

Some Phonological Processes in an Akan Linguistic Game*

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Abstract

This paper examines some phonological processes observed in the Pig Latin; a linguistic game played in Akan, a Niger-Congo (Kwa) language. The Akan Pig Latin (henceforth APL), which is popularly known as *Megesege* is usually played among Akan youth. The purpose of this game varies from concealment to social identity establishment. This paper is a qualitative study of 200 stimuli of sentences in regular Akan constructions manipulated into the APL. The simple rule for playing the game is to syllabify an already existing word and to add a [CV] syllable to each of those segmented syllables. Through this manipulation of existing word, several phonological processes are observed including insertion, syllabification, palatalization etc. The paper presents a descriptive analysis of some of the processes and shows how the study of the APL can facilitate our understanding of the several phonological phenomena in Akan, even though it may display, in many parts, quite different patterns from what obtains in the regular Akan grammar.

1 Introduction

Linguistic games or *Language games* as alternate languages are a common phenomenon and have been well studied cross-linguistically by several researchers (cf. Haas 1957, 1967, 1969; Sherzer 1970, 1985; Decamp 1970; Conklin 1956, 1959; among others). The linguistic games come in different forms or types and in this current paper, I will focus the discussion on one form; the Pig Latin played in Akan, which is locally termed *Megesege*. In Akan, the phenomenon has received very little scholarly attention and the only readily available materials are by Kofi Agyekum (1996, 2009). It used to be a very common game in many Akan communities some few decades back, but now it seems the number of its players is gradually waning, especially in the urban areas and among the younger generation. Its gradual loss of popularity may be attributed to some socio-cultural as well as economic factors such as urbanization, westernization etc. (cf. Agyekum 2009). Perhaps, this situation may be responsible for the reason why there is very limited scholarly literature available on the subject in Akan. In the study of this phenomenon in Akan, researchers have, to a large extent, limited their scope to the ethnography and sociolinguistics of game, however, judging from

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the wide interest data on linguistic games present in facilitating our understanding of several phenomena in linguistic components such as morphology, phonology, sociolinguistics, pragmatics etc., the current paper seeks to extend the linguistic coverage the phenomenon has received in Akan to the domains of phonology.

In the phonological analysis of the game, for instance, it would be shown that some debates in the literature such as syllabification of especially CrV stems (cf. Schachter/Fromkin 1968; Abakah 2004; Dolphyne 2006; Marfo/Yankson 2008; Marfo 2013) could be well resolved by reference to the study of how players of the game manipulate existing CrV words. In addition to this, this paper will attempt to enlighten us about the pattern of some phonological processes such as palatalization and finally insertion of CV syllable inside an existing word or morpheme, which is an uncommon type of insertion in Akan and show what conditions such a process.

1.1 Background of Akan

Akan is a member of the Niger-Congo (Kwa) family of languages. It is spoken mainly in Ghana and some parts of Côte d'Ivoire both in West Africa. The language has several dialects, but among these dialects, the three major ones which have received literacy status and are taught in schools are Akuapem, Asante and Fante. Both the Akuapem and the Asante dialects together constitute the Twi group of Akan. According to the recently conducted national Population and Housing Census, over 40% of Ghanaians speak the language as their L1 and together with its non-L1 speakers, it is estimated that more than half of Ghana's over 24 million population¹ either speak or understand the Akan language. This makes the Akan language the most widely used language in Ghana today particularly for education, commerce and in the media.

In terms of its segment inventory, Akan has ten phonemic² vowels in its vocalic system which I present below in (1). The vowels are in their contrastive pairs in terms of Advanced Tongue Root (ATR) values.

(1) **Akan vowel chart**

	Front	Central	Back
High	i, ɪ		u, ʊ
Mid	e, ɛ		o, ɔ
Low		æ, a	

Akan operates an open syllable system with the following as its basic syllable structures; CV, V and C where the C is invariably [+sonorant]. Other structures such as C₁C₂V³ can be derived at the surface representation.

1 From the 2010 Population and Housing Census conducted, it is now estimated that Ghana's population is about 24,6 million.

2 While the Twi dialects, especially the Asante dialect, operate ten-vowel system, many varieties of the Fante dialect, on the other hand, have nine phonemic vowels in their system. The low vowel /æ/ occurs in some sub-dialects of the Fante dialect (cf. Abakah 2004, 2005, 2013), though according to Lawrence Addai Boadi (2009: 6–11), it seems to be losing its contrast with its counterpart, /a/ in Akan in general.

According to Florence Abena Dolphyne (2006: 52), the syllable in Akan can also be described in terms of the tone on which the consonant and/or vowel, which makes up the syllable, is uttered. Syllables in Akan never end in coda (cf. Dolphyne 2006; Abakah 2005, 2004). But syllabic consonants such as *m*, *n*, *r*, *w*, can be tone-bearing. This is exemplified in the following words in (2) and (3) on the Akan syllabification of NCV, CVN and CVV respectively.

(2)	Syllable structure	Word	Gloss	Ill-form
a.	N.CV	n.go	palm oil	*NCV
b.	CV.N	ta.m	lift it	*CVN

It is worth noting that in Akan all nasals can be syllabic except those that occur in pre-vocalic position. I will talk more about morpheme-final nasals in subsection 1.2. On vowels, Florence Abena Dolphyne (2006: 53–54) argues that each vowel in Akan constitutes a syllable, hence, a sequence of two vowels either of the same quality or of different qualities is counted as constituting two separate syllables. For example, the following words are represented in their respective syllable structure in (3).

