

A Phonological Analysis of Code-Switching in Akóóse

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Abstract

Research on insertion has focused on the point at which sentential code-switching is possible. In relation to this, Poplack (1980) proposes an approach of equivalence constraint which states that code-switching can occur only at points in discourse where the surface structures of two languages are parallel. Myers-Scotton (1993), on the other hand, proposes a matrix-language frame model which claims that one language provides a morphosyntactic frame into which content morphemes from the other language may be inserted. The present paper differs from previous works in that it does not only look at how code-switching takes place, but also offers a detailed analysis of the various phonological processes found within code-switching in Akóóse, a Bantu Language spoken in the South West province of Cameroon. The findings show that after code-switching between Akóóse and English, there are phonological processes that are present and different from those found within non code-switching texts in the phonology of this language. The aim of the paper is to throw more light on the phonological processes present in the phonology of Akóóse, taking into account code-switching text. One claim here is that the embedded language (English) is fully integrated in the phrasal phonology of Akóóse, especially with respect to tone.

Key words: Akóóse, English, code-switching, phonology, tone language.

1. Introduction

The insertion of single lexical items from one language into sentences which are otherwise entirely in another language is perhaps the most common phenomenon found in the speech of bilinguals. This phenomenon has been universally observed in all kinds of language contact situations, and is commonly known as code-switching. Code-switching can be defined and considered in terms of its relationship with interference. Berthold, Mangubhai and Batorowicz (1997) view interference as the transference of elements of one language to another at various levels: phonological, grammatical, lexical, and orthographical. They define “phonological interference” as stress, rhyme, intonation, speech sounds, and foreign accent. Crystal (1987) suggests that code-switching occurs when a bilingual individual alternates between two languages during his or her speech, with another bilingual person. According to Berthold et al. (1997), code-switching between languages occurs commonly amongst bilinguals and may take a number of different forms, including alteration of sentences, phrases from both languages succeeding each other, and switching in a long narrative. They supplement the definition of code-switching by adding that it occurs where ‘speakers change from one language to another in the midst of their conversation’. Cook (1991) adds more information about the extent of code-switching in normal conversations amongst bilinguals by saying that, most often, 84% of switches within the sentence are isolated words, 10% are phrases, while 6% are clause switching. Our interest is not just to look at code-switching from the above perspectives, but most importantly, to find out the effect of this phenomenon on the phonology of Akóóse.

Research on code-switching has traditionally focused on speech among members of a bilingual community. The implicit assumption (though sometimes made explicit) is that code-switching is an informal speech style that can only be observed in an informal setting, and it is often claimed that the group membership of the researcher is a crucial factor for gathering code-switching data. This is true when one considers the type of bilingual speech that can be treated as a variety of its own, such as ‘Francanglais’ and ‘Spanglish’. However, the spectrum of bilingual speech encompasses many other kinds of possible data. In describing bilingual communities, we speak of language contact, yet most studies focus on in-group language use and thus play down the element of contact.

Language contact cannot be thought of without contact between speakers of different languages. If for instance French and English speakers did not interact with one another, ‘Francanglais’ would obviously not exist. Therefore, more attention needs to be paid to interactions between speakers of different languages. It is in view of this that I deem it necessary to look at the interaction between Akóóse and English by bilingual speakers of both languages. My focus is to find out if, after the interaction of English and Akóóse, the phrases and utterances are still parsed following the phrasal phonology of Akóóse with special regards to tones, or if a different system is triggered. This paper will be structured as follows. In Section 2 I present the data on code-switching between Akóóse and English. Section 3 is dedicated to the phonological alternations that emerge during code-switching between the two languages. Section 4 discusses the findings related to Akóóse/English code-switching. Finally, a summary of the findings and suggestions for future research will conclude the paper.

2. Presentation of the Data

This section seeks to familiarize the reader with the data on code-switching between Akóóse and English. The data come from a text which deals with combating poverty and malnutrition in the rural area. The text is entitled “Mushroom Cultivation” and is taken from Ekanjume (2005). The text was in English and given to 10 bilingual speakers of Akóóse to be read aloud individually. Note that although the participants are native speakers of Akóóse, their level of English is as good as that of Akóóse. This explains why I refer to them as bilingual speakers. For the purpose of easy understanding, only sentences that involve code-switching, and show phonological changes, have been presented. The italicized words indicate cases of switches.

