) which are contrary to established claims about vowel harmony and tone in Akan phonology. The study does not pay any particular attention to etymology or history of such toponyms. The claims made are based on my transcripts and on morphophonemic facts.

3. Data analysis

This section presents a discussion of vowel harmony and tone in Akan toponyms. The discussion dwells mainly on exceptions (that arise from the study

of Akan toponyms) to previously stated generalizations about vowel harmony and tone. There are two subsections and each subsection begins with a brief discussion of toponyms that conform exactly with the generalizations made in the literature and is followed by a discussion of those that do not conform to such generalizations.

3.1 Vowel harmony

Vowel harmony is a type of assimilation when vowels come to share certain features with other vowels of the same class, (Crystal 1994:168). Phonetically, ten vowels are identified in Akan (Twi). These vowels are [i ɪ e ɛ æ a o ɔ u ʊ]—(Berry 1957, Clements 1981, 1984, Dolphyne 1988, Stewart 1967, 1970, and Schachter & Fromkin 1968). Within successive syllables of Akan words of more than one syllable, one finds that the vowels that occur are either [i e æ o u] or [ɪ ɛ a ɔ ʊ]. Thus, there is a restriction on the distribution of the vowels which does not generally allow the vowels of Set 1 to occur in the same word with those of Set 2 (Dolphyne 1988:15). In the examples in Table 1, the vowels are from either of the sets above.

Table 1: Vowel harmony sets

SET 1	SET 2
<i>Kofi</i> [kɔ́fí] 'name of a male person born on Friday'	<i>kɔfe</i> [kɔ́fí] 'go and throw up'
<i>Adu</i> [ãdú] 'proper name'	<i>Ado</i> [ãdú] 'proper name'
<i>esie</i> [ɛ́sɛ́] 'hill'	<i>esee</i> [ɛ́sɛ́] 'father'
<i>owuo</i> [òwúó] 'death'	<i>ewoo</i> [ɛ́wúó] 'honey'

The words under Set 1 have only ATR vowels whereas those under Set 2 have only RTR vowels. According to Lindau 1979, Akan ATR vowels are characterized by a hollow quality because during their production the root of the tongue is pushed forward, a process which enlarges the space in the pharynx. Thus, there is a wider pharynx and lower larynx. Lindau (1979:171) remarks further that 'because the tongue is a constant mass, when the root is advanced, the front of the tongue, including the blade is also displaced upwards as an automatic consequence of the pull of the posterior genioglossus'.

The low central ATR vowel [æ] has different characteristics in the different Akan dialects. Dolphyne 1988 and Lindau 1979 note that unlike the Fante dialects, in which during its articulation the tongue root is pushed forward thereby enlarging the space in the pharynx and thus giving it a hollow quality, in the Akuapem and Asante dialects the root of the tongue is not pushed forward during its articulation. Thus, [æ] in the Akuapem and Asante dialects is not characterized by a hollow quality. During the articulation of RTR vowels, the root of the tongue is retracted and the larynx is raised thereby narrowing the space in the pharynx. RTR vowels are therefore not characterized by the hollow quality associated with ATR vowels. From the above discussion, it is true to say with Dolphyne 1988 and Lindau 1979 that vowel harmony in Akan is controlled by the relative size of the pharynx.

Dolphyne (1988:16) notes that vowel harmony in Akan characterizes a whole word and is thus a property of the word. Phonologically, therefore, five vowels may be established for Akan and ATR or RTR prosody may be established to show the two pronunciations of each vowel unit. The vowels are thus paired as follows: *i/i*, *e/ɛ*, *æ/a*, *o/ɔ*, and *u/ʊ*. The vowel harmony process is said to be regressive, that is, it moves leftwards. For example, in *ɔ* 'she/he' + *di* 'eat', the ATR harmony moves leftwards and changes [ɔ] into [o]. The resultant unit is therefore *odi* [odi] 'she/he eats.'

As Berry 1957, Clements 1981, 1984, Dolphyne 1988, Stewart 1967, 1970, and Schachter & Fromkin 1968 rightly point out, there are few exceptions to the vowel harmony process stated above:

(a) There are very few words like *sika* [sika] 'money', *bisa* [bisa] 'ask', *kuma* [kuma] 'small', *nyinsɛn* [ɲinsɛn] 'be pregnant' *kura* [kura] 'to hold', and *pinkye* [piŋtɕɛ] 'come close' that have vowels from both harmonic sets;

(b) A labialized or palatalized consonant followed by the low RTR vowel [a] could be preceded by a ATR vowel. For example:

o + gu + a	<i>ogua</i> [òg ^w á] 's/he peels'
e + gy + a	<i>egya</i> [édzá] 'fire'
a + gy + a	<i>agya</i> [ædzá] 'father';

In all the above examples in (a) and (b), the ATR vowel(s) come(s) before the RTR vowel(s). It is important to also mention that the low vowel [a] is the RTR vowel that usually occurs after the ATR vowel; [ɛ] also occurs in two words—*nyinsɛn* [ɲinsɛn] and *pinkye* [piŋtɕɛ] 'come close'.

(c) In the Akuapem dialect of Akan, the RTR vowel [ɪ] of the progressive aspect *re* [rɪ] remains RTR even if it occurs with a root that has an ATR vowel. Thus, instead of [ɔridi] we have [ɔridi] 's/he is eating.'

The vowel harmony process in Akan suggests that at morpheme boundaries, ATR is the active value. Specifically, ATR vowels can raise RTR vowels into ATR, whereas RTR vowels do not lower ATR into RTR. Thus:

[RTR] [ATR] → [ATR] [ATR]
 [RTR] [RTR] [ATR] → [RTR] [ATR] [ATR].

But not:

[ATR] [RTR] —/→ [RTR] [RTR]

For example; *kɔ* [kɔ] 'go' + *si* [si] 'wash' → *kɔsi* [kosi] 'go (and) wash it' where the RTR vowel [ɔ] of *kɔ* changes to ATR [o]; and *kɔ* [kɔ] 'go' + *tɔ* [tɔ] 'buy' + *fufuo* [fufuo] 'a staple dish' → *kɔtɔ fufuo* [kɔtɔfufuo] 'go and buy fufuo' where the RTR vowel [ɔ] of *tɔ* is assimilated to [o] but the RTR vowel of *kɔ* is not affected by the harmony process and therefore remains RTR.

Akan linguists (Berry 1957, Clements 1981, 1984, Dolphyne 1988, and Stewart 1967, 1970) assert that there are a few exceptions to the rules of vowel harmony; that is, there are words in which both advanced and unadvanced vowels occur. However, close attention to Akan toponyms suggests that there are

more exceptions than previously thought. Thus, as noted earlier, a careful observation of Akan toponyms points to the fact that there are exceptions to previously stated generalizations about how vowel harmony operates in Akan.

In the remaining part of this section, I show the phonological characteristics of both completely lexicalized and partially lexicalized toponyms with particular reference to how they react to the Akan vowel harmony process.

3.1.1 Completely lexicalized toponyms

Close observation of the toponyms suggests that across morpheme boundaries, a RTR vowel assimilates to an ATR vowel. The examples in Table 2 make the above claim clearer.

Table 2: Completely lexicalized toponyms

TOPONYM	STRUCTURE	MEANING
Asuom [æ̀súóm]	A [â] + nsuo [̀nsúó] + emu [̀èmú] nom. affix + water + within	On a river (marshlands) ²
Badu [bæ̀dú]	ɔba [̀ɔbá] + du [dú] child + ten	Tenth-Child
Kukurantumi [kùkùræ̀ntúmì]	Kuku [kùkù] + a [â] + n [̀n] + tumi [̀túmí] lift + if + neg. + able	Unable to lift (Impregnable)
Anyinam [æ̀ɲìnæ̀m]	A [â] + nyina [̀ɲiná] + emu [̀èmú] nom. affix + silk-cotton tree + within	Surrounded by silk-cotton trees

For example, in Asuom [æ̀súóm] the RTR vowel of the nominalizing prefix {a} [â] assimilates to a ATR vowel, [æ̀], because of the following ATR vowel, [u], of *nsuo* [nsuo] 'water'. Regarding *Anyinam* [æ̀ɲìnæ̀m] there are two instances of raising from RTR to ATR. The open low vowels [a] of *nyina* [̀ɲiná] 'silk-cotton tree' and the nominalizing affix *a* [â] change to [æ̀] because of ATR vowel [e] of *emu* 'within' and [i] of *nyina* [̀ɲiná] 'silk-cotton tree' respectively.

In the next section, I show that for toponyms that have been completely lexicalized, it is even possible for a RTR vowel which has been raised to ATR to raise a preceding RTR vowel into ATR.

3.1.2 Completely lexicalized toponyms in which a RTR vowel raised to ATR is able to raise a preceding RTR to ATR

Dolphyne (1988:23) notes that vowel harmony process of replacing an unadvanced vowel by an advanced vowel does not normally extend beyond the syllable immediately preceding the advanced vowel. She notes further that for some speakers, it is possible for other preceding vowels to be raised to ATR. The examples in Table 3 and other examples scrutinized in the data show that in many toponyms, the ATR prosody extends beyond a syllable. Thus although normally [RTR] [RTR] [ATR] become [RTR] [ATR] [ATR], with regard to completely lexicalized toponyms we have [RTR] [RTR] [ATR] becoming [ATR] [ATR] [ATR]. The toponyms in Table 3 exemplify this pattern.

Table 3:
Toponyms in which a RTR vowel raised to ATR
can raise a preceding RTR to ATR

TOPONYM	STRUCTURE	MEANING
ɔsɛekurom [ɔsɛ́íkùróm]	ɔsɛ́i + kuro[kùró] + emu [è mú] ɔsɛi + town + within	Osei's town
Mmepom [mímípóm]	M [ḿ] + bepɔ [bípɔ́] + emu [è mú] nom.affix + mountain + within	Within mountains
Kukubi [kùkùbí]	Koko [kó!kó] + bi [bí] hill a	A hill.
Hiawoanwu [hìǎwúǎɛŋwù]	e [è] + hia [èhiá] + wo [wó] + a [â] + if + need + you + if + enwu [èŋwú] don't die	Do not let poverty drive you to commit suicide.
ɔbɔgu [òbógú]	ɔ [ɔ] + bɔ /bɔ] + gu [gu] s/he + pushes + aside	He conquers.

In all the toponyms above, the ATR harmony goes beyond one syllable. The RTR vowels [ɛ i] in *ɔsɛi* assimilate to [ɛ i] in *ɔsɛekurom* [ɔsɛ́íkùróm]. In *Mmepom* [mímípóm] the RTR vowels [i] and [ɔ] of *mmepɔ* [mmipɔ] 'mountains' are assimilated into ATR [i] and [o], respectively. In *Kukubi* [kùkùbí] the RTR vowels [u] of *koko* [kó!kó] 'hill' changes to ATR [u] because of following ATR vowel [i] of the determinative *bi* 'a'. The harmony span operates over the entire word. [u] and [a] of *ehiawoa* 'if your're poor' or 'if you're in need' are both raised to ATR —[u] and [æ] respectively—by the ATR vowel [u] of *nwu* 'don't die'.

3.1.3 Toponyms in which RTR vowels lower ATR vowels to RTR

Contrary to the view expressed in the literature on Akan vowel harmony (Dolphyne, 1988, Schachter & Fromkin, 1968:97) that it is only ATR vowels which are able to raise RTR vowels to ATR and that RTR vowels are unable to lower ATR vowels to become RTR, the toponyms presented in this section suggest that RTR vowels may be able to lower ATR vowels into RTR. Thus, the toponyms in Table 4 are inconsistent with the generalization expressed by the above authors.

Three of the five toponyms are discussed below. In *Akurɔpɔn* the RTR nominal affix [a] changes to the ATR vowel [æ] due to the influence the ATR [u] vowel of *kuro* 'town' has on it. Besides the above harmony process, the ATR vowel, [o], of *kuro* 'town' takes on the RTR feature of the following RTR vowel [ɔ]. In *Asuokɔkɔ* [æsúɔ́kɔ́], the RTR vowel [ɔ] of *kɔkɔ* 'red' influences the ATR vowel, [o], of *asuo* 'river'. [o] changes into a corresponding RTR vowel, [ɔ]. Finally, in *Topease* [tòpéási], [a] of *ase* [asi] 'beneath', which is RTR, lowers the ATR vowel, [ɛ], of *tope* [tope] 'giant snail' to RTR [ɛ].

Table 4: RTR vowel assimilates ATR vowel to RTR

TOPONYM	STRUCTURE	MEANING
Adankorɔno [àdà̀̀kùrɔ̀̀nú]	A [à̀] + dan [dà̀̀] + kuro [kùrɔ̀] + no [nú]	Depend on the Town (for livelihood)
Akuropɔn [ækùrɔ̀pón]	A [à̀] + kuro [kùrɔ̀] + pɔn [pón]	Big town. (Biggest town in the area.) ³
Asuokɔkɔ [æsúó̀kó̀]	A [à̀] + nsuo [nsúó] + kɔkɔ [kòkó]	Red-river
Odumase [òdómási]	Odum [òdóm] + ase [ási]	Beneath the Odum tree
Topease [tòpéási]	Tope [tòpé] + ase [ási]	Beneath the giant snail

3.1.4 Toponyms in which the low ATR vowel can raise a RTR vowel to ATR

Schachter & Fromkin 1968 and Stewart 1967 have argued that RTR vowels preceding the ATR low vowel [æ] cannot change to ATR. However, the examples in Table 5 below contradict this claim.

Table 5:

Toponyms in which the Low ATR Vowel Raises a RTR Vowel into ATR

NAME OF TOWN	STRUCTURE	MEANING
Akontaanim [àkòntà̀̀æ̀̀nì̀̀m]	Akonta [àkòntá] + anim [æ̀̀nì̀̀m]	A brother-in-law's face (It is difficult to deal with one's brother-in-law.)
Amankwaakrom [àmà̀̀̀kwà̀̀̀æ̀̀̀króm]	Amankwaa [àmà̀̀̀kwà̀̀̀á] + kuro [kùrɔ̀] + emu [èmú]	Amankwaa's town
	amankwaa + town + in	

In *Akontaanim* [àkòntà̀̀æ̀̀nì̀̀m] the RTR low vowel [a] of *Akonta* [àkòntá] 'brother-in-law' changes to a ATR vowel [æ] due to the presence of the following ATR vowel [æ] of *anim* [æ̀̀nì̀̀m] 'face'. In *Amankwaakrom* [àmà̀̀̀kwà̀̀̀æ̀̀̀króm] the two final RTR [aa] vowels of the first unit of the compound gets assimilated into ATR vowels—[æ:æ]. The fact that the harmony span is over two syllables (kwa.a. becoming kwæ:æ.) contradicts what Schachter & Fromkin (1968:56) and Stewart 1967 say about the ATR vowel, [æ].

3.2 Tone

Akan is a tone language in which pitch is a feature that decides the lexical meaning of a word. Akan has two contrasting tones—high and low. Like other Kwa languages with two tones, Akan also exhibits downdrift and downstep. Downdrift refers to a gradual lowering of the pitch of high tones preceded by low tones. A high tone lowered in pitch is called a downstepped high tone.⁴

For example:

̀Owúrà Kwàsí Gyàsí pÈ `Akósúá
 'Mr. Kwasi Gyasi likes Akosua.'

In the above schematic, we see that the high tones fall in pitch as the utterance progresses. The descent in pitch is such that the final high tone is lower in pitch than the initial low tone. The second high tone syllable .sí is lower in pitch than the first high tone syllable .wú. but higher in pitch than the third high tone syllable .kó..

In the remaining part of this section, I discuss toponyms that obey the tonal process on nonautomatic downstepping (which suggests that floating low tones can step down the pitch of following high tones) and those that do not.

3.2.1 Toponyms that obey the downstep process in Akan

According to Dolphyne (1988:59), sometimes in Akan 'a low tone syllable in H-L-H sequence may be deleted, that is dropped altogether, but its pitch lowering effect on the following High tone remains'. In effect, H-L-H \longrightarrow H-!H. For example, Kofi [kòfí] + òdan [òdán] becomes [kòfí !dán].

An observation of the data reveals that very few of the toponyms obey this tonal assimilation process. Table 6 below shows toponyms that obey the above tonal assimilation.

Table 6: Toponyms that obey tonal assimilation process

TOPONYMS	STRUCTURE	MEANING
Aboɔso [àbúó!sú]	à + bóó + èsó pl. rock on top of	On rocks
Akokoaso [àkùkùá!sú]	Àkòkòá + èsó Akokoá (river) on	On or near River Akokoá ⁵
Birebireso [bìrèbìrè!sú]	Bìrèbìrè + èsó Birebire on	On or near River Birebire.

In the above table, *Aboɔso* [àbúó!sú], *Akokoaso* [àkùkùá!sú] and *Birebireso* [bìrèbìrè!sú] obey the normal floating tone process (where a low floating tone lowers the pitch height of a following high tone). Thus, although the /ɛ/ vowel of the second element of the compound, èsó 'on (top of)', is deleted, its associated low tone is left floating and, as in other automatic downstep situations, it brings down the pitch of the following high tone.

3.2.2 Toponyms that violate the downstep process in Akan

In most of the toponyms, the floating tone process does not operate. Specifically, in most of the toponyms, when a segment is deleted, its associated tone does not have any assimilatory effect on the following high tone. This may suggest that in such toponyms the segment is deleted with its associated low tone. The above claim is explicated in Table 7.

Table 7: Toponyms that violate tonal assimilation process

NAME	STRUCTURE	MEANING
Anweaso [ànwíású]	Ànwèá + èsó gravel on	On a rocky/stony area.
Bepɔso [bípɔ́sú]	Béɔ́ + èsó mountain on (top of)	On top of a mountain.
ɔfenso [ɔ́fínú]	ɔ́fén' + èsó ɔfen (river) on	On or near river ɔfen.
Topease [tòpéásí]	Tope [tòpé] + ase [àsí] giant-snail beneath	Beneath the giant snail
Besease [bísiásí]	bese [bísi] + ase [àsí] kola nut (tree) beneath	Beneath a kola tree

The data show that in such toponyms as *Anweaso* [ànwíású], *Bepɔso* [bípɔ́sú] and the other examples, if the second element of the compound toponym is èsó 'on (top of)', then, when the low-tone syllable .è. is deleted, the tone of the final syllable .só. is not downstepped.

However, if the second unit of the compound is àsé [àsí] 'beneath', then there is no deletion and the low tone associated with the initial syllable .à. of àsé 'beneath' may be raised to a high tone as exemplified in Table 7 above. For example, *bese* [bísi] 'kola nut (tree)' + *ase* [àsí] 'beneath' becomes *Besease* [bísiásí] where a H-L + L-H become a L-H-H-H. The low tone on the initial vowel of the second unit of the compound changes to high. The above discussion suggests that it is probably too simple to argue that in an H-L-H tonal situation the L must step down the pitch of the following H.

4. Summary

In any language, permissible sequences for a string of unrelated words may be impermissible for a single word or morpheme. The toponyms that are not completely lexicalized exhibit phonological behavior of phrases or sentences and may therefore be seen as exceptions to the Akan vowel harmony and tonal assimilation processes.

This paper has shown that completely lexicalized toponyms follow the vowel harmony process in Akan by which only ATR or RTR vowels occur in a word and in which ATR vowels can assimilate RTR vowels into ATR.

I have also shown that several toponyms violate the vowel harmony process. In particular, I have shown that during toponymization, contrary to what is found in the literature that RTR vowels are unable to lower ATR vowels to RTR, there are cases where the obverse is true.

Moreover, I showed that contrary to the often held notion that a RTR vowel which has been raised to ATR cannot raise another preceding RTR vowel to a ATR, there are exceptions to this claim. Specifically, I provided evidence to

show that some RTR vowels raised to ATR can raise other RTR vowels to ATR. Thus, I showed that the process of raising can go beyond one syllable.

Close observation of the toponyms suggests that only the ATR vowel harmony value is synchronically active today. However, the toponyms suggest that dichronically, Akan may have had both ATR and RTR harmony. Specifically, a systematic attention to the toponyms suggests that as complex phrases became lexicalized, either the ATR or RTR value might have triggered harmony. The data collected for this study provide no indication regarding when and why RTR harmony ceased to be active.

Concerning tones, I showed that the phenomenon of downstepping operates during the formation of toponyms. In particular, I explicated the fact that even when a segment or syllable is deleted, its associated tone may remain and exert an influence on the tone of adjacent syllables. Examples of floating low tones stepping down the pitches of following high tones were provided in the various core sections.

However, I also explained that when the final element of the compound toponym is the postposition *eso* [ɛ́sú] 'on or on top of', then the initial vowel sound [ɛ] (which has a low tone) is deleted and its associated low tone may or may not cause a downstepping of the following high tone.

Moreover, if the final unit of the compound toponym is the postposition *ase* [àsí], then the full form including the tonal pattern may be maintained. However, in many examples, the low tone associated with the initial vowel, [a], is changed to a high tone.

This study has thus revealed that a close and systematic attention to the morphophonological facets of Akan toponyms calls into question generalizations about vowel harmony and tone; any future work on the above phonological processes should therefore take nouns and nominalized compounds as important sources of data.

NOTES

¹ A town near Sunyani in Ghana's Brong Ahafo Region. In the Eastern Region a town with an identical name is pronounced [odumasɪ] with vowels from both harmonic sets..

² According to Mr. Twumasi Ankrah, an elder of this town, the original name of the town was Asuohofɔɔ (people who live by the river). The name was later changed to Asuom.

³ According to Opanin Yaw Bonsu, an elder of the town, *Akropɔn* was the largest settlement and, politically, the most powerful at the time it was founded.

⁴ There are two types of downstepping—automatic and non-automatic. The high tones whose pitches have been stepped down in the example given in this text come under automatic downstepping since they are phonologically conditioned. In a downdrift situation you have an automatic downstepping. Non-automatic

downstep refers to a situation where in a sequence of two high tones the second high tone has a lower pitch than the first. For example, in /ɔ̀bɔ́!fú/ 'creator' the final high tone is a downstepped high tone. Nonautomatic downstepping is symbolized by placing an exclamation mark [!] before the high tone that is downstepped.

⁵ Opanin Kofi Saara, an elder of the town, claims that the town was named, not after River Akokoa, but after a small hill. He explained that the word *akokoa* is a combination of *kokoɔ* 'hill' and the diminutive suffix *wa* 'small'.

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