(3)	Syllable structure	Word	Gloss	Ill-form
a.	CV.V	bu.a	respond	*CVV
b.	CV.V	kɔ.ɔ	red	*CVV

In summary, based on Dolphyne's (2006) claim about the constituents of Akan syllable structure, syllable structures such as; *CVC, *VC, *CCV, *CVV, *CVVC etc. are not permitted in Akan. In subsection 1.2, we look at the morpheme-final nasal in Akan.

1.2 Morpheme-Final Nasals in Akan

On CVC syllable type in Akan, Emmanuel Nicholas Abakah (2005) argues that there can never be a word or syllable with final consonant (obstruent). This claim buttresses earlier assumptions made especially by Paul Schachter/Victoria Fromkin (1968), and Florence Abena Dolphyne (2006) that only [+sonorant] consonants such as nasals, labio-velar glide /w/ as in *ɔhaw*'problem', and liquid /r/, which is usually found in Fante words such as *kor*'one', can occur word-finally (in the coda position) at the surface representation in Akan. Therefore, there cannot be any syllable of C₁VC₂ structure in Akan in which C₂ is a [-sonorant] segment. In furtherance of his argument, Emmanuel Nicholas Abakah (idem.) posits that the archiphoneme /N/ has two realizations. This was a direct response to Paul Schachter/Victoria Fromkin's (1968) claim about the underlying final stops in Akan. While the underlying bilabial nasal stop surfaces as [m] in all the three dialects, the underlying alveolar nasal becomes [n] in the Fante dialect, [ɲ] in the Akuapem dialect, but is replaced with a high vowel in the Asante dialect depending on the roundness of the stem vowel. On the final alveolar nasal realization in the Asante dialect, Emmanuel Nicholas Abakah (idem.) continues that the intervocalic alveolar nasal is deleted in Asante and they are replaced with [+high] vowels depending on the ATR value of the stem and roundness of the stem vowel in the

3 The C₂ which manifests as CrV is found in native words such as *sra* 'visit', *frɛ* 'call', while the lateral sound /l/, on the other hand, is found in nativised words.

surface representation. He further argues that the deleted nasal spreads its nasal feature to the epenthesized vowel before it finally deletes. The data in (4) and (5) are adapted from Emmanuel Nicholas Abakah (2005: 49). The UR stands for underlying representation which is used interchangeably with phonological representation in this paper, while SR stands for surface or phonetic representation.

(4)	UR	Fante	Akuapem	Asante	Gloss
a.	sinĩ	sĩn	sĩn	sĩĩ	not full, short
b.	dnĩ	dzĩn	dĩŋ	dĩĩ	strong, hard, difficult
c.	kanĩ	kãn	kaŋ	kãĩ	count
d.	fɔnɔ	fʷɔ̃n	fʷɔ̃ŋ	fʷɔ̃ɔ	to be emaciated

The bilabial nasal is the same in all the three major dialects of Akan as follows in (5). Let us note that the underlying forms are monomorphemic, that is, each is composed of a single morpheme.

(5)	UR	Fante	Akuapem	Asante	Gloss
a.	pamɔ	pãm	pãm	pãm	sew
b.	tamɔ	tãm	tãm	tãm	lift
c.	pĩmɔ	pĩm	pĩm	pĩm	to head-butt, crash into
d.	bamɔ	bãm	bãm	bãm	embrace somebody

Aside from these nasals, the labio-velar glide /w/ is also permitted morpheme-finally in the Akuapem, Asante and Fante dialects, but the liquid /r/ is realized in the same position exclusively in the Fante dialect. In the UR, all morpheme-final nonvowel sonorants in Akan are followed by [+high] vowels, which delete in the SR. For detailed discussions on this, see Abakah, 2004, 2005 etc.

1.3 Methodology

This study is a qualitative examination of how regular Akan prosodic structures such as word, phrase and sentences are manipulated into the APL by the players of the language game. Through such manipulations, some phonological as well as morphological phenomena are observed in the APL. The data for the current study consist of two hundred (200) manipulated sentences in the APL, elicited from primary sources between 2012 and 2013 in both the Ashanti and the Central Regions of Ghana with a speaker recorded in each of the two regions. The two young male respondents⁴ served as language helpers who were consulted for this study and are both native speakers of the Asante Twi dialect of Akan. They were purposively selected as the respondents for this project primarily because they communicate almost exclusively in APL. The ages of the respondents were 18 and 25. I randomly selected sentence stimuli in the regular Asante Twi dialect for the respondents to manipulate into the

⁴ Even though the playing of the game is not restricted to male participants, the two respondents who happen to be brothers were selected for the purpose of the current study. More so, among the target respondents I earlier selected, these two demonstrated much fluency in the game, hence, their selection.

Megesege game. The sentence stimuli comprised both simple and complex sentences. For example, I gave them simple sentences like, *Kofi beko* 'Kofi will go', which both respondents manipulated it into [kɔgɔfigi begekɔgɔ]. For emphasis and also confirmation of the quality of the epenthetic segments, the respondents were asked to repeat each sentence thrice; the first two were said in normal casual speech context while the last repetition was made slowly. I recorded their responses using both a voice recorder and a notebook. I later analyzed the data that were recorded using the *Praat* software to determine the quality of the epenthetic segments, especially the epenthetic vowel.

2 Linguistic Games in Akan

As already mentioned in section 1, the language or linguistic game is one of the domains in language study that has been well studied across different languages families, namely English (Halle 1962), Estonian (Lehiste 1985), Burmese (Haas 1969), Jamaican Creole (Decamp 1970), Japanese (Sanches 1968), Cuna (Sherzer 1970), Tagalog (Conklin 1956), Thai (Haas 1957), Bakwiri (Hombert 1973), Akan (Agyekum 1996, 2009) etc. Language or linguistic games have several other names including speech play, speech disguise, word play, word game, linguistic play, secret language etc. I will use the terms language game and linguistic game interchangeably throughout the rest of the paper.

Kofi Agyekum (2009) has identified several kinds/types of speech play among the Akans including puns, riddle, tongue twisters, verbal dueling contest, mnemonic devices, Pig Latin, rhyme, quasi euphemisms, jokes, humours, linking and association etc. The use of any of these demonstrates the speaker's language competence and communicative artistry.

As Kofi Agyekum (2009: 48) postulates, "speech play is a universal concept, but its structure, form, rules and socio-cultural contexts vary from culture to culture" and the rules APL are no exception. Its use serves to fulfill some communicative purpose. Among the functions of playing this game, according to Kofi Agyekum (2009: 73) is that, "it fosters and reinforces group identity and [also] brings about social cohesion and good interpersonal relationship among people [who play the games]."

Since it is an in-group language game, it is played usually when gossiping or when using vulgar language, which society frowns upon. This serves as the concealment function of the game, which has already been pointed out. It is also played to establish group identity. Apart from it being used to cover up "filthy talk", or obscene language, it is also used as a cover up for one who is in trouble.

2.1 The Akan Pig Latin

The common Akan term for Pig Latin is *megesege/mekeseke*, which in itself is a manipulated form of the clause *mese* which means 'I say...'. The name perhaps suggests its concealment or gossip function. *Megesege* is a language game meant for only the trained ears who are predominantly the youth, though it is not as vibrant as it used to be as has already been pointed out. Since in playing the game, all regular words or morphemes are segmented into their respective syllables and each syllable is affixed with [g+V], it makes it difficult for the untrained ears to comprehend the import of such a conversation or speech. For instance, a CV syllable comprising a sequence of a back consonant /k, g/ + a front vowel sequence is marked

in the regular phonology of Akan. Even more interesting is the observation that a highly marked syllable structure in terms of the language's phonotactics, such as the use of the syllable-initial clusters such as *sk*, *sp*, *st*, *gs* etc. as were discussed in (3), emerges in the game.

2.1.1 Forms of Akan Pig Latin

The APL comes in more than one variety and so far about five (5) common varieties can be identified among Asante Twi players of the game which are as follows in (6).

(6) **Varieties of Akan Pig Latin**

- a. Megesege/mekeseke
- b. Mepresepre
- c. Mesteseste
- d. Mesesese
- e. Megsesegse

Unlike in Cuna games where the different forms of the game reflect differences in dialect (cf. Sherzer, 1970), the variation in the APL does not reflect dialectal differences or even sub-dialects, but just preferences for a particular variety of the game by the players themselves. The different forms pattern the same ways; they follow the same morphological and phonological rule applications.

Though any of the varieties in (6) above can be used to express the same clause *mese*'I say...!', the present study will focus on the form in (6a); *Megesege* which has [g/k] + [V] affixed to each segmented syllable preceding it. The main reason for this choice is simply because it is the most popular variety.

2.1.2 Rules for playing Akan Pig Latin

Unlike in many other languages such as Cuna (cf. Sherzer 1970; among others) where the rules for playing linguistic games such as backward speaking involve shifting or swapping the position of syllables (cf. Agyekum 2009), in the Akan linguistic game (Pig Latin), the rule is that you suffix a consonant (C) to a segmented syllable. The ensuing CV+C or V+C structure would violate Akan syllable structure as was discussed in (3), nonsonorant Cs are not allowed in final position. To correct this structural ill-formedness, the syllable-internal vowel (V) of the preceding segmented syllable spreads rightwards to prevent coda at the surface level of representation. The description of the rules for playing the APL game is ordered as follows;

The 3-step rules for playing the game⁵:

- (i) First, syllabify every existing word or morpheme. (The syllabification strictly adheres to the basic syllables structures of Akan as was discussed in (1)).
- (ii) Second, suffix [g] to each of the preceding segmented syllable.
- (iii) Finally, spread the syllable-internal V of the segmented syllable to the end of the epenthetic [g].

The epenthetic V is invariably a complete copy of the preceding syllable-internal vowel, which controls the height, roundness and ATR values of the former vocalic segment. For example, the syllable-internal vowel in a word like *pɛ*'to like' is the front mid vowel /ɛ/ - you simply add [ɛ] to [g] and realize *gɛ*. So the regular word *pɛ* is manipulated into *pɛgɛ* [pɛgɛ] in the APL. Similarly, when the existing word is disyllabic, each syllable ends in [g+V]. For example, *mese*'I say' is manipulated into *megesege* [mɪgɪsɪgɪ] in the APL.

As already pointed out, players select only one syllable at a time and usually attach [g+V] to its end, however, the insertion takes on a different form when the target word for manipulation ends in a nasal consonant as in CVN. In such cases, the epenthetic syllable no longer attaches to the end of the segmented syllable, but instead inserted inside the existing word; the nasal now becomes final syllable of the manipulated word. For example, the regular form *menim*'I know' becomes *mege-nigim* [mɪgɪ-nɪgɪm] in its manipulated form. I shall further elaborate on this in subsection 3.5.

3 Some phonological processes in the APL

The APL exhibits several phonological patterns expected from the grammar of regular speech in Akan.

In playing the game, lexical items, phrasal word as well as sentential words are segmented into individual morphemes including all functional morphemes such as negation, number etc. Each of these morphemes is then syllabified before an epenthetic [CV] syllable is inserted into it as discussed in the previous subsection.

In the course of playing this linguistic game, there are several phonological processes observed including syllabification, palatalization, and insertion. In the subsequent subsections, I discuss each of these phonological processes with examples from the APL and show how they can contribute to our understanding of several phonological phenomena and their theorizations.

⁵ These steps would result in the same epenthetic [gV] as those proposed by Kofi Agyekum (2009: 61) with the only difference between the two being in the order of application of the rules for playing the game. While Kofi Agyekum (idem) postulates the spreading of the syllable-internal V first before the epenthesis of [g], which I think, to a larger extent, has less motivation, my claim is that by first attaching [g] to a segmented CV or V syllable, it would result in illicitness in structure i. e. nonsonorant consonant in the coda position of the syllable. This would then necessitate a repair which could be done through the spreading the syllable-internal V to the end of the epenthetic [g].

3.1 The Akan Syllabification

From the discussion in subsection 2.1.2, it was realized that the first step in manipulating an existing word or morpheme when playing the APL is by syllabifying an existing word or morpheme. For this reason, the APL facilitates our understanding of what constitutes the Akan syllable, particularly with regard to the CrV words or morphemes and the issue of diphthongization in Akan.

The actual UR of the Akan surface CrV morphemes or words has not been exhaustively dealt with by Akan phonologists though many of them, including Schachter & Fromkin (1968), Dolphyne (2006), Abakah (2004), Marfo & Yankson (2008), Marfo (2013) etc. postulate that any surface CrV morpheme or word is CV₁.rV₂ in the phonemic representation, where V₁ is specified with [+high]. The V₁ usually deletes at the phonetic level of representation especially in casual or fast speech, hence, CrV₂ is disyllabic with the ensuing surface syllable structure; [Cr.V₂]. This presupposes that the first syllable loses its nucleus and through resyllabification, the onset of the second syllable assumes the nucleus position of the first syllable at the SR. These scholars have used examples from several domains excluding the linguistic games to buttress their claim. In this paper, I contribute to this subject by providing data from the domain of the APL in support of this claim.

In playing the game, all existing CrV₂ words are manipulated by inserting a high front vowel, which is the default vowel in Akan, to break up the seeming cluster into CV₁gV₁rV₂gV₂ where V₁ is systematically prespecified with [+high, +front]. This epenthesis, it is claimed in this paper, is a result of default vowel insertion since it is not part of the segments of the existing word but only surfaces in the manipulated word to repair an illicitness that the addition of the epenthetic [g] would have caused. The motivation for this insertion, *inter alia*, could be as follows; first for 'cluster' reduction, and then for the subsequent ease of manipulation by players of the game. This is exemplified in (7).

3.1.1 Syllabification of CrV words⁶

(7) CrV structure

a.	Mege	kegelaga ⁷	aganigi	aga	-gyege	*megekaga –laga
	[mɪgɪ	kɪgɪlaga	aganigi	aga	-dʒɪgɪ]	
	Me	kra	ani	a	-gye	
	1SG.GEN	soul	eye	PRF	-collect	
	'My soul is satisfied/pleased'					

6 As a convention in this paper, all data are presented in the standard Akan writing form or orthography with all examples in the bracket [...] representing the phonetic variants. Also the target manipulated morphemes for our discussion are in boldface.

7 It is worth noting that Asante speakers most often freely vary the use of the following segments; r, l, and d in the regular phonology as evident in the Akan (Asante Twi) word for 'marriage'; awareɛ which has three free variants: [awarɛ], [awadɛ], and [awalɛ]. A similar observation is also made in the APL as a sequence of Cr in the segmented syllable, the r is replaced with l in the manipulated forms.

b.	Mege-	kege	-lagaa	nogo
	[mɪgɪ-	kɪgɪ	-lagaa	nɔgɔ]
	Me-	kra	-a	no
	1SG-	bid	farewell-PRF	3SG.OBJ
	'I bid him/her farewell'			

By the fact that there is a high vowel in the preceding syllable [mɪ-] in (7a–b), one may be tempted to argue, from hindsight, that the epenthetic vowel insertion may have spread from the preceding vocalic segment and not as a result of default insertion. Now let us consider another example where there is no such preceding vocalic segment in (7c–d).

c.	begelagaa ⁸	kogofigi	bɛgɛ-baga	*baga-lagaa	
	[bɪgɪlagaa	kogofigi	bɛgɛ-baga]		
	Braa	Kofi	bɛ-ba		
	Brother	Kofi	FUT-come		
	'Bro. Kofi will come'				
d.	Kyege	nogo	begelɛgɛ	yɛgɛn	*bɛgɛ-lɛgɛ
	[tɛɪgɪ	nɔgɔ	bɪgɪlɛgɛ	jɛgɛn]	
	Kye	no	brɛ	yɛn	
	Catch	3SG.OBJ	bring	3PL.OBJ	
	'Catch him and bring him to us'				

The pattern of manipulation in (7) is summarized in the following rule notation: $CrV_2 \rightarrow CV_1gV_1rV_2gV_2$.

From the examples in (7) above, it was observed that what Schachter & Fromkin (1968), Dolphyne (2006) and Abakah (2004) have postulated to be the underlying vocalic segment that deletes in the phonetic representation i. e. the high vowel, emerges in the APL. In the regular phonology of Akan, the deleted high vowel re-emerges in slow or emphatic speech. In the APL, the deleted vowel systematically resurfaces in CrV_2 words without concern for the rate of speech, as seen in the examples in (7) above.

⁸ It is interesting to note that in emphatic or slow speech, a source word *brother*, which does not have any inherent high vowel is realized as [bɪraa] in the Asante Twi dialect by some speakers. This is an extension of what happens in the regular phonology of the language where CrV is usually realized as $CVrV$ in slow or emphatic speech (cf. Dolphyne 2006; Marfo/Yankson 2008; Marfo 2013).

3.1.2 Clusters

Since the regular phonology of Akan neither has nor permits a cluster of obstruent sounds, any word found in the language with such a cluster is invariably a loan word. Adomako (2008) has observed that there are two main groups of loanword speakers in Akan; the monolingual speakers (who are mainly the illiterate older speakers) and the bilingual speakers (who are mostly the school-going youth). The former group, it has been observed, repairs every illicitness in the source words including clusters, while the latter group would usually adapted source clusters unrepaired (for further discussion of this, see Adomako 2008). What this implies is that the bilingual speakers permit clusters of consonants in the adapted words. Similarly, in the APL, it is observed that what the players of the game actually look for is not well-formedness in terms of structure of all the manipulated words, but mainly for the inserted [g+V] to get V to copy from. Despite their absence in the regular Akan of older speakers, similar clusters are found in the manipulated forms by these young players of the game. Akan speakers usually repair such illicitness by reducing the clusters in two main ways; (i) by deleting one of the consonants or (ii) by inserting a vowel to break up the cluster. The latter repair strategy is most often employed. In (8a) an example of such a cluster typical of the young players of the game can be seen.

(8) CC Clusters

a.	sigistaga	yagaa	kɔgɔ	*sigi-sigi-taga
	[sigistaga	jagaa	kɔgɔ]	
	Sista	Yaa	kɔ	
	Sister	Yaa	go	
	'Sister Yaa [is/has] gone'			

As seen in (8a), a source cluster of *st* in the manipulated foreign word *sister* was observed, however, below in (8b), a similar source cluster of *pt* is repaired by inserting a high vowel [ɪ] in the manipulated form.

b.	kagapegetegen	yagaw	faga	*kaga-ptegen	
	[kagapɪɪtɪɪgɪn	jagaw	faga]		
	Captain	Yaw	fa		
	Captain	Yaw	take		
	'Captain Yaw takes...'				
c.	bɔgɔɔ	-logo	nogo	nigi	*kaga-ptegen
	[bɔgɔɔ	-lɔgɔ	nɔgɔ	nigi]	
	Bɔɔlo		no	ni	

Football DEF here

'Here is the football'

It is worth noting in (10c) that the word *football* is most often shortened into *ball* in casual discourse by speakers of Akan, hence, the input word for manipulation is the shortened form but not the entire word *football*. With this background, it is evident that the input loaned form for manipulation in the game is without the word boundary cluster *-tb-* as in the source word.

Having looked at how consonant clusters in loan words are adapted and manipulated in the APL, let us turn our attention to the discussion of manipulation of existing words or morphemes with vowel clusters (VV) in (9).

In the regular phonology of Akan, as was discussed in (3), a sequence of two vowels, either of the same quality or of different qualities, are considered to be in separate syllables in Akan. That is to say, Akan's phonological system does not include diphthongs. So all things being equal, it would have been expected that a word or morpheme with a cluster of two vowels will be manipulated by syllabifying it into two syllables, and the epenthetic [g+V] inserted into each of the two syllables. This, however, is not always the case as can be seen in the following examples in (9).

(9) **VV clusters**

a.	Ɔgo	-peɛ	seɛ	ɔgo	-gyagae	*gyaga-ege
	[ɔgo	-peɛ	seɛ	ɔgo	-ɔzaɪ]	
	ɔ	-pe	se	ɔ	-gyae	
	3SG	-like	COMP	3SG	-stop	
	'S/he wants to stop'					
b.	Wegei	yeɛ	mege	tigi-kyaga		*wege-igi
	[wegei	jeɛ	migi	tigi-keaga]		
	Yei	ye	me	tikya		
	DEM	COP	1SG.GEN	teacher		
	'This is my teacher'					

The phonetic [aɪ] in [ɔzaɪ] as in (9a) is manipulated into [ɔzaɪ]; monosyllable instead of the usually expected *[ɔzagaɪɪ] as can also be seen in (9b). Similarly, [yei] is manipulated into [wegei], and not *[wegeigi] as would be expected. This can be explained by referring to the regular phonology of Akan where high vowels are not permitted word or morpheme-initially except in some few words in the Fante dialect. All the other vowels can occur elsewhere independently as in (9c-d) below showing [a] at the initial position. It is worth noting that the progressive marker *-re-* is invariably deleted in the Asante and Akuapem Twi dialects of Akan at the surface representation. This deletion is compensated for by the lengthening of the

immediately preceding vowel hence, its absence in the manipulated form. In other words, the input forms for manipulation in the APL are without the progressive marker.

c.	Mege	-kɔɔ	aga	-kɔɔ	-faga
	[mɪɣɪ	-kɔɔ	aga	-kɔɔ	-faga]
	Me-[re]	-kɔ	a	-kɔ	-fa
	1SG-PROG	-go	PRF	-go	-take

'I am going to take (it)'

d.	Mɔɔɔ-figi-laga	nogo	rege	-digi	aga-gogo-lɔɔ
	[mɔɔɔ-figi-laga	nɔɔɔ	rɪɣɪ	-digi	aga-gɔɔɔ-lɔɔ]
	Mmɔfra	no	re	-di	agorɔ
	PL-child	DEF	PROG	-eat	game

'Those children are playing'

In CVN words, the claim about the regular phonology of Akan particularly by Abakah (2005) is that any surface CVN is underlyingly CV₁NV₂ where V₂ is specified with [+high] feature value as was exemplified in (2) above. This is akin to the claim that a surface CrV₂ is CV₁rV₂ in the UR, but for nasals, the interconsonantal V₁ elides in casual or rapid speech. It was observed in (7) that this deleted high vowel resurfaces in the APL in manipulated CrV₂ words. So a CrV word is manipulated into CV₁gV₁rV₂gV₂ in the APL, however, in CVN words, the players manipulate them into CV₁gV₁N but not *CV₁gV₁NgV₂. The implication of this is that though in the regular phonology of Akan the first nasal of a nasal cluster and a final nasal are considered syllabic, and therefore can stand on their own as was discussed in (2), nasals in the final position do not stand on their own as independent syllables, but rather as inseparable part of the CVN word in the APL. From the pattern observed in (9), CV₁N words would have been expected to be manipulated into *CV₁gV₁NV₂gV₂ instead of CV₁gV₁N, the actual form by the speakers. In (10), I provide examples of how CVN words are manipulated in the APL.

(10) **Word/morpheme-final nasals**

a.	Maga	-tege	nege	hogo	aga-sɛgɛm	*aga-sɛgɛ-mgɛ/ *aga-sɛgɛ-mogo
	[maga	-tɪɣɪ	nɪɣɪ	hɔɔɔ	aga-sɛgɛm]	
	Ma-	te	ne	ho	asɛm	
	1SG.PRF	-hear	3SG.GEN	self	case	

'I have heard about him'

- b. **Yεgɛn** kɔɔ hɔɔ bigi *yεgɛ-ngɛ/ *yεgɛ-nege
 [jεgɛn kɔɔ hɔɔ bigi
 Yε -n -kɔ hɔ bi
 1PL -IMP -go there some
 'Let's also go there'
- c. Mege **-nigim** nogo *nigi-mgi/*nigi-mugu
 [migi **-nigim** nɔɔɔ]
 Me -nim no
 1SG -know 3SG.OBJ
 'I know him'

I now turn my attention to a brief discussion of another phonological process in the APL, namely palatalization, which is an assimilatory process.

3.2 Palatalization

In the regular Akan phonology, whenever a back consonant such as /k, g, h, w/ is followed by any of the following front vowels; /e, ε, i, ɪ/ shown in (1) in a syllable, the consonants would usually be expected to undergo full palatalization as in [tɛ, dʒ, ɛ, ɪ] respectively. The palatalization in Akan can simply be stated as follows in (11). In stating the palatalization rule in Akan, I assume Clements/Hume's (1995) Feature Geometry specification for place features for both vowels and consonants as follows: All front vowels and alveolar (anterior) consonants are specified with the feature [coronal]; all velar consonants are specified with [dorsal], while the feature specification for palatals and alveo-palatals, which are complex segments, also is [coronal] (cf. Adomako 2013: 186).

C

V

- (11) Palatalization rule in Akan: [+dorsal] → [+coronal, -anterior] / __ [+front]

There are, however, some few exceptional cases in which this rule fails to apply. These exceptional cases have been observed in the domain of Akan reduplication by researchers such as Christaller (1933); Welmers (1964); Schachter/Fromkin (1968); Marantz (1982); Boadi (1988, 2009); McCarthy & Prince (1994, 1995); etc. where for example, through the process of *a*-raising, /a/ in the stem verb *ka*'to bite' raises to [ɪ] in the reduplicant [kɪ] in the reduplicated Akan verb *kɪ.ka*'to bite repeatedly', but not *tɛɪ.ka*, and of recency, in the Akan loanword phonology by Adomako (2013), where an English source word [keɪk] 'cake' is adapted into Akan as *ke:ki* *ke:teɪ/tɛe:teɪ. This failure has been termed *Underapplication* of palatalization in the literature (cf. Marantz 1982; McCarthy/Prince 1994, 1995; Kager 1999; Raimy 2000; Adomako 2013; etc.). A similar lack of palatalization is observed in Akan in the domain of APL where palatalization fails to apply when in the course of manipulating an

existing word, in the context of a front vowel spreading to the epenthetic site after the epenthetic [g] has been inserted to form a new CV syllable. An expected palatalization rule, here too, fails to apply. I exemplify this with the following examples in (12).

(12) **Failure of palatalization rule**

	<u>APL form</u>				<u>Expected regular form</u>	
a.	Mege	-pɛɛɛ	sɛɛɛ	mege	-baga	*Medze-pɛdʒɛ sɛdʒɛ medze-baga
	[mɪɣɪ	-pɛɛɛ	sɛɛɛ	mɪɣɪ	-baga]	
	Me	-pɛ	sɛ	me	-ba	
	1SG	-like	COMP	1SG	-come	
	'I want to come'					
b.	Mege	kege-laga	aganigi	aga	-gyege	*medze teedze-laga aga-nidzi aga-dʒedʒe
	[mɪɣɪ	kɪɣɪ-laga	aganigi	aga	-dʒɪɣɪ]	
	Me	kra	ani	a	-gye	
	1SG.GEN	soul	eye	PRF	-collect	
	'My soul is satisfied/pleased'					

In (12), it can be observed that before the front vowels /i, ɪ, e, ɛ/, velar stop sounds /k/ and /g/ fail to palatalize into [tɛ] and [dʒ] respectively as would be expected based on the phonology of regular Akan.