2.1. Isolated or Single Word Switches

Note that (a) is the code-switching example while (b) is the English translation.

- (1) a. E tângáné ndáb along *well* a *protect* wèn *from* èyèn.
b. You have to build the house well so as to protect the mushroom from the sun.
- (2) a. Nzè chámé bó for about 10 minutes, è báné bó húm à dè dé *cold*.
b. When you cook them for about 10 minutes, put them in a cold place.
- (3) a. E tângáné meyùṅgè *water* ṅgìn èbè ké lá pùntèn.
b. You have to water the plastic bags two or three times daily.
- (4) a. *Lastly*, nzè wè ndé *ready*, è pá bó from the stems.
b. Lastly, when mushrooms are ready, you harvest them from the stems.
- (5) a. *Generally*, wèm péné móné yùlè wè nlélé, ṅkùn à dyôn.
b. Generally, mushrooms generate money, because it is expensive in the market.
- (6) a. Wè ṅwǒ much minerals, proteins, energy, vitamins (B₁₂, B₁, B₅), etc.
b. Mushrooms have many minerals, proteins, energy, vitamins, etc.
- (7) a. Bà bé tângáné bǐ bàn *poisonous* wèn èdé.
b. People should know that there are poisonous mushrooms.

- (8) a. *First*, è hèlè hé wèn à mèdí mè bé mísá nè *lime*.
 b. First, you can put mushroom in water which is mixed with lime.
- (9) a. Nzé mèdí mpánlé *colour*, nè wè ndé *poisonous*.
 b. When the water changes colour, then the mushroom is poisonous.
- (10) a. *Second*, è hèlè wúgé wèn à yól à yé nzé wè ñkàn.
 b. Second, you can rub the mushroom on your body to see if it will itch.

2.2 Phrase Switching

- (2) a. Nzé chámé bó *for about 10 minutes*, èbáne bó húm à dè dé cold.
 b. When you cook them for about 10 minutes, put them in a cold place.
- (4) a. Lastly, nzè wè ndé *ready*, è pá bó *from the stems*
 b. Lastly, when mushrooms are ready, you harvest them form the stems
- (6) a. Wè ñwó *much minerals, proteins, energy, vitamins (B₁₂, B₁, B₅), etc.*
 b. Mushrooms have many minerals, proteins, energy, vitamins, etc.

2.3 Clause Switching

- (11) a. Wè ndé *good* àyùlè digestion, *and in reducing weight and fat*.
 b. Mushrooms are good for the digestion, *in reducing weight and fat*.

So far, I have presented sample sentences taken from a text that demonstrates Akóóse/English switches. As seen above, the sentences reveal instance of three types of switches: isolated or single word switches, phrase switches and clause switches.

3. Phonological Analysis

In this section, I intend to bring out the different phonological processes which were seen to be present in the text under study. The phonology of Akóóse (lexical and phrasal) reveals several processes and rules which the language manifests. Among these are some

which apply specifically and exclusively to the phrasal domain of Akóóse phonology. For instance, the phenomenon of downstep high, the vowel insertion rule, the phrasal vowel shortening rule, and vowel harmony rule are all such examples. The treatment of the present data on code-switching reveals the presence of some of the above rules and processes, as well as others which apply in both domains (lexical and phrasal) of the phonology of this language. These include high tone spreading, vowel deletion, vowel insertion, homorganic nasal assimilation (HNA), N-deletion, default low, consonant deletion, and vowel simplification. In order to better understand how each of these processes function in the code-switching text concerned I will present each process, and then provide instances from the text in which the process occurs. After the presentation of a process and occurring examples, a sample derivation will be provided to show clearly how the process or rule applies. To avoid repetition, a single derivation may sometimes be provided for two or more processes where applicable. The different processes, including their examples and sample derivations, will now follow.

3.1. Vowels

3.1.1. Vowel Deletion

Akóóse does not accept tautosyllabic (i.e., vowels of different qualities) segments to succeed each other. Therefore, when two or more words or morphemes are brought together, and they create a situation where non-high vowels of different qualities succeed each other, the second vowel in the sequence is deleted. The motivation for the deletion of the second vowel is because it is usually a prefix to the word to which it belongs, while the first of the two vowels is usually part of the root of the word to which it belongs.

Thus, the language prefers to deal away with a prefix rather than with a segment which is part of a root word. Examples of vowel deletion from the data under study include:

(2) ----- húm à dè àdè *cold* → ----- húm à dè dé *cold* (Single switching)

(3) Etàngáné ---*water*---lá epùntèn → Etàngáné---*water*---lá pùntèn
(Single switching)

3.1.2. Vowel Simplification

Vowel simplification occurs in Akóóse when two morphemes or words come together, where the first ends with a vowel and when the second begins with the same vowel. The concatenation of the two morphemes or words makes the two vowels look like a long vowel, which is later simplified to suit the structure of the language. This is different from vowel deletion. In the latter, the two vowels must have different properties, whereas in this case the vowels are of the same quality. This is equally different from phrasal vowel shortening in that the two vowels which undergo simplification do not belong to the same word (as is the case for phrasal vowel shortening). Below are examples of vowel simplification from the code-switching text presented in Sections 2.1:

(2) Nzè èchámé bó ----- → Nzè chámé bó ----- (Single switching)

(3) ----- ké èlá epùntèn → ----- ké lá pùntèn (Single switching)

(3) ----- ηgin èbè ké èlá ----- → ----- ηgin èbè ké lá ---- (Single switching)

(7) ----- *poisonous* wèn è èdé. → ----- *poisonous* wèn è dé. (Single switching)

The above examples reveal instances in which vowel deletion and vowel simplification take place. A sample derivation from Example 3 shows both processes:

UR	[----- ke <e> la <e>punten]
A.C.	
	H H L
Vowel } deletion }	[----- ke ela punten]
	H H L
Vowel } Simplification }	[----- ke la punten]
	H H L
default	[----- ke la punten]
low	
	H H L L
PR	[----- ké lá pùntèn]

From the above derivation we see that the initial vowel from the word “elá” no longer appears at the phonetic representation. This is because the word follows another ending with the same vowel. Because Akóóse does not accept tautosyllabic (i.e. vowels with different qualities) sequences, the two vowels are simplified as one. Similarly, the word “elá” is followed by a word that begins with a vowel. However, because of the difference in the quality of the two vowels (the final vowel of “elá” and the initial one of “epùntèn”), simplification cannot take place. Rather, the initial vowel from “epùntèn” is deleted, motivated by the fact that this vowel is a prefix, while in the latter it is part of the root word. The language thus prefers to preserve segments in the root.

3.1.3. Phrasal Vowel Shortening

Phrasal Vowel Shortening is a syntactically conditioned rule in Akóóse where a long vowel of a noun or verb is shortened when followed by an adjective or a complement. From our data, this rule applies to the verb ‘a bí’ (*to know*) because it is followed by a complement, as shown in the example below.

(7) Bà bé tàngáné **bí** bàn *poisonous* wèn èdé. (Single switching)

The underlying representation of the verb ‘a bí’ in Example (7) is presented in the following derivation :

UR	[[bad] [[be --- bii] [ban -----de]]]
AC	
	L H LH L H
Phrasal Vowel	[[bad] [be --- bi ban -----de]]
Shortening	
	L H LH L H
Consonant Deletion	[ba be --- bi ban ----- de]
&	
Tone docking	L H LH L H
	PR [Bà bé ----- bí bàn ----- dé]

From the above derivation, we can see the environment that triggers the occurrence of the phrasal vowel shortening rule. The first square bracket shows the whole sentence. This is followed by the second brackets that indicate the division between the noun phrase and

the verb phrase. The verb phrase is later divided into the head and its complement. It is the presence of this complement (belonging to the same phrase as the head verb) that causes the shortening effect. In the absence of a complement (e.g., when the verb is in isolation as shown with “a bí”) this rule cannot apply. Thus, as the name of the rule indicates, this is a phrasal rule that does not occur at the lexical domain of words in Akóóse.

3.2. Nasal

3.2.1. Homorganic Nasal Assimilation

Homorganic nasal assimilation (HNA) is a process in which a nasal takes up or assimilates the quality of the consonant it precedes. This process is very common in Akóóse both at the lexical and phrasal domains. Instances of homorganic nasal assimilation in the code-switching data under study include:

- (5) ---- wèn péné ---- → ---- wèm péné ----- (Single switching)
 (6) Wèn N wó----- → Wè ñwǒ ----- (Phrase switching)
 (9) ----- N pánlé ----- → ----- mpǎnlé ----- (Single switching)

The above examples reveal where the HNA rule occurs. The derivation for this process is shown after nasal deletion, to be addressed next.

3.2.2. Nasal Deletion (N-deletion)

Nasal Deletion is a process in Akóóse in which a nasal deletes when followed by another nasal. Note that when a nasal is followed by another consonant (other than a nasal), the nasal does not delete. Rather, it takes the place of articulation of the consonant it

precedes, as shown in Section 3.2.1. The nasal deletion process is common to the phrasal phonology of Akóóse because words in this language have the tendency of beginning and ending in a nasal. The examples that follow confirm this fact:

(4) ----- nzè wèn ndé *ready* ----- → ----- nzè wè ndé *ready* -----

(5) ----- wèn péne ----- → ----- wèm péne -----

(6) Wèn ηwǒ ----- → Wè ηwǒ -----

The examples reveal the existence of nasal deletion (otherwise known as nasal simplification) in Akóóse. The following derivation illustrates how the processes of HNA and nasal deletion operate in this language. Examples are taken from (5) and (6).

UR	[----w en pene-----]	[w en N wo-----]
A.C.		
	L H	L L H
HNA &	[----w em pene-----]	[-----w en ηwo-----]
Desyllabification		
	L H	L L H
Nasal Deletion	[----w em pene-----]	[-----w e ηwo-----]
	L H	L L H
HTS &	[----w em pene-----]	[-----w e ηwo-----]
Tone Docking	/	/
	L H	L LH
PR	[---- wèm péne -----]	[-----wè ηwǒ -----]

The above derivation reveals that when a nasal precedes a consonant, it assimilates the place of articulation of that consonant. This explains why a word such as “wèn” becomes “wèm” when followed by a bilabial consonant, as in the word “péné”. On the other hand, if a nasal precedes another nasal, the former will be deleted. The motivation for the choice of the first nasal, and not the second, lies in the fact that the former is at the end of a word, compared to the latter that begins a word. Akóóse thus prefers onsets to codas.

3.3. Consonant Deletion

Akóóse does not accept the occurrence of consonant clusters, except where the first of the two consonants is a nasal and the second an oral consonant. In the absence of this, (i.e., in a situation where the two consonants are oral, or an oral and a nasal) the first consonant in the cluster is deleted so as to meet up with the syllable structure of the language. It is worth noting that for consonant deletion to take place the consonant that has to be deleted (the first of the two) must be an oral consonant. It can be followed by either a nasal or another oral consonant. This is important because, as already seen, when the first of the two consonants is a nasal, it does not delete but rather assimilates the qualities of the following consonant (see examples under Section 3.2.1). Note that this process is different from nasal deletion seen in Section 3.2.2 because the latter can only occur when the following consonant is also a nasal. This process is justified using the following data from the code-switching texts under study.

- (4) ----- è pád bó *from the stems* → ----- è pá bó *from the stems* (Phrase switching)
- (7) Bád bé tǎngáné ----- → Bâ bé tǎngáné ----- (Single switching)
- (8) ----- wèn à mèdíp mè ----- → ----- wèn à mèdí mè ----- (Single switching)
- (9) Nzé mèdíp mpǎnlé ----- → Nzé mèdí mpǎnlé ----- (Single switching)
- (10) ----- wúgéd wèn à ----- → ----- wúgè wèn à ----- (Single switching)

The above examples reveal instances where the consonant that is deleted is followed by either an oral or a nasal consonant. A sample derivation for Examples 4, 8, and 10 are given below.

