

# English Loanwords in Ewe: A Phonological Analysis

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## Abstract

This paper examines the processes that words borrowed from English go through on the phonological level in their adaptation into Ewe - a Kwa language spoken in Ghana and Togo. The paper analyses the adaptation of English loanwords into Ewe at the level of phonemic adaptation, syllable structure adaptation and the adaptation of stress. In terms of phonemic adaptation, it was found out that certain sounds in the English words borrowed into Ewe are foreign to the speakers of Ewe. In the adaptation process, the speakers replace the foreign sounds with native ones which are acoustically closer to the foreign ones. The analysis reveals that two main operations: deletion and insertion are used to compel foreign syllable structures to conform to the phonotactic constraints of Ewe. For the adaptation of stress into Ewe, it was realized that stressed syllables in English are generally realized as high tones and unstressed syllables are realized as low tones. The conclusion of this study is that English phonemes are mapped onto Ewe phonetic forms but phonotactic constraints that exist in Ewe result in the processes of deletion and insertion of segments into some English words borrowed into Ewe.

**Key words:** syllable structure, nativization, loanwords, phonotactic constraints

## 1. Introduction

The study of how loanwords are adapted into the phonotactics of recipient languages at the phonological level has shifted from rules to constraints and repair model of sound change and assumed interesting dimensions. Kenstowicz (2003:96) points out that “loanwords are no longer just the minor phonological curiosity or nuisance and merit the serious attention of theoretical research.” One of the interesting dimensions that the study of the phonology of loanwords has assumed is that some researchers have proposed that the adaptation of loanwords into the phonotactics of the native system follows a kind of phonological perception. This perception is seen to play a major role in the adaptation process. An example of this is the proposition by Steriade (2000:8) that “there is a special module of phonological perception known as p-map that plays a major role in loanword adaptation by helping to calculate the minimal modification of the input required to make the foreign lexical item conform to native system phonotactics.” These observations point to the fact that studies in loanword adaptation on the phonological level are important to the understanding of phonotactic constraints that exist in languages. The study of loanword phonology contributes immensely to help phonologists understand the phonotactic constraints of languages. This makes the study of loanword phonology important to phonologists.

Davis (1993:1) observes that “loanwords are of interest to phonologists for at least two reasons.” According to him, the first reason for which loanwords are of interest to phonologists stems from the fact that the way loanwords are produced and heard in the borrowing language is always different from how they are produced and heard in the lending language. As observed by Davis, the difference in the pronunciation is often as a result of the fact that the word borrowed may contain certain segments that do not exist in the language that is receiving the loanword. How the loanword is pronounced by the speakers of the recipient language reveals interesting insights about the phonology of the receiving language. This observation by Davis (1993) is attested in many languages that have borrowed words from other languages. The second reason for which loanwords are of interest to phonologists as pointed out by Davis (1993) is that loanwords have certain phonological features that make them unique and for that matter different from the vocabulary of the recipient language. Some examples cited by Davis (1993:1) include the following:

For example, the Latin vocabulary in English, the Chinese vocabulary in Japanese, the Arabic vocabulary in Turkish, and the Sanskrit vocabulary in Dravidian each either undergoes special phonological rules that the native vocabulary does not participate in, or the foreign vocabulary fails to undergo regular phonological processes that affect the native vocabulary.

In the phonemic inventory of languages, the type of phoneme and the number of phonemes that exist differ. As a result of these differences across various languages, when a particular language borrows from another language, the speakers of the borrowing language tend to use some strategy to deal with the sounds in the source language which are not present in the recipient language. The recipient language has a way of dealing with the foreign

sounds. One of the strategies adopted by the recipient language is to replace the foreign phonemes with sounds in the recipient language that are phonetically similar. When this happens, then it is said that the loan word has been nativized. Another strategy that the borrowing language uses to accommodate the loan word is that it tries to retain the phoneme that is foreign to the language into its phonemic inventory. It has been established that in the nativization of loanwords, “speakers possessing one phonological system, perceive, apply native representational constraints on, and ultimately produce forms which have been generated by a different phonological system” (Silverman, 1992:289). This point means that when a particular acoustic signal is received by people who speak different languages, this input is perceived differently, represented and produced differently in the various languages it enters. This is why a particular word from one language may be borrowed into different languages and yet it is pronounced differently in the languages that it has been borrowed. What is interesting about this phenomenon is that loanword adaptation reveals something interesting about the phonotactic constraints of the borrowing language.

It has been proposed that loanword phonology undergoes two distinct levels (Silverman, 1992). The first phase that the loan word goes through is phonemic adaptation. This first level of loan word adaptation involves the breaking down of the signal into chunks of segments. The segment-sized chunks are articulatory and/or acoustic approximates of the segments in the acoustic signal that has been received. It is the phonological system of the native language that determines the segment-size chunks into which the input signal is divided. This level of loanword adaptation is phonemic. This is referred to as the perceptual level of loanword phonology.