Having discussed these relevant phonological processes observed in the APL thus far, let us now focus our attention on examining another common phonological process found in the APL, that is, insertion. I will zero in my discussion on insertion inside an existing word or morpheme, which is an uncommon type of insertion in the Akan phonology in general, but well attested in two main contexts in the APL.

3.3 Insertion

The [gV] syllable is regularly inserted to the right of the segmented syllables of an existing word or morpheme when playing the APL. The steps in the insertion of the epenthetic [CV], as have already discussed, are that the epenthetic velar stop is attached to the end of a segmented syllable and then the syllable-internal vowel spreads into the epenthetic site. Therefore, for instance, when the syllable-internal vowel is low, it is the low vowel that spreads to the epenthetic site. Similarly, when the syllable-internal vowel is high and front, a high and front vowel spreads.

The process of inserting a segment inside an existing word or morpheme, for the purpose of resyllabification, is not an uncommon process cross-linguistically and particularly in Akan. One common instance of such an insertion comes from the Fante dialect where, for example,

in some underlying *CUa* words, where *U* represents the two back vowels are realized as *CU.wa* as illustrated in (14).

(14) **Insertion of [w] in regular Fante phonology**

	UR	Fante	Akuapem	Asante	Gloss
a.	Akua	ek ^w u.wa	æk ^ɰ i.a	æk ^ɰ i.a	Personal name
b.	adua	ed ^w u.wa	æd ^ɰ i.a	æd ^ɰ i.a	beans
c.	abua	eb ^w u.wa	æb ^w u.a	æb ^w u.a	tobacco-pipe
d.	aboa	ab ^w ɔ.wa	ab ^w ɔ.a	ab ^w ɔ.a	animal

This insertion of the labial-velar glide [w] in the Fante dialects in (14) ensues from the phonological rule of onset creation, though the dialect systematically permits vowels in sequence within words or morphemes. The insertion also blocks the labio-palatalization rule that applies in the Akuapem and Asante dialects from applying in Fante in such context. The insertion of a [CV] syllable inside an existing word or morpheme, however, is what is not attested in Akan in general.

In the APL, there are two main phonological contexts that condition the process of inserting [g+V] syllable inside an existing word in during its manipulation. These two contexts are explained below in (15).

(15) **The context of insertion inside existing words in the APL**

In the first context, whenever an existing word is CVN in structure, players do not manipulate the word through the regular process of insertion of the [g+V] syllable to the end of the segmented syllable as has been observed thus far, but rather inside of the existing morpheme. Below are examples of such insertion in (15ia–b).

(i) **Insertion inside CVN morphemes**

a.	Yɛgɛn	-kɔgɔ	hɔgɔ	bigi	*yɛgɛ nɛgɛ/yɛgɛ ng
	[jɛgɛn	-kɔgɔ	hɔgɔ	bigi]	
	Yɛ	-n	-kɔ	hɔ	bi
	1PL	-IMP	-go	there	some
	'Let's also go there'				
b.	Mege	-nigim	nogo		*nigimgi/nigi mg
	[migi	-nigim	nɔgɔ]		
	Me	-nim	no		
	1SG	-know	3SG.OBJ		
	'I know him'				

From (15ia–b), the existing word *yε.n'we'* is disyllabic in structure, and thus we would have expected two of the epenthetic [g+V] syllable inserted into each of the syllables as has been the trend thus far. It is worth noting that in (4) and (5), Emmanuel Nicholas Abakah's (2004) claim about surface CV₁N words to be CV₁NV₂ in the UR just like surface CrV₂, which is CV₁rV₂ in the UR was discussed. However, unlike the case of the manipulation of CrV₂ words, the deleted V₂ of CV₁NV₂ never surfaces in the APL. Instead, we realize only one epenthetic syllable inserted inside the manipulated word. Any attempt to syllabify the existing CVN words or morphemes into two independent syllables results in ill-formedness as observed in the data to the right of (15i). As to why *ngi and *mgi are both ill-formed in the manipulated words, I claim in this paper that it is as a result of the fact that nasals lack properties of true nuclei in Akan. As a result of this situation, if the nasal is treated as an independent syllable and the epenthetic velar stop is subsequently attached to it, it would lack vocalism to spread to realize the epenthetic [g+V]. This would then create highly marked sequences such as *mg or *ng that would be realized as independently manipulated syllables. Among the alternative solutions to this problem that one may propose is that the morpheme or word-internal vowel spread to the following syllable. The problem with this proposal, however, is expressed by the question: Should the vowel spread to the epenthetic syllable pre-manipulation or post-manipulation of existing words? In either case, the ensuing form of, say, an existing word *nim'know'*, becomes *nigi-migi* where the vocalic segment in *mi* is a complete copy of the preceding syllable, specifically from the epenthetic syllable [gi]. However, with our knowledge of how inactive epenthetic segments are, cross-linguistically, to spread features, this line of analysis will be problematic from the onset. Moreover, let us note here that when all the epenthetic syllables are taken out of the manipulated words or morphemes and the segmented syllables reassembled, they should make up meaningful words in the language. This, I suppose, is why players treat these morpheme-final nasals as inseparable parts of existing CVN words and not as independent syllables, hence, the insertion of the [g+V] syllable inside an existing word or morpheme.

In the second context where the target word is C₁V₁V₂ in structure, two different scenarios and their subsequent mode of insertion are observed: V₂ is high, or it is nonhigh.

In the first scenario where the V₂ is high, the epenthetic [g+V] is inserted inside the existing word. That is, an existing C₁V₁V₂ is manipulated into C₁V₁C₂V₁V₂. The word- or morpheme-final V₂ maintains its final position in the manipulated word. This is illustrated below in (15iia–b).

(ii) **Insertion inside CVV words or morphemes**

a.	ɔgɔ	-pεgε	sεgε	ɔgɔ- gyagae	*gyaga-ege	
	[ɔgɔ	-pεgε	sεgε	ɔgɔ- dzagar]	*[dzaga-ɪgɪ]	SR
	ɔ	-pε	sε	ɔ-gyae		
	3SG	-like	COMP	3SG-stop		
	'S/he wants to stop'					

- b. **Wegei** yεε mege tigi-kyaga *wege-igi
[wegei] jεε mɪɪ tigi-tɛaga ***[wege-igi]** SR
Yei yε me tikya
 DEM COP 1SG.GEN teacher
 'This is my teacher'

The question as to why an existing word or morpheme *gyae* [ɖɛɪ] is manipulated into [ɖɛɪɪ] but not *[ɖɛɪɪ-ɪɪ], can be explained by considering what the distributional properties of high vowels is in the regular phonology of Akan. In the Twi dialects of Akan, high vowels never occur in initial position (cf. Dolphyne 2006; Abakah 2004, 2005; among others). No other vowels have such distributional restrictions as do the high vowels. The same well-formedness constraint, it is assumed in the current paper, applies to high vowels in the APL as seen in (15iia–b). To avoid violating this constraint, players of the game treat the entire existing CVV word or morpheme as monosyllabic and manipulate it by inserting inside, but not attaching the epenthetic [CV] syllable to the end, of an existing word. It is also worth noting that the epenthetic syllable is systematically CV hence, the manipulated form of for instance, *ɖɛɪɪɪɪ would violate that templatic CV structure requirement.

In the second scenario where the V_2 is nonhigh, however, the word is manipulated through inserting inside it and not attaching to it as seen in the preceding example. This is so because mid-vowels (both front and back) as well as low vowels, unlike the high vowels, can occupy in word- or morpheme-initial position. This is exemplified as follows;

- c. ɔɔ -yεε maga dagam-fogo
 [ɔɔ] -jεε maga -dagam-fogu
 ɔ -yε m' -adamfo
 3SG -COP 1SG.GEN -friend
 'S/he is my friend'
- d. Nege hogo aga-segem aga -baga
 [nɪɪ] hɔɔ aga-segem aga -baga]
 Ne ho asem a -ba
 3SG.GEN self case PRF -come
 'An issue concerning him has arisen'

e.	ɔ̃gɔ	-wɔ̃gɔ	ɔ̃go-bugu-ɔ̃go
	[ɔ̃gɔ	-wɔ̃gɔ	ɔ̃go-bugu-ɔ̃go]
	ɔ	-wɔ	obuo
	3SG	-possess	respect
	'S/he commands respect'		

4 Conclusion

This paper has provided a descriptive account of some phonological processes observed in the APL namely, palatalization, insertion, as well as syllabification. It has confirmed the earlier postulation in the literature about the Akan syllable structure particularly with reference to CrV morphemes. The claim is that all surface CrV morphemes are underlyingly CVrV (cf. Schachter/Fromkin 1968; Dolphyne 2006; Abakah 2004; Marfo/Yankson 2008; Marfo 2013; among others). It was observed in this paper that the pre-liquid front high vowel, which is systematically dropped in CVrV morphemes or words in casual speech in Akan to realize CrV, re-emerges in similar words in the APL. Similarly, in the existing CVN morphemes, it seems players of the game perceive them to be monosyllabic vis-à-vis their disyllabic status in the regular Akan phonology as discussed in §1.2. Just as in the CrV morphemes where the players inserted the front high vowel in their manipulation, we would have expected the re-emergence of the deleted underlying morpheme-final high vowels in the manipulation process to realize them as disyllables. However, those morphemes were not segmented into two syllables before their manipulation.

On the issue of palatalization in Akan, the APL has further opened up the debate as to whether palatalization is still very active in Akan or not. It was observed that a systematic failure of the application of palatalization though palatalizing environment was created in the APL, thus, making the APL another domain in addition to reduplication, loanword where the process fails.

Another observation made in this paper is that the epenthetic [gV], unlike the reduplicant CV of, say, *ki* of base CV *ka*'to bite' in reduplicated verb *ki.ka*'to bite continuously', does not add any meaning (whether related or unrelated) to the existing syllable. However, just like in the reduplication of CV verbal bases in Akan where if the V is low, it is invariably prespecified with [+high] in the reduplicant (cf. Schachter/Fromkin 1968; Marantz 1982; Lieber 1987; McCarthy/Prince 1995; Kager 1999; Raimy 2000; Dolphyne 2006; Adomako 2012; Abakah 2013; among others), in the APL the C of the epenthetic CV is invariably [dorsal]. I propose a further study into this insertion in the APL to ascertain whether it is a kind of reduplication in Akan where in this case it is CV syllables, and not the entire existing word, that reduplicate.

Finally, I conclude that the APL as a linguistic game, just like the other well-studied domains in Akan, namely reduplication, is a highly productive domain in Akan which can facilitate our understanding of several linguistic phenomena.

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