UR	[---- pad bo----]	[----medip me ----]	[----wuged wen ----]
A.C.			
	H H	LH L	H L
Consonant	[----pa bo----]	[----medi me ----]	[----wuge wen ----]
Deletion			
	H H	LH L	H L
HTS	-----	-----	[----wuge wen ----]
			/
			H L
PR	[---- pá bó ---- ,	---- mèdí mè ---- ,	---- wúgé wèn-----]

As already mentioned, this language does not allow for instances of two consonants succeeding each other. As such, whenever a situation of consonant clusters arises, the language will deal away with one of the consonants. In the above derivation, the first of two consonants in the cluster is deleted. Like the case for nasal deletion, the choice of the first consonant lies in the fact that Akóóse prefers to preserve onsets.

3.4. High Tone Spreading (HTS)

High tone spreading is another process which is common to the phonology of Akóóse. This process can only take place when the root-vowel bears a high tone. Generally, when a high tone is present in the root it has the tendency of spreading to the following tone-bearing unit. However there are certain rules for this to be carried out. The following tone

bearing unit must be part of the word to which the root vowel belongs and also toneless. In other words, spreading is only possible if the root vowel and the following vowel to which it spreads belong to the same word, and if this vowel does not have a tone. This implies that spreading only takes place within words in Akóóse, and not across words. It should be stressed that spreading only happens once (i.e., it is non-iterative). The following data reveal instances of high tone spreading from the code-switching texts concerned.

- (1) ----- tǎngáné ----- (Single switching)
 (2) Nzè chámé bó ----- è bǎné bó ----- (Phrase switching)
 (5) ----- wèm péné móné----- (Single switching)
 (9) ----- mpǎnlé ----- (Single switching)

The examples above reveal words which surface with two high tones. Following the obligatory contour principle (OCP) Akóóse, like most other languages tends to disallow two adjacent identically-toned syllables. As such, words like these have only one high tone in their underlying representation. Therefore, the second high is a result of the spreading of the original high. The derivation below illustrates this.

UR	[---wen pene mone --- --]	[---N panle ---]	[---tangane --]
A.C.			
	L H H	L H	L H
HTS	[---wen pene mone ---]	[---N panle ---]	[---tangane ---]
	/	/	/
	L H H	L H	L H

HNA &	[---wem pene mone --- --]	[---mpanle ---]	_____	
Desyllabification		∨	∨	∨
	L	H	H	L H
Tone docking	[---wem pene mone --- --]	[---mpanle ---]	_____	
		∨	∨	∧
	L	H	H	LH
PR	[--- wèm péné móné -----,	----- mpǎnlé -----,	----- tângáné -----]	

From the above derivation it can be seen that words appearing with more than one high tone at the phonetic representation have only one high tone in the underlying representation. Like the case of consonants and vowels, Akóóse does not encode two adjacent identically-toned syllables at the underlying representation of its words.

4. Discussion

There are a number of reasons as to why people switch from one language to another during speech. Crystal (1987) states that speakers may not be able to express themselves fully in one language, and will thus switch to another to compensate for the deficiency. This assumption holds true for the code-switching presented here. The analysis reveals that most switching involves isolated words, followed by phrasal and then clausal switches. In fact, more than two-thirds of the switches are isolated words. This confirms Cook's (1991) claim that there are more isolated switches (about 84%) in code-switching, than phrasal and clause switches. In fact, it is evident that some of the Akóóse/English switches were actually because the speakers could not find such words, phrases, and