The second level of loanword nativization is where phonological and prosodic processes act on the segments. At this level, the syllable structure constraints of the native language are imposed on the segments to realize the output. It is important to note that the processes that take place on the phonological level are not processes that exist in the native language. They are processes which apply to loanwords in order to make the output conform to the phonotactic constraints of the native language.

The two levels of loanword nativization can be placed within the larger context of Optimality Theory (OT) to show the extent to which loanwords conform to the phonemic and phonotactic constraints of the borrowing language. Within the context of OT, how the forms adapted differ from the phonemic and phonotactics of the borrowing language is clearly displayed. This would enable us discover where the differences come from. In a review article, Kenstowicz (2003) points out how Gbeto uses OT to explain how language constraint rules in Gbe apply at different levels to show differences in the extent of adaptation of loanwords. Yip (1993) argues that operations that occur in the two levels of loanword adaptation proposed by Silverman (1992) are nothing but a set of ranked constraints, all of which are either universal or motivated in Cantonese quite generally. This study follows the two levels of loanword adaptation proposed by Silverman (1992) and goes further to analyze the loanword phonology of Ewe in terms of Optimality Theory proposed by Prince and Smolensky (1993), McCarthy and Prince (1993).

Research into loanword phonology has received attention in some Asian languages like Chinese. As Kenstowicz (2012) notes, the study of loanword adaptation has made the more “static” languages of East Asia such as Chinese to occupy a central place in phonological analysis and theory. Though African languages have also borrowed extensively from a number of European languages because of language contact situations, much attention has not been paid to the study of loanword phonology in these African languages. Adomako (2008) points out that the Akan language spoken in Ghana has borrowed extensively from several European languages, especially from English into the vocabulary of Akan so much that in every Akan sentence or phrase a loanword from English is used. This observation is similar to what happens among Ewe speakers. The aim of this study is to highlight the processes that loanwords borrowed from English go through on the phonological level in the process of their adaptation into Ewe. Ewe is a Gbe language spoken in two West African countries, Ghana and Togo.

## **2. Background information on Ewe**

Ewe belongs to a cluster of languages referred to as Gbe spoken from the Volta River in Ghana to Western Nigeria in Badagry. Ewe is spoken in Ghana and Togo. In Ghana, Ewe is spoken in the Volta Region as a *lingua franca*. Ewe has become the language that is commonly spoken between the Ewe speakers and speakers of the Central Togo languages.

Ewe is used in many domains of human activity. It is the language used at home by a majority of native speakers. Ewe is used in education as a language of instruction in many public schools in Ghana. This is an educational policy in Ghana that permits the language of every local area to be used for instruction in the first

three years of schooling with a transition to English in the fourth year of school. Also, Ewe is used in the media especially on Radio and TV stations across Ghana.

English is extensively used in Ghana as the official language as well as the language of education in Ghana. The British colonized Ghana as far back as 1844. As a result of the language contact situation, many Ghanaian languages including Ewe have borrowed extensively from English.

### 2.1. Ewe Phonology

Let us start with the discussion of Ewe phonemes. This is important for the analysis of phonemic adaptation of English words into Ewe.

#### 2.1.1 The Ewe Consonant System

The Ewe consonant segment inventory (1):

(1)

|     |     |     |       |       |
|-----|-----|-----|-------|-------|
| p,b | t,d | ɖ   | k,g   | gb,kp |
| ɸ,β | f,v | s,z | ts,dz | x,ɣ   |
| m   | n   | ɲ   | ŋ     | h     |
|     | r   |     |       |       |
|     | l   |     |       |       |
| w   |     | j   |       |       |

#### 2.1.2. The Ewe Vowel System

The Ewe vowel inventory is presented in (2) (from Capo 1991:24):

(2)

|   |   |
|---|---|
| i | u |
| e | ə |
| o |   |
| ɛ | ɔ |
| a |   |

Ewe has eight oral vowels - three front vowels, three back vowels and two central vowels. These oral vowels in Ewe have their counterparts which are nasal.

#### 2.1.3. The Ewe Syllable

The common syllable type in Ewe is the CV syllable structure made up of an onset and a nucleus. The sounds that are accepted at the onset are listed in (3):

(3) p,b,t,d,d,k,g,gb,kp,ɸ,β, f,v, s,z, ts,dz, x,ɣ, h,m,n,n, ŋ,l,w,j

(3) above, shows that in exception of /r/ all consonant segments in Ewe can be onsets.

The second syllable type in Ewe is made up of only the nucleus; and the nucleus is either a vowel (V) or a syllabic consonant. The syllabic consonants that occupy the nucleus position in Ewe are /m,n, ŋ/

The third type of syllable in Ewe is made up of consonant cluster at the onset position e.g. CCV. It is important to note that the second margin of the Ewe syllable can be filled by very few sounds. The nature of the CC

cluster is restricted to Cl or Cr. The second margin is either /l/ or /r/, depending on the sound that appears in the first C-slot. If the consonant for the first C-slot are dentals, alveolars and palato-veolars they are followed by /r/. Other consonants such as labials and velars are followed by /l/ ( Dutchie, 1996). Note that Ewe syllables have no codas.

#### 2.1.4. Tone in Ewe

Tone in Ewe is phonemic, meaning that a change in tone is capable of changing the meaning of a word. Ewe tones are either level or contour. The level tones have two tonemes: high and non-high. Contour tones are either rising or falling.

### 3. The Processes of Loanword Adaptation

At the phonological level, loanword adaptation goes through series of processes. These processes include phonemic adaptation, syllable structure adaptation and prosodic adaptation.

#### 3.1. Phonemic Adaptation

It has been established that as words from a particular language enter another language, the people who speak the language that is borrowing are challenged in the way they perceive the incoming acoustic signal because their phonological system tend to differ from that of the lending language. Because the speakers of the borrowing language are challenged as a result of the phonological system of their language, the sound segments in the input which are foreign to the phonological system of the language receiving the input are matched onto segments which are phonetically and acoustically closer to the illicit segments. Silverman (1992) utilizes data from Cantonese to demonstrate how Cantonese speakers map acoustic signal of English loanwords onto the feature matrices of their native phonological system which are the approximates of the sound segments in the input. As we shall see, the data in Ewe reveals a similar pattern. The initial constraint on the sound that is realized in the loanword therefore is due to how speakers perceive the incoming segment and matches it to a segment that is close to the incoming segment phonetically and acoustically. Perception plays a very important role in the choice of segments that are used to replace foreign segments in loanwords. Kenstowicz (2003) also emphasizes the importance of perception in the study of the phonology of loanwords.

##### 3.1.1. Segmental Constraints and Perception

For us to embark on our discussion of segmental constraints, it should be pointed out that because the phonemic inventory of Ewe is relatively rich, most sounds of English easily find a correspondent in Ewe. Despite this occurrence, there are certain matches that clearly demonstrate that indeed segmental constraint and perception highly influence loanword phonology.

Though the consonant inventory of Ewe is relatively rich, Ewe speakers are still constrained to some extent in their analysis of incoming forms. When they are confronted with a segment whose feature matrix in English does not exist in Ewe, they represent this segment with a native segment which closely approximates the input's articulatory and/or acoustic properties.

To exemplify this, the voiceless palato alveolar fricative is not a phoneme in Ewe. As English words enter Ewe, /ʃ/ is represented as /s/ as the sound /ʃ/ is not a phoneme in Ewe. Some examples are given in 4)

| (4) input | phonemic adaptation |
|-----------|---------------------|
| a. shovel | [sofi]              |
| b. sugar  | [sukli]             |
| c. store  | [sitɔ]              |
| d. cement | [simiti]            |
| f. polish | [pɔliʃi]            |

(4) shows that both /ʃ/ and /s/ are represented identically. In English, there is a contrast between /ʃ/ and /s/. Ewe, on the other hand possesses /s/ as a phoneme and /ʃ/ as the allophonic variant of /s/. This shows that Ewe speakers are ill-equipped to fully accommodate the English /ʃ/ and /s/ contrast. The speakers of Ewe therefore represent the input segment with a native segment that is phonetically closer to the input segment. However,

(4e) shows that for “polish”, /ʃ/ is perceived correctly. This is not surprising because though /ʃ/ is not a phoneme in Ewe it is used in Ewe as an allophone of /s/.

In English, /t/ and /θ/ are phonemes and for that reason the two sounds contrast to differentiate the meaning of words. Ewe on the other hand possesses only the voiceless dental stop /t/. Ewe speakers are therefore ill-equipped to accommodate a contrast between /t/ and /θ/. They thus represent /t/ with /θ/ which is closest in phonetic quality in the input. Some examples are in (5):

| (5) | input | phonemic adaptation |
|-----|-------|---------------------|
| a   | thick | [tik]               |
|     | thin  | [tin]               |
| b   | tea   | [ti]                |
|     | tin   | [tin]               |

(5) shows that both /t/ and /θ/ are represented identically.

### 3.2. Phonotactic Nativization

Silverman (1992) points out that the phonemic inventories of a borrowing language and a lending language may both have the same segment, but as the syllable structure of the two languages differ, this may lead to some operations taking place because the phonotactics of the borrowing language constrain the surface forms which loanwords may take. At the level of phonotactic nativization of loanwords, native syllable structure constrains (SSCs) trigger phonological operations. Thus, loanwords from English are made to fit the SSCs of Ewe.

To exemplify phonotactic nativization, both English and Ewe have words with consonant clusters in them but Ewe has a very restricted use of consonant clusters. Loanwords from English which have consonant clusters that are found in Ewe are maintained. However, consonant clusters that are unfamiliar in Ewe trigