WHERE HAVE ALL THE CONSONANTAL PHONEMES OF AKAN GONE?

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1.0. Introduction

Schachter & Fromkin's (1968) stated in the preface that

> This is a preliminary report on research that we have conducted over the past few years, under U.S. Office of Education Contract OE-6-14-028, into the phonology of the major Akan dialects of Ghana: Akuapem, Asante and Fante. No one realizes better than we how just "preliminary" a report this is, but we hope that, by issuing it in its present form, we can elicit comments from interested scholars that will assist us in preparing a contemplated revision of the report. We recognize, in particular, that our first-hand investigation of the Fante dialect has been far from thorough, and expect that more errors will be found in our analysis of this dialect than in our analyses of the other dialects with which we have been concerned.

It is unfortunate to note that, right up to date, this work is still in its preliminary state, just as it was published in 1968. It is plausible to assume that native Akan scholars of linguistics did not show any interest in commenting on Schachter and Fromkin's (ibid) work, thus frustrating their efforts to come out with an impeccable final document. We regret that we were schoolboys when Schachter & Fromkin's (1968) was published and for this reason we did not possess the know-how to pass any comments on this work and to point out to the authors, a number of errors as those we have identified in their work today, well over thirty years after its publication. This article, therefore, against the backdrop of the content of their preface quoted above, does not have any moral justification to critique Schachter & Fromkin's (ibid.); hence, it only points out some of the minor errors, which we have found in it.

1.1. The Akan Language

The Akan language is spoken in six of the ten regions of Ghana, namely Ashante, Brong Ahafo, Central and parts of Eastern, Volta and Western Regions as mother tongue. It is made up of three main dialects[1] namely Fante, Asante and Akuapem. Other dialects include Assin, Akyem, Akwamu, Brong, Denkyira, Kwahu, and Wassa. The data for this study is collected from the Fante, Asante and Akuapem dialectal areas and where necessary data or examples peculiar to particular dialects will be marked (Fa) for Fante, (As) for Asante and (Ak) for Akuapem in the central portions of this paper. Fante comprises three major subdialects, Iguae, Anee and Boka[2] and data or examples peculiar these subdialects would also be marked (Ig), (An) and (Bk) respectively.

In the Northern, Upper East and Upper West Regions, Akan has dislodged Hausa as the lingua franca. It also serves as the lingua franca in the greater Accra Region, which indeed reinforce Boadi's (ms) observation that one would not be exaggerating if one affirmed that one could travel the breadth and length of the country without any problem of communication if one spoke Akan. The foregoing observations, (ours and Boadi's) give credence to Cahill's (1985) argument that Akan "is the most prominent Ghanaian language and is spoken by some 5 million people[3] as a first language and by many more as a second language". The speakers of Akan constitute about 44 % of the entire population of Ghana (2000) census.

The study of the various dialects of Akan dates as far back as the eighteenth century but modern Linguistic study of the various dialects of Akan started by the close of the nineteenth century and to date there seems to be controversy over the number of the systematic phonemes contained in the consonantal inventory of the language. Schachter & Fromkin (1968: 35), for instance, posit eight consonantal segments as the only consonants that occur in phonological representations in Akan in the following words.

> In dictionary matrices of Akan formatives, eight 'true' consonants (i.e. segments, which are [+Consonantal, -Vocalic], are needed to distinguish morphemes. All of these segments are redundantly [-Vocalic, -Low, -Nasal].

From Schachter and Fromkin's (ibid.) definition of Akan consonantal phonemes, it is transparently obvious that for them nasal consonants and

the frictionless continuant or the trill do not occur in phonological representations in Akan. Schachter and Fromkin's (ibid.) back their definition of Akan consonantal phonemes up with the following table for clarification or as a form of paraphrase.

	+Voiced	-Voiced	
		+Continuant	-Continuant
+Coronal -Back -High	d	s	t
-Coronal -Back -High	b	f	p
-Coronal +Back +High	g		k

One question, which readily crosses one's mind after reading Schachter and Fromkin's (ibid.) definition of Akan consonantal phonemes is, where have all the consonantal phonemes of Akan gone to? This paper seeks to review the number of phonemes that contemporary scholars posit for the language and attempts to establish the number of phonemes that occur in phonological representations of morphemes in the language. Specifically, we will look closely at the phonemic status of the nasal consonants, **m** and **n**, which Schachter and Fromkin (ibid.) exclude from their inventory of Akan consonantal phonemes as well as the frictionless continuant/the trill, **r**, in Akan. Hitherto **r** as a phoneme in Akan has not received any discussion in the literature, because all scholars analyze it as being redundantly an allophonic variant of **d**. We

demonstrate in this paper that both **d** and **r** do occur in phonologica representations of morphemes in Akan, seeing that they contrast at bot phonological and phonetic levels of representation. We will also briefly discus [l] (which, some scholars, linguists and nonlinguists alike argue, is alien t Akan and that it enters the language through loanword phonology only) an see whether it is a phoneme or an allophone in the language.

2.0. The Akan Consonantal Inventory

The definitive number of the consonantal phonemes in Akan is no explicitly stated in the existing literature. Schachter and Fromkin's (1968 eight consonants as the state-of-the-art number of phonemic consonants i Akan, for instance, does not reflect the reality in that there are far more tha eight consonantal phonemes in the language. It is interesting to note tha authors on Akan segmental phonology, who study the Akan consonanta inventory, often present both phonological and phonetic consonants of th language on one and the same chart. What is more, these authors invariabl do not distinguish between phonemic and phonetic consonants of the languag in their works. In this paper we distinguish between the phonemic and phoneti consonants in Akan.

2.1. The Akan Consonant Cha

It would be fascinating to present two consonantal charts, one fo phonemic consonants and the other for the phonetic consonants of Akan However, considering the great number of phonetic consonants in Akan, i would not be convenient to present a chart jam-packed with symbols. Thus we present only the chart of the fourteen consonantal segments, which w have identified as consonantal phonemes in Akan as figure 1 and then go o to present a list of the various phonetic consonants as they occur in som words..

Figure 1, **Consonantal Phonemes of Akan**

	Labial	Alveolar	Palatal	Velar	
Stop	p b	t d		k g	
Nasal	m	n			
Liquid		r			
Fricative	f	s			h
Glide			j	w	

In the above consonantal grid, because the nasal consonant in Akan invariably assimilates as [ŋ] before [w], we have placed w under the velar column contrary to the orthodox way of grouping it under the [LABIAL] place of articulation. Discussing the consonantal phonemes in Kɔnni, a Gur language spoken in northern Ghana, Cahill (1999:112) has also placed [w] under the velar place of articulation for the same reason. Our grouping [w] under velar place of articulation does not in any way neutralize the phonetic fact that [w] is also inherently [LABIAL]. From the above chart, it is obvious that the consonantal phonemes in Akan have three basic places of articulation. These C-Places are [LABIAL], [CORONAL] and [DORSAL].

However, h in Akan, like many languages of the world, has no place of articulation as argued by Gussenhoven and Jacobs (1998), Ewen and van der Hulst (2001) among other contemporary phonologists. That h *in general* and in Akan in particular, is not prespecified for any C-Place of articulation feature was first asserted in the literature by Mensah (1987). Mensah (ibid.) posits that h is articulated in the oral cavity and hence, it is *lingual* and neither velar nor glottal as some scholars claim it is. Since the term *lingual* refers to the *tongue,* which resides in the oral cavity, but does not refer to any specific C-Place of articulation in the oral cavity, we assume that Mensah's (ibid.) term lingual is synonymous with C-Placeless. The above table reflects the fact that h is C-placeless in that it does not associate to any place of articulation feature.