clauses in Akóóse. It is worth noting that the participants acknowledged that they did not know whether such switches exist in Akóóse or not. As such, they turned to English and inserted the English words, phrases, and clauses where appropriate. For instance, words like *from*, *carbon-dioxide*, *local*, *material*, *poisonous*, *generally*, *sure* were inserted because of lack of the ability to express them in Akóóse. In the same vein, most of the phrases and clauses (if not all) were inserted as a result of being unable to express them properly in Akóóse. Crystal (1987) also states that code-switching is the alternation that occurs when the speaker wishes to convey his or her attitude to the listener. This may also be true of the present data. For examples, some of the cases where the speakers code-switch suggest instances where they want the reader to know what is being said at that moment is important. For instance, insertions or switches like ‘*seeds*’, ‘*lime*’, ‘*and*’, ‘*then*’, ‘*first*’, ‘*second*’, ‘*third*’, ‘*fourth*’, ‘*lastly*’, ‘*spread out*’, ‘*the main reason*’ ‘*for one month*’ are all possible cases where the speakers want the reader to pay particular attention. In fact, whenever they insert an English word in their speech, one could assume that this was a discourse strategy to capture the attention of the reader/listener.

This paper has also revealed that Akóóse presents the grammatical pattern in which English is inserted. Generally speaking, the data reveal that the words or phrases that belong to English are parsed following the phrasal phonology of Akóóse. Thus, Myers-Scotton’s (1993) matrix frame model is true of the Akóóse/English switching data presented here. Looking at the data provided, it is evident that Akóóse provides the abstract grammatical frame in which English is inserted. The isolated word, phrase and clause switches from English are only possible because Akóóse accepts them in the positions in which they appear. The analysis also shows that bilingual speakers of Akóóse

respect two constraints on code-switching as advocated by Poplack (1980). The *free morpheme constraint* advocates that the speaker must not switch languages between a word and its endings unless the word is pronounced as if it were in the language of the ending. The *equivalence constraint* advocates that the switch should come at a point in the sentence where it does not violate the grammar of either language. Both constraints were respected in the data concerned. The data also revealed no instances of a switch between a word and its ending, and no instances of grammar violation for either language.

Linguists have structurally divided code-switching into inter-sentential and intra-sentential code-switching. Inter-sentential code-switching occurs after a sentence or clause in the first language has been completed, and the next sentence or clause begins with another language. Intra-sentential code-switching occurs when two or more languages are used alternatively within the same clause or sentence. My interest lies in intra-sentential code-switching, although the data set examined here reveals both cases. This is because, with intra-sentential code-switching, grammatical constraints directly affect the behaviour of the participating languages. The analyses in Section 3 reveal certain grammatical patterns in Akóóse which are a result of the mixture of the two languages concerned, and show examples of the different phonological processes revealed in the code-switching data under study. These examples reveal that some of the phonological processes seen are peculiar to the phrasal phonology of Akóóse. The analysis therefore reveals phonological rules and processes considered to be part of the grammar of Akóóse, and give a broader picture of the phonology of this language as a

whole. Intra-sentential code-switching also reveals that there is usually a matrix language which is the more dominant language (the language of the speaker), and an embedded language. In the present study, Akóóse is the matrix language (ML), and English the embedded language (EL). Thus, the words and phrases in the code-switching environments demonstrated here are parsed following the internal structure of Akóóse.

5. Conclusion

The present paper has provided a phonological analysis of Akóóse/English code-switching. Most importantly, the code-switching data has revealed that certain phonological processes and rules can only be present at the phrasal phonology of this language. These include phrasal vowel shortening, consonant deletion, and nasal deletion. Furthermore, the following phonological rules shown in the present code-switching analysis form part of the grammar of Akóóse: high tone spreading, vowel deletion, phrasal vowel shortening, tone docking, homorganic nasal assimilation (HNA), nasal deletion, default low, consonant deletion, and vowel simplification. The paper has therefore revealed the phonological processes present at the lexical and phrasal domain of the grammar of this language. Finally, the phonological code-switching behaviour shown here by bilingual speakers of Akóóse should be considered as a positive phenomenon rather than as interference. This is because code-switching provides an extension to the bilingual speaker of Akóóse, as well as to the language itself. Future research needs to examine more fully how these phonological processes operate at the phrasal and clause level, given the preponderance of single word switches that emerged from the present study.

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