3.0. The Phonetic Consonantal Inventory of Akan

Examples of words in which the phonetic consonants of Akan occur are listed in (1). Some of the phonetic consonants are dialect specific. So, in the list below, the words in which a particular phonetic consonant peculiar to a particular dialect occurs, the counterpart pronunciations in the other dialects are not indicated. A dash is put in the columns of the dialects that lack a particular phonetic consonant.

	Cons.	Fante	Akuapem	Asante	English
1.	[p]	paa	paa	paa	job
2.	[pʷ]	pʷʊw	pʷʊw	pʷʊ	reject/refus
3.	[pʲ]	pʲira	pʲira	pʲira	be injured
4.	[pᶣ]	_____	_____	pᶣiesʲie	first born
5.	[b]	[abãn]	[abãŋ]	[abãĩ]	government/cast
6.	[bʷ]	[ɔbʷʊ]	[ɔbʷʊ]	[ɔbʷʊɔ]	stone
7.	[bʲ]	[bʲɪa]	[bʲɪa]	[bʲɪa]	place
8.	[bᶣ]	_____	_____	[bᶣie]	open
	"	_____	[bᶣɪa]	_____	help
9.	[d]	[dam]	[dam]	[dam]	madness
10.	[dʷ]	[adʷɔw]	[adʷɔw]	[adʷɔ]	the act of weedin
11.	[dʲ]	[dʲɛ̃ntɕɛm]	[dʲɛntɕɛm]	[dʲɛntɕɛm]	crocodile
12.	[dᶣ]	[dᶣia]	[dᶣia]		
13.	[dᶻ]	[adᶻɪ]	_____	_____	thing
14.	[t]	[atar]	[atarɪ]	[atarɪɛ]	a dress
15.	[tʷ]	[tʷɔ]	[tʷɔ]	[tʷɔ]	to fall/bu
16.	[tʲ]	_____	[tʲĩm]	[tʲĩm]	stuck (to thegrounc
17.	[tˢ]	[tˢĩm]	_____	_____	stuck to the groun
18.	[tᶣ]	[tᶣia]	[tᶣia]	[tᶣia]	to pay
19.	[ka]	[kaw]	[kaw]	[ka]	to bite
20.	[kʷ]	[ɔkʷũ]	[ɔkʷũ]	[ɔkʷũ]	fight/war
21.	[kᶣ]	_____	_____	[ækᶣia]	Akua (name
	"	_____	[kᶣʔã]	_____	to bend
22.	[tɕ]	[ɔtɕɪamĩ]	[ɔtɕɪamĩ]	[ɔtɕɪamĩ]	spokesman
23.	[tɕᶣ]	[atɕᶣɪr]	[atɕᶣɪrɪ]	[atɕᶣɪrɪɛ]	ladder
24.	[g]	[ŋga]	_____	_____	sore at the corners of the mout
25.	[gʷ]	[gʷʊw]	[gʷow]	[gʷʊ]	soften
26.	[gʲ]	[gʲidzigʲidzi]	[gʲidʲigʲidʲi]	[gʲidʲigʲidʲi]	impetuou
27.	[dʒ]	[odʒa]	[odʒa]	[odʒa]	fire
28.	[dʒᶣ]	[adʒᶣɪ]	[adʒᶣɪ]	[adʒᶣɪ]	palm kern
29.	[m]	[ɔmãn]	[ɔmãŋ]	[ɔmãĩ]	state/countr
30.	[mʷ]	[mʷũ]	[mʷũ]	[mʷũ]	inside
31.	[mʲ]	[mʲĩã]	[mʲĩã]	[mʲĩã]	to press
32.	[mᶣ]	_____	[mᶣĩã]	[mᶣĩã]	complete
33.	[ɱ]	[ɱfã]	[ɱfã]	[ɱfã]	guinea worm

34.	[n]	[nãm]	[nãm]	[nãm]	fish/meat
35.	[nʷ]	[nʷũm]	[nʷũm]	[nʷũm]	to drink
36.	[nʲ]	[nʲɪ]	[nʲɪ]	[nʲɪ]	his/her/its
37.	[nᵠ]	[nᵠĩã]	[nᵠĩã]	[nᵠĩã]	sibling
38.	[ɲ]	[ɲĩnã]	[ɲĩnã]	[nĩnã]	all
39.	[ɲᵠ]	[ɲᵠĩn]	[ɲᵠĩŋ]	[ɲᵠunũ]	shade
40.	[ŋ]	[ŋkʷãn]	[ŋkʷãŋ]	[ŋkʷãĩ]	soup
41.	[ŋʷ]	[ŋʷaba]	[ŋʷaw]	[ŋʷa]	snail
42	[r]	[mara]	[mara]	[mara]	me (emphatic)
43.	[rʲ]	[rʲɪda]	[rʲɪda]	_____	is sleeping
44.	[rʷ]	[rʷunũm]	_____ _____	is sucking (breast)	
45.	[f]	[ɔfã]	[ɔfã]	[ɔfã]	half
46.	[fʷ]	[fʷɔ]	[fʷɔ]	[fʷɔ]	guilt
47.	[fʲ]	[fʲie]	[fʲie]	[fʲie]	home
48.	[fᵠ]	_____	_____	[afᵠia]	Afua (name)
	"	_____	[#fᵠɪa]	_____	to support
49.	[s]	[saw]	[saw]	[sa]	to dance
50.	[sʷ]	[sʷɔr]	[sʷɔrɪ]	[sʷɔrɪ]	to get/wake up
51.	[sʲ]	[sʲiw]	[sʲiw]	[sʲi]	to pound
52.	[sᵠ]	[sᵠĩã]	[sᵠĩã]	[sᵠĩã]	to learn
53.	[h]	[ɔha]	[ɔha]	[ɔha]	hundred
54.	[hʷ]	[hʷɔʍʊ]	[hʷɔhʷʊ]	[hʷɔhʷʊ]	stranger
55	[hʲ]	[hʲ̄ã]	[hʲ̄ã]	[hʲ̄ã]	be in need
56.	[w]	[ɔwɔ]	[ɔwɔ]	[ɔwɔ]	snake
57.	[w̃]	[kʷũw̃ã]	_____	_____	to bend/turn
58.	[ɕ]	[ɛɕɛ]	[ɛɕɛ]	[ɛɕɛ]	frank incense
59.	[ɕᵠ]	[aɕᵠɪr]	[aɕᵠɪrɪw]	[aɕᵠɪdɪɛ]	sugar cane
60.	[ʍ]	[eʍur]	_____	_____	vapour
61.	[j]	[jɪw]	[jɪra]	[jɪra]	to get lost
63.	[j̃]	[tɥĩj̃ã]	_____	_____to report (someone)	
64.	[ɥ]	[eɥia]	[oɥia]	[oɥia]	the sun

3.1. Comments

These numerous phonetic consonants occur at the phonetic surface as a result of application of various phonological processes. These processes in Akan include labialization, palatalization, labial palatalization and stridentization.

3.1.1. Labialized Consonants in Akan

Labialized consonants appear at the phonetic surface in Akan due to the application of labialization process when a consonant occurs before a rounded vowel. So, labialized consonants in Akan are the following: b^w, d^w, f^w, g^w, h^w, k^w, m^w, n^w, p^w, r^w, s^w, t^w. It is worth noting that when **h** occurs before a rounded vowel that does not occur word-finally in Fante it often becomes the labial velar fricative, ʍ.

3.1.2. Palatalized Consonants in Akan

Akan has only one palatal consonant, **j**. However, a number of palatalized consonants come about in Akan when an underlying consonant occurs before a front vowel. Palatalized consonants in Akan include b^j, d^j, f^j, g^j, h^j, k^j, m^j, n^j, p^j, r^j, s^j, t^j. It is realized that more often than not, when velar obstruents, **k** and **g** occur before palatal vowels, the following palatalized consonants **tɕ** and **dʑ** are derived respectively. In Fante, when the alveolar nasal **n** occurs in a palatalizing environment, that is, before a palatal vowel at the underlying level of representation, it undergoes absolute palatalization in Fante only because the nasal loses its alveolarity in favour of palatality in absolute terms. In the other dialects of Akan, when **n** occurs in the same environment it undergoes partial palatalization in that the nasal does not lose its inherent alveolarity which appears at the phonetic surface with a secondary palatal modification. Hence, as a result of the palatalization process, **n** appears at the phonetic surface in Fante as a palatal nasal **ɲ** and as a palatalized nasal n^j in the other dialects of Akan. In all the varieties of Akan, when the C-Placeless **h,** occurs in a palatalizing environment it may or may not undergo absolute palatalization. If it does then it emerges at the phonetic surface as **ɕ** if not, then it emerges as h^j at the output level.

3.1.2. Labial Palatalized Consonants in Akan

Labial palatalized consonants emerge at the phonetic surface in Akan when the phonemic consonants occur as the C in a CUa string at the phonological level in the language. Labial palatalized consonants in Akan include the following $b^ɥ$, $d^ɥ$, $f^ɥ$, $g^ɥ$, $k^ɥ$, $m^ɥ$, $n^ɥ$, $p^ɥ$, $s^ɥ$, $t^ɥ$. From the list contained in (1) we noted that not all the dialects of Akan have labial palatalized consonants when consonantal consonants occur in the phonetic environment in question. However, like the case of palatalization above, when k, g and, once again quite often, h occur in CUa strings in phonological representations, labial palatalized consonants $tɕ^ɥ$, $dʑ^ɥ$ and $ɕ^ɥ$ are respectively generated in all the dialects of Akan.

3.1.3. Stridentized Consonants in Akan

Stridentized consonants occur at the phonetic stage in the Fante varieties of Akan only when an alveolar plosive occurs in a palatalizing environment. Thus, underlying t and d in Akan occurring in a palatalizing environment appears at the phonetic surface in Fante as t^s and d^z respectively and as t^j and d^j respectively in Akuapem and Asante, like the other varieties of Akan.

4.0. The Status of *m*, *n*, and *r* in Akan

Of the fourteen consonantal phonemes of Akan, there are three that Schachter & Fromkin (1968) have not recognized, namely **m**, **n**, and **r**. In the subsequent sections we will demonstrate why we feel strongly that **m**, **n**, and **r** are separate phonemes in Akan.

4.1. m and n: Phonemes or Allophones?

The Akan phonological literature that predated Schachter and Fromkin (1968) classified m and n as phonemes, albeit there never existed any demonstration of the fact that these two nasal sonorants contrast with their obstruent counterparts. This is because the phonemicity of these nasals was taken for granted and so to date, it has never been proven that **m** and **n** contrast in Akan at both phonological and phonetic levels. Consequently it has not been difficult for some linguists to argue in support of Schachter and Fromkin's (ibid.) analysis that **m** and **n** do not occur in Akan phonological representations. Schachter and Fromkin's (ibid.) main argument is that **m** and **n** are allophones of **b** and **d** respectively and that **b** and **d** are invariably assimilated into **m** and **n** only, when they occur in the environment of a nasalized or nasal vowel. Schachter and Fromkin's (1968: 50) Sequence Structure Condition (SqSC2) which we reproduce as (2) for instance, specifies all syllable-final nonvowel vowels as stop consonants.

(2)

$$\text{SqSC2}$$

$$\text{PC: } = [\text{-Vocalic}]\langle \begin{bmatrix} \text{+Vocalic} \\ \text{+High} \\ \text{+Back} \\ \alpha\text{Tone} \\ \beta\text{Nasal} \\ \gamma\text{Tense} \end{bmatrix} \rangle \begin{bmatrix} \text{+Vocalic} \\ \text{<-Back>} \\ \alpha\text{Tone} \\ \beta\text{Nasal} \\ \gamma\text{Tense} \end{bmatrix} \left(\begin{bmatrix} \text{+Consonantal} \\ \text{-Continuant} \end{bmatrix} \right) =$$

Schachter and Fromkin (ibid: 73), based on theirSqSC2 argue that

> If these segments are voiced, they are realized phonetically as nasal consonants. SgSC3 (same section) specifies all morpheme-medial syllable-final consonants as [+Voiced], with the consequence that all such segments are realized phonetically as nasal consonants.
> The P-rule for syllable-final nasal consonants can be stated as follows

P ii (P 03):

$$[+\text{Voiced}] \rightarrow [+\text{Nasal}] / \left[\overline{+\text{Consonantal}} \right] =$$

The following examples illustrate this rule:

	Underlying Form		After P ii
dub	/dub/	'extinguish'	[dum]
ton(o)	/tõd/	'forge'	[tõn]
sɛn	/sɛg/	'hang'	[sɛŋ]
tumpan	/tub=pãg/	'bottle'	[tum=pãŋ]
Asante	/a+sad=tɪ/	'Asante'	[a+san=tɪ]
pɔŋkɔ	/pɔg=kɔ/	'horse'	[pɔŋ=kɔ]

The above clearly makes transparently obvious the subject matter of Schachter and Fromkin's assumption that nasal consonants in Akan are phonetic and are, for that reason, brought about in the language through the window of nasalization of obstruents in the environment of nasal vowels. In other words Akan does not have nasal consonants but rather nasalized nasal consonants, that is, **m** and **n** in Akan are intrinsically phonetic and can never ever be phonemic. Arguing in support of Schachter and Fromkin's (ibid.) position, Dr. E.N.A. Mensah (p.c), for instance, affirms that all the members of the Bia language group[4] do not have **m** and **n** occurring in phonological representations

in those languages in la Cote d'Ivoire and elsewhere and that the Akan language group cannot be an exception. This argument is apparently impeccably brilliant but a closer look at the Akan consonantal inventory within the framework of the phonemic principle clearly reveals that Akan is an exceptional case in that the [+Nasal] consonantal segments in the language contrast with their obstruent counterparts as demonstrated in (3) and (4) below.

(3)	**Fante**	**Akuapem**	**Asante**	**English**
1.	abãn	abãŋ	abãĩ	'castle'
	amãn	amãŋ	amãĩ	'rubber'
2.	abõn	abõŋ	abõũ	'shell'
	amõn	amõŋ	amõũ	'raw'
3.	bĩn	bĩŋ	bĩĩ	'be cooked'
	mĩn	mĩŋ	mĩĩ	'to swallow'
4.	abãndzɪ			'name of a town'
	amãndzɪ			'custom'

That Schachter and Fromkin's analysis of nasal consonants in Akan is untenable may also be measured against the backdrop of the fact that nasality at the phonological level is a cross linguistic phenomenon. It is indeed a common feature of the sound systems of human languages and it is so fundamental that it is unnatural for a language not to have, at least, a nasal consonant at the phonemic level. For this reason, Ferguson (1963), Ogrady and Dobrovolsky (1992) and others have rightly argued that: "Every language has at least one PNC[5] in its inventory" (Ferguson, 1963:56). That **b** and **d** contrast with **m** and **n** respectively in Akan as the examples in (3) above and (4) below demonstrate, gives credence to Ferguson's (1963), O'grady and Dobrovolsky's (1992) and others' argument above.

However, there are a number of words two words occur in the language whose segmental sounds are essentially run over by the [+Nasal] autosegment except for their word-initial **b** consonant, which remains absolutely oral. Examples include a male name and its female counterpart *bãã* and *bããwã* respectively, *bãᵑᵑtɕĩ* 'cassava', *bˈẽᵑᵑkũ* 'a type of boiled corn-dough', *bõᵑᵑkã* 'confession' and *'e-bˈĩẽẽ* (Bk.Fa) 'two'. If Schachter and Fromkin's (1968) analysis in question reflected the true phonological facts, these words would be realized

as **mãã̃*, **mãã̃wã̃*, **mãɲⁿtɕĩ*, **mʲẽŋᵘkũ*,* *mɔ̃ŋᵘkã̃* and *e-mʲĩẽ̃ẽ̃* respectively, phonetic representations which do not exist in any of the varieties of Akan.

4.2. Contrast between /d/ and /n/

In contradistinction to Schachter and Fromkin's (1968) assertion that **d** and **n** do not contrast in Akan, which indeed has received support from some scholars, we present a set of relevant minimal pairs in (4) below in demonstration of the fact that **d** and **n** do contrast in Akan.

(4)	**Fante**	**Akuapem**	**Asante**	**English**
1.	dãn	dãŋ	dãĩ	turn over
	nãn	nãŋ	nãĩ	to melt
2.	dũm	dũm	dũm	to extinguish
	nũm	nũm	nũm	to suck breast
3.	dɔ̃m	dɔ̃m	dɔ̃m	to curse
	nɔ̃m	nɔ̃m	nɔ̃m	to drink
4.	___	adãnsɪ	adãnsɪ	bear witness
	___	anãnsɪ	anãnsɪ	spider
5.	dãm	dãm	dãm	madness
	nãm	nãm	nãm	fish/meat
6.	dãŋkã	dãŋkã	dãŋkã	gourd
	nãŋkã	nãŋkã	nãŋkã	puff adder

Like the case of **m** and **b**, there are a lot of words whose segmental sounds are all characterized by the [+Nasal] autosegment except for the initial **d**. These words include ɔdãã 'name of a town', dããmã, 'twopence' ɔ-dʷũmãŋᵘkʷũmã 'the Lord God Almighty', and a-dẽŋkũm 'a genre of classical Akan folk music' and adʷũmã 'proper name'. The question one may ask is, why are the phonetic representations of these words not *ɔnãã, *ṅããmã, *ɔ-nʷũmãŋᵘkʷũmã, *a-nẽŋkũm and *a-nʷũmã respectively in line with Schachter and Fromkin's (ibid.) analysis? The answer is, Schachter and Fromkin's analysis does not reflect the true phonological fact in terms of Akan.

It is discernible from the above data (3) and (4) that **m** and **n** are not only phonetic but also phonemic in Akan. In other words, not all consonants

specified as [+Nasal] in Akan are phonetic. Some are phonetic while others are phonemic.

5.0. The Liquids in Akan

In the literature it is argued that none of the two liquid consonants in Akan, r and l, can be classified as phonemes. Even, hitherto, l has been regarded as one sound segment which is absolutely alien to the Akan consonantal inventory despite the fact that it is an absolute free variant of r. Speakers of Fante and Asante invariably use r and l interchangeably. Indeed, it is argued in the literature that d, r, and l are free variants in Akan and for that reason, they are allophones of the same phoneme. Dolphyne (1988: 43) has, for instance, argued that

> **r** alternates with d in intervocalic position in some dialects, and **d**, **r**, as well as **l** are regarded here as members of the same phoneme, that is, different pronunciations of the same basic consonant.

In this article, we consider **r** which is "a voiced trill in the speech of some Akuapem speakers and a frictionless continuant in Fante and Asante" (Dolphyne 1988: 42) as a segment that occurs in phonological representations in Akan.

The general distribution of **d** in Akan appears to give credence to this assertion in that **d** seems to occur elsewhere while **r**, and **l** occur intervocalically. Thus, quite apart from being free variants, **d** and **r/l** give the impression of being in complementary distribution, occurring in mutually exclusive environments. This paper seeks to tacitly resolve this apparent confusion in terms of the distribution of these three [CORONAL] consonantal segments. In this article, therefore we do not consider **r** which is "a voiced trill in the speech of some Akuapem speakers, and a frictionless continuant in Fante and Asante" (Dolphyne, 1988: 43) to be allophones of the same phoneme in Akan. We demonstrate in the next section that **d** and **r/l** are separate phonemes in Akan, albeit **r** and **l** are used interchangeably by the Fante and Asante speakers. Consequently, in this article, any phonetic environment where **r** occurs in Fante and Asante **l** can be substituted for it without any change in meaning.

5.1. r: An Allophone or a Separate Phonemes?

We have noted above that in the existing Akan phonological literature, **d** and **r** are considered as allophones of the same phoneme because they are assumed not to contrast. The same can be said about **r** in the Gur languages of Ghana. Cahill (1999) has argued that authors on Gur languages in general are divided on the phonemic status of **r**. Whereas some authors consider that **d** and **r** are members of a single **/d/** phoneme in the languages they have investigated, other writers have concluded that **/d/** and **/r/** are separate phonemes. Cahill (ibid.) has taken the middle course in terms of the phonemic status of **r** in Kɔnni. He claims that **d** and **r** "were undoubtedly a single phoneme at some previous point in time" but since (inter alia) "[r] cannot have an alternative pronunciation as [d] even in careful speech, *it is likely* that **/d/** and **/r/** are separate phonemes in Kɔnni..." For this reason, Cahill (ibid.) has treated **/d/** and **/r/** as separate phonemes in Kɔnni even though he does not appear to be certain about the phonemic status of **r** in Kɔnni as indicated by the phrase ***it is likely*** in the above quotation.

However, we are certain that in Akan **r** is a separate phoneme. According to authors on Akan phonology, [**r**] and [**d**] are in complementary distribution insofar as they alternate in some morphemes. Schachter & Fromkin (1968: 124-5) have, for instance, argued that

> [**r**] does not normally occur initially in native Akan morphemes, but is, instead, in complementary distribution with [**d**], which occurs only morpheme initially. (That is at the systematic phonemic level, [**d**] and [**r**] are not distinct)

The data at our disposal clearly manifested by (5) below, contradict the above assertion that *at the systematic phonemic level [d] and [r] are not distinct*. On the contrary there is evidence of extensive contrasts between **r** and **d** throughout Akan, pointing to the fact that [**d**] and [**r**] are distinct not only at the systematic phonemic level but also at the systematic phonetic level (Abakah, 2004). To buttress this point we present a few minimal pairs below.

(5). **Input**	**Akuapem**	**Asante**	**Fante**	**English**
kwæ̀síárá	kwæ̀sʲíárá	kwæ̀sʲíárá	_____	Kwæsi only
kwæ̀síádá	kwæ̀sʲíádá	kwæ̀sʲíádá	_____	Sunday

eguarɪ	èg^{w}ùàr^{j}í	èdʒʉàr^{j}íɛ́	èg^{w}ùàrí	bathing
eguadɪ	èg^{w}ùàd^{j}í	èdʒʉàd^{j}íɛ́	èg^{w}ùàd^{z}í	items of trade

bórí	b^{w}ór^{j}í	_____	b^{w}ór^{j}í	*poison*
bódí	b^{w}ód^{j}í	_____	b^{w}ód^{z}í	tumour

dúró	_____	d^{w}úr^{w}ó	_____a bunch (of say, banana)
dúdó	_____	d^{w}úd^{w}ó	_____concocted medicine

àbúrú	____	____	àb^{w}úr^{w}ú (Bk. Fa.) malevolence
àbúdú	____	____	àb^{w}úd^{w}ú (Bk.Fa.) on top of rock

Schachter & Fromkin (1968: 84-85) have, again, argued that

> When the systematic phoneme /d/ occurs in intervocalic position within a morpheme, it is ... changed to [n] if the following consonant is [+Nasal]. If on the other hand, this vowel is [-Nasal] the /d/ is changed to [r]... This rule ... accounts for the fact that [d] never occurs morpheme-medially in Akan: i.e., it is always replaced either by [n] or by [r], according to whether the following vowel is [+Nasal] or [-Nasal].

Schachter and Fromkin's (ibid.) assertion above does not mirror the true state of affairs inasmuch as there are a lot of morphemes in the language in which d and n contrast in an intervocalic position as the following data demonstrates.

(6)

	Fante	Asante	Akuapem	English
1.	adãn	adãĩ	adãŋ	buildings
	anãn	anãĩ	anãŋ	legs
2.	odũm	odũm	odũm	a species of tree
	onũm	onũm	onũm	(breast) sucking
3.	adõmã	adõmã	adõmã	name of a female
	anũmã	anũmã anũmã		bird
4.	edũŋfʊ			executioners

	enũmɲfʊ	breast(s)
5.	edũmã	name of town
	enũmã	baptism

We therefore wish to point out that

- that **d** never occurs morpheme-medially in Akan does not exactly tie in with the true state of **d**'s distribution in Akan as (6) reveals, and
- not every intervocalic occurrence of **r** is derivable from a lexical /d/ in line with Schachter and Fromkin's (ibid.) claim.
-

The examples in (7) below contradict this statement.

Schachter & Fromkin (ibid.) argue further that as far as the progressive verb forms are concerned, the initial /d/ of the progressive aspect morpheme /dɪ/ is realized as [r] at the phonetic stage after a subject concord prefix. Thus /ɔdɪba/ is realized phonetically as [ɔrɪba] not as [ɔdɪba]. Indeed, **r** is never in complementary distribution with **d** in Akan. Moreover, the lexical representation for the progressive aspect formative in Akan may be represented as /rɪ/ and not */dɪ/ at both input and output levels. Let us examine the following phonetic representations and decide whether **r** and **d** are contrastive.

(7) **UR**	**Akuapem**	**Fante**	**Asante**
1. /ɔdíbà/	[ɔdíbà] [ɔdᶻɪbà]	[ɔdɪbá]	's/he brings it (habitually)'
/ɔríbà/	[ɔríbà]	[ɔríbà]	[ɔɔbá] s/he is in the process of coming'
2. /ɔdíkɔ̀/	[ɔdíkʷɔ̀]	[ɔdᶻíkʷɔ̀][ɔdíkʷɔ̀]	's/he has taken it away'
/ɔríkɔ̀/	[ɔríkʷɔ̀] [ɔríkʷɔ̀]	[ɔɔkʷɔ́]'s/he is in the process of going'	
3. /ɔdɪgùàrí/	[ɔdɪgʷùàrí][ɔdᶻigʷùàŕ]	[ɔdɪdʑɥàrí] 's/he uses it for bathing'	
/ɔrɪgùàrí/[ɔrɪgʷùàrí][ɔrùgʷùàŕ] [ɔɔdʑɥàrí] 's/he is in the process of bathing			

It is important to note that the underlying forms are processed differently by different dialects of the language. The Akuapem output forms are identical to the input forms, followed by Fante (where the stridentization (of **d**) and vowel

harmony processes show clearly) and Asante (which reveals a combination of several processes explicated in (9) through (12)). Be that as it may, it is discernible from (7) **r** and **d** contrast in Akan thereby demonstrating that *not every phonetic [r], in Akan, is derivable from lexical /d/.*

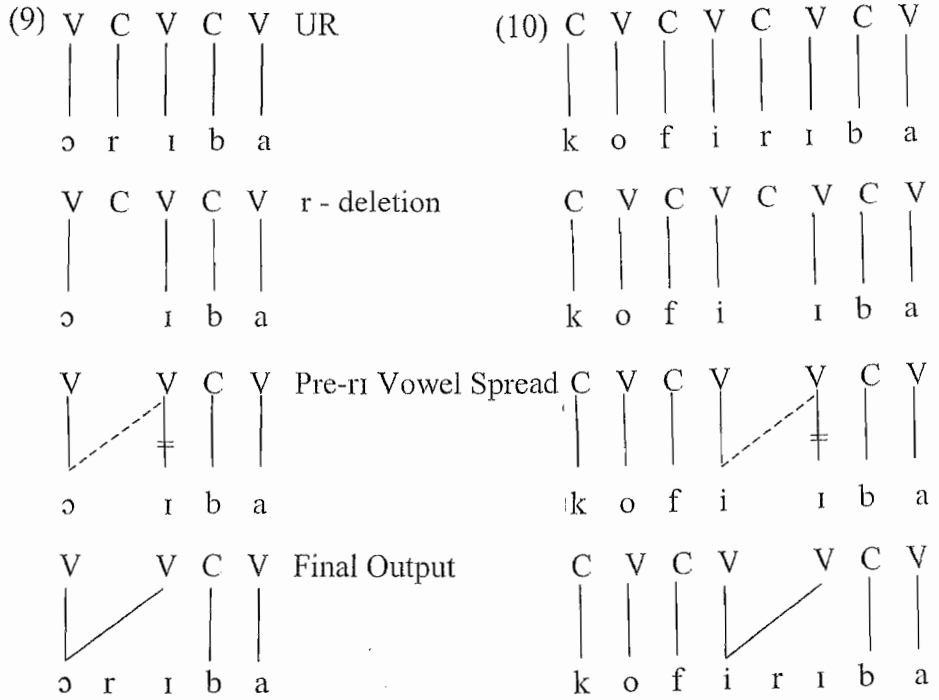
Another argument of Schachter's & Fromkin's (ibid.) which we want to comment upon, in order to enhance our argument for the recognition of **r** as a phoneme, is their assertion that in the Asante dialect, **rɪ** does not occur in phonetic representations at all because all the segmental features of underlying **dɪ** get deleted. The deletion process is then followed by one of two processes, either

- copying the segmental features of the final vowel of the preceding morpheme in the place originally occupied by the vowel of the /dɪ/ morpheme if it is specified as [-Low], or
- replacing the final vowel of the morpheme immediately preceding the progressive aspect morpheme with its [-Low] counterpart.

The following examples naturally follow the sequence.

(8)	**UR**	**Asante Akuapem**	**Fante**
1.	ɔ+rɪ+ba 's/he is coming'	ɔɔba	ɔrɪba	ɔrɪba
2.	ɔ+rɪ+di 's/he is eating'	oodi	ɔrɪdi	oridzi
3.	kofi+rɪ+ba 'Kofi is coming'	kʷofiiba	kʷofirɪba	kʷofirɪba
4.	ata+rɪ+kɔ 'Ata is going'	atɛɛkʷɔ	atarɪkʷɔ	atarukʷɔ

What is happening in the Asante output forms in (8) which partially ties in with Schachter & Fromkin's (1968) analysis, reflects a regular phonological fact. The fact is, it is only the **r** of **rɪ** that deletes and not the whole progressive aspect formative, **rɪ**. When the **r** deletes, the **ɪ** (of the **rɪ**) stays only to be completely assimilated by the vowel that precedes it. Our theoretical framework elegantly captures this process in terms of derivations (9) and (10) thus:



Our analysis above is in line with the general phonological behaviour of the intervocalic **r** in all the dialects of Akan. In all the dialects of Akan, an intervocalic **r** optionally deletes. Let us consider the examples in (11) where we have two output forms that are used interchangeably.

(11) **UR**	**Asante**	**Akuapem**	**Fante**
1. mɪ + ara	mɪaa/mɪaa	mɪaa/mɪaa	maa/mɪaa'emphatic I'
2. obiara	obiaa/obiara	obiaa/obiara	obiaa/obiara 'everybody'
3. biribi	biibi/biribi	biibi	biibi/briibi 'something'
4. araba	____	____	aaba/araba'Araba (name)'
5. wu+ara	waa/wara	waa/wara	waa/wara 'emphatic you'

These examples demonstrate further the fact that the deletion of the **r** of the progressive aspect formative **rɪ** cannot be said to be a deletion of a morpheme as Schachter and Fromkin (1968) has analyzed it to be. The realization of the Asante output forms, represented by (8.4), is the direct result of vowel harmony process in Akan (cf. Frontness Harmony in Abakah 2004 §2.5.7). In / ata+rɪ+kɔ/ [atɛɛkʷɔ], for instance, when the **r** of **rɪ** deletes the contiguous occurrence of **a** and **ɪ** are both [-ATR], but they have to agree in terms of [+Palatal] feature specification. Thus, if we examine (8) closely, we realize that all the vowel sequences in place of **rI** in Asante reveal one important phonological fact about the dialect. That is, these vowels agree in two dimensions of VH in being [áATR] and in being [áPalatal]. (12) below, similar to (9) and (10) above, summarizes the phonological processes which apply to the input form to generate the output form with reference to (8.4).

(12)	#atarɪkɔ#	UR
	#ata ɪkɔ#	Intervocalic r-deletion
	#atɛ ɪkɔ#	Palatal Harmony
	#atɛ ɛkɔ#	V_1-Spreading
	[atɛɛkɔ]	Final Output

Next, we look closely at one of Schachter & Fromkin's (ibid.) argument for disregarding **r** as an underlying sound segment in the Akan language, their observation that **r** does not occur at word-initial position in Akan. Let us examine the following Akuapem and Fante examples.

(13) 1. abɪna + rɪ + da → [abɪna rɪda] 'Abena is sleeping (now)'
2. ɔ + rɪ + da → [ɔrɪda] 'She/he/it is sleeping (now)'
3. anuma + nu + rɪ + sũ → [anuma nu rɪsũ](Ak.)/[anuma nu rusũ](Fa.)
bird + definite article + prog. aspect morpheme + cry 'The bird is singing'.
4. ɔ + rɪ + sũ → [ɔrɪsũ](Ak.) /[orusũ](Fa.) 'It is singing'

The above examples demonstrate that when the subject NP is a lexical noun, **r** happens to be the initial segment of the verb phrase (VP) as in **rɪda** 'is sleeping' and **rɪsũ/rusũ** 'is crying/singing' in (13.2) and (13.4) respectively. This is not the case when the subject NP is a pronoun, for in Akan a pronominal subject concord is always cliticized to the verb root/phrase, and it invariably precedes the progressive aspect morpheme. Under such circumstances it would simply be impossible for the **r** of **rɪ** to be word-initial. In any case,

Schachter & Fromkin (ibid.) have rightly observed the same thing, that is, the distribution of **r** in Akan at word-initial position is restricted to the initial position of the verb phrase where the preceding subject NP is not a pronominal.

We have so far demonstrated that **r** in Akan occurs word-initially, -medially and -finally. We think that if one uses the occurrence or lack of occurrence of a phone at word-initial position as the principal yardstick for determining phonemicity, then one is bound to run into problems with respect to other areas of Akan phonology. The /ʊ/ and /**u**/ vowels[6] do not occur at word-initial position in any of the Akan dialects, yet no analysis has ever had any problem positing them as phonemes. See also Eshun (1993). Interestingly what is referred to above, as VP is also basically one word in Akan, call it phonological or grammatical word.

5.2. r and d-lenition in Akan

Cahill (1999: 134) has demonstrated convincingly that intervocalic /g/ and /b/ in Kɔnni weaken to [ɣ] and [β] respectively and that, in rapid speech, they sometimes delete altogether. He then argues that the case of [d] and [r] in Kɔnni, which behave almost in the same way as that of Akan, appears to be parallel to the above. In Akan too, in almost all cases where intervocalic [d] alternates with [r/l], the [r/l] is deleted in careless speech as in the case of the examples in (12). We would therefore assume that all the cases of intervocalic alternation between [d] and [r] are cases of d-lenition.

We affirm that in all the cases of lexical intervocalic /r/, the [r] cannot be deleted in any form of speech style neither can it be substituted with [d]. If deleted, or substituted with [d], deciphering the meaning of any morpheme, which undergoes either of these two processes (i.e. deletion or substitution), becomes difficult. Speakers usually say [wara]/[wala] 'you (emphatic)' but when a speaker wants to intensify the emphasis, [wada] is preferred and no one has any problem understanding it. This is because the intervocalic liquid is in free variation with [d]. But in [eguarɪ] / [egualɪ], 'the act of bathing', the intervocalic **r**/**l** is neither deletable nor substitutable by **d**. If **r** is replaced with **d** a completely different word results. Suffice it to say that positing /**r**/ as an underlying segment affords a better description of the Akan language (Abakah 1993, Eshun 1993).

Another reason why we posit **r** as an autonomous phoneme in Akan is that it contrasts with other consonantal sonorants. We demonstrate this fact in (14) where (14.5) – (14.7) are taken from the Fante dialect. In all the examples in (14), **r** cannot be substituted with **d** in that any such substitution will result in the generation of a nonexistent word.

(14)	UR	Fante	Akuapem	Asante	English
1.	kuru	kʷur	kuru	kuru	'to roof a house'
	ḳunu	kʷun	kunu	kunu	'husband'
	kumu	kʷum	kʷúm	kʷúm	'kill'
	kuwu	kʷuw	kuwu	kuo	'association'
2.	tʊrʊ	tʷʊr	tʊrʊ	tʊrʊ	'slippery'
	tʊnʊ	tʷʊn	tʊŋ	____	'blacksmithery'
	tʊmʊ	tʷʊm	____	____	'to insult'
	tʊwʊ	tʷʊw	tʷʊw	____	'to throw'

3. hʷur 'to simmer' 4. agʷur 'game' 6. etur 'mould'
hʷun 'good-for-nothing' agʷʊw 'weakened' etun 'buttocks'

hʷum 'to singe' 5. fura 'to mix' 7. etɕir 'back'
hʷuw 'to blow air' funa 'be tired' etɕin 'roaming'

Since the various dialects process CVCV stems differently, the contrasts do not come out clearly at the dialectal level but certainly it is overtly present at the lexical level.

5.3. The [l] Consonantal Segment

This voiced alveolar lateral was not considered by earlier scholars to be a true Akan consonant. Schachter (1962:30ff), for example, argues:

> There is no satisfactory substitute in Twi for English /l/. Twi speakers tend to substitute for this sound one of three consonants: /d/, /r/ and /n/. Evidence of such substitutions may be found in Twi words borrowed from foreign languages. Thus the Guan place-name *Larteh* becomes Datɛ /datɛ/ in Twi, English *blue* becomes *bru*/bru/ and English *lorry* becomes Twi *nɔɔde*/ nɔɔdɪ/.

This assertion of Schachter's seems rushed and leaves something to be desired. It is very interesting to note that Twi speakers substitute **h** for ʃ and ʒ in most words, specifically nouns borrowed from English. Examples include:

(15) **English**	**Asante**	**Fante**	**Akuapem**
1. [məʃiːn]	[maʔhĩĩ]	[maçĩːn][maʔçĩːŋ]	machine'
2. [steɪʃən]	[seːhãĩ] [seːçẽn]	[seːçẽŋ]	'station'
3. [ʃɜːt]	[hɛːtɪ]	[çɛːtɪ] [çɛːtɪ]	'shirt'
4. [telɪvɪʒən]	[telebihãĩ]	[telebiçẽn][telebiçẽŋ]	'television'
5. [bedʃiːt]	[bɛːhiiti]	[bɛːçiiti][bɛːçiiti]	'bed-sheet'

Data (15) suggest that Asante does not have any sound closest to the English ʃ, which can therefore be used as substitute for ʃ. It is also interesting to note that Asante speakers have the same [ɸ] sound, which the other dialects of Akan substitute for the English [ʃ] and [ʒ] in the above-borrowed words. Akan words with the ç sound have common phonetic representations. Examples include the following, **çɛ** 'to wear' **çɪ(w)** to burn' and **çɪçɛ** 'to arrange'. What is more, as noted above, when the C-Placeless **h** occurs before a palatal vowel at the lexical level, it may undergo either absolute palatalisation and surface as **ç** or partial palatalisation and then surface as **h^{j}**. Recently Asante speakers tend to subject some words with traditional partial palatalisation output forms to the absolute palatalisation process. Hence ɪh^{j}ẽn(Fa)/ɔh^{j}ẽŋ(Ak) 'vehicle' and elĩ (Fa/Ak) 'annoying' appear in Asante phonetic representations as ɛçẽĩ and eçĩ respectively. We think it will not be fair to argue that Asante does not have the **ç** sound on the basis of the fact that Asante replaces ʃ in some loanwords from the English language with **h**.

Let us consider another scenario, whereby Asante speakers replace **r** with **l** in words also borrowed from the English language as in the following examples?

(16)
1. [blaːsbãĩ] for [bræːsbænd] 'brass band'
2. [blaː] for [brʌðə] 'brother'
3. [walẽntɪ] for [wɔrənt] 'warrant'
4. [ɛlɪk] for [ɛrɪk] 'Erik'
5. [sɛla] for [særə] Sarah

We do not think we can comfortably argue that Asante lack **r** on the basis of the above data seeing that **r** features prominently in the Asante phonetic representations. See data (21) below for illustration.

Let us come back to the concept of Twi speakers substituting **n** for **l** in English 'lorry' nɔɔde[nɔɔdɪ] which indeed is nothing strange in Akan. Throughout the phonology of Akan, when any voiced, non-nasal alveolar consonant undergoes nasalization in Akan, it surfaces as [n]. The speakers of the Boka variety of Fante, for instance, always nasalize **r** of the progressive aspect morpheme **rɪ** whenever it is followed by the Akan negative morpheme **N,** which assimilates to the C-Place feature of the consonant it precedes. Hence, the negative morpheme may be realized as any one of the following nasal consonants: m, ɱ, n, ŋ, ɲ.. Let us study (17) for exemplification. Here,

(17)

1. ɔ + rɪ + k^wɔ [rɪk^wɔ] but rɪ + ŋ + k^wɔ [nĩŋk^wɔ]

s/he + PRO + go 's/he is going' s/he + PRO + Neg. + go 's/he is not going'

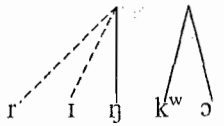
2. o + ri + bisa + nʊ [ribisan] but o + ri + m + bisa + nʊ [nĩmbisan]
s/he + PRO + ask + him s/he + PRO + Neg +ask + him 's/he is not asking him'

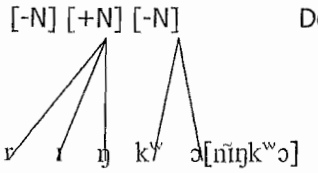
3. k^wofi + rɪ + b^wɔɕɥɛ [k^wofirʊb^wɔɕɥɛ] but k^wofi+rɪ+m+b^wɔɕɥɛ [k^wofiɱĩmb^wɔɕɥɛ]
Kofi+PRO+come look 'Kofi is coming to look (at it)' but kofi+PRO +Neg+come Kofi is not coming to look (at it)' look

What is happening in the above examples is best captured by derivation

(18) [-N] [+N] [-N] Underlying Representation

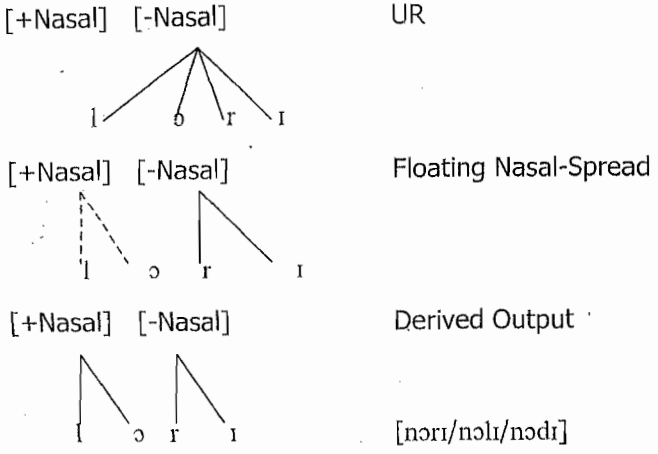
[-N] [+N] [-N] Leftward Nasal Spread





In the above derivation, (18), we realize that in the underlying level of representation of the affirmative forms, all the constituent segments of the utterance are prelinked to the non-nasal tier. But the Negative Aspect morpheme in Akan, prelinked to the [+Nasal] autosegment, spreads to the Progressive Aspect morpheme, and since its initial consonantal segment is anterior conronal /r/ it changes to /n/. In the case of *lorry* becoming *nɔ̃ɔ̃dɪ*, there seems to be no motivation for converting the underlying /l/ to [n] in Asante. But within the framework of representational phonology, the analysis is very straightforward when we resort to the theory of floating autosegment. By positing an underlying floating [+Nasal] autosegment how, the /l/ becomes [n] in Asante is easily accounted for as the derivation in (19) below shows.

(19)



In (19) the floating [+N] autosegment spreads to the first CV syllable, **lɔ**, of the word **lɔrɪ**. This is a plausible explanation for the /l/ becoming [n], and not because Asante, and for that reason Twi, lacks **l** in its consonantal inventory.

On the strength of Schachter's (1962) argument above, it comes as no surprise that Schachter & Fromkin (1968: 61) posits that in Akan:

> Loan words require additional systematic phonemes. For example bɔɔl [bɔɔl] 'ball' has a final lateral liquid, which is not present in any native morpheme.

The above assertion is an overstatement. It can be demonstrated that **/l/** occurs in Fante and Asante at word-initial, -medial and -final positions. Andoh-Kumi (1977:50) shares Schachter & Fromkin's (op.cit) view arguing that:

> [r] is often in free variation with [l] but there is the need for us to note that [l] is not a true consonant of Akan. It is borrowed from another language. (my translation).

Most unfortunately, Andoh-Kumi (op. cit.) does not demonstrate the motivation for his assertion, neither does he tell inform his target readership, the specific language from which **l** steals into Akan thereby creating the impression that he is making the argument in question because Schachter (1962) and Schachter and Fromkin (1968) argue so. Be that as it may, Dolphyne (1988:42) contradicts these scholars and others with the remark that [l] occurs in Fante, Asante, and other Akan dialects including Bron and Kwahu. She affirms that [l] occurs intervocalically in Fante and Asante and that it is almost invariably in free variation with [r] and [d].

The data at our disposal buttresses Dolphyne's (ibid.) claims and gives additional information i.e. apart from word-medial position, **/l/** occurs word-initially and word-finally. It occurs at word-initial position in words, including the following, some of which may have started off as slang but are regular/ formal words today.

(20)
1. [lotoo] 'filthy teeth'
2. [lætenĩ](Fa-An.) 'a liar'
3. [latˢɪɪ](Fa)/[latɪɪ](Ak.As.) 'stiff'
4. [laasɪlaasɪ] 'dilly-dally'

At word-initial position, it appears [**l**] is not in free variation with either [**d**] or [**r**]. At least, we have so far not heard of any speaker producing any of the above words with an initial [**r**] or [**d**]. We affirm that even if a speaker

replaced [**l**] with either [**d**] or [**r**], even though the resultant word would sound very strange, s/he would be understood absolutely.

At word-medial position, [**l**] occurs intervocalically as a free variant of [**r**] and [**d**] as remarked by Dolphyne (1988:42). Examples include:

(21) 1. [ɔdɔkʊn]/[ɔlɔkʊn]/[ɔrɔkʊn] (Fa.) 'kenkey'
2. [adaadᶻɪ][alaadᶻɪ][araadᶻɪ] (Fa.) 'type of plant'
3. [adadʒɪr]/[aladʒɪr]/[aradʒɪr] (Fa.) 'leisure/time'
4. [adadᶻɪwa][aladᶻɪwa][aradᶻɪwa](Fa.) 'name of female'
5. [ɔdampãn][ɔlampãn][ɔrampãn](Fa.) 'an empty room'
[ɔdampãĩ]/[ɔlampãĩ]/[ɔrampãĩ] (As.) 'an empty room'
6. [awadɪɛ]/[awalɪɛ]/[awarɪɛ] (As.) 'marriage'
7. [bidie]/[bilie]/[birie] (As.) 'charcoal'
8. [siadɪɛ]/[sialɪɛ]/[siarɪɛ] (As.) 'good luck'

At the surface level, [l] occurs word-finally but invariably in free variation with [r] and never with [d]. It is noteworthy that underlyingly, **l/r** are penultimate sonorants that precede [+High] vowels in CVr/lV stems. Throughout the phonology of Akan, when any nonvowel sonorant of a penult is followed by a high vowel, the high vowel deletes causing the nonvowel sonorant to emerge at the word-final position in phonetic representations. Fante consistently applies this process and in the case of **l/r** nonvowel sonorants it is only in Fante that they occur word-finally. Thus Akan words produced in Asante and Akuapem as **hʊrʊ** 'to wash', **asɔrɪ** 'prayer', **a?hurʊ** 'foam', and **firi** 'to germinate', for instance, are realized in Fante as **hʊr/hʊl**, **asɔr/asɔl**, **ehur/ehul** and **fir/fil** respectively.

The most important thing to note is that the examples in (16) and (20) demonstrate that **l** is a true consonant of Akan while those in (21) show that **r** and **l** are used interchangeably in Akan and are redundantly segmental sounds native to Akan native phonology. It is therefore untenable and bizarre to argue that each one of these two liquid segments strays into the Akan language from any other language as obtains in the literature.

6.0. Conclusion

This study is a small contribution to the Akan phonemics. It is quite easy for a non-native speaker of a language to base their analysis on a data that may not reflect the true phonological facts of the language. Hence, no linguist can honestly fault Schachter (1962) and Schachter & Fromkin (1968) for their analyses in terms of the status of some consonantal segments of Akan, which we have made references to in this paper. Those who can be faulted

are the native speakers of Akan who used Schachter (1962) and Schachter & Fromkin (1968) analyses in question without any acknowledgment thereby creating the impression that it is their own contribution to knowledge. It is interesting to note that a close study of the academic background of the scholars who plagiarised Schachter's (1962) and Schachter & Fromkin's (1968) works are not professional linguists let alone being phonologists. In their quest and desire to provide materials in Akan for students of Akan in pre-university institutions, they just translated these non-Akan speakers' works into Akan. It therefore comes as no surprise that they just passed on the errors contained in Schachter (1968) and Schachter and Fromkin (1968) to their students.

This article has, therefore, attempted to correct some of the errors that can be found in Schachter and Fromkin (1968) but have been transmitted by non-linguists to students of Akan at both pre-university and university levels. In addition, we have demonstrated, in contradistinction to the information in the existing literature, that **r** in Akan occurs in both phonological and phonetic representations.

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ENDNOTES

[1] The concept of *main dialect* has nothing to do with population figures but the fact that Fante, Asante and Akuapem have achieved literary status. Each has its own orthography which reflects the idiosyncrasies of the particular dialect to the point that it is difficult for an Asante speaker who does not speak Fante to read a text written in Fante and vice versa (Dolphyne 1988).

[2] See Abakah (1998, 2002) for detailed study of the classification of Fante.

[3] In 1985 when Cahill did his study, Ghana's population was about eleven million

[4] The Bia language group and the Akan language group constitute the Tano language family (see Stewart (1966) classification). These two language groups are genetically related.

5 PNC stands for Primary nasal consonant.

[6] We have however discovered that /u/ occurs at word-initial position in the Anee subdialect of the Fante dialect of Akan. See chapter two i.e. §2.3 for our study of this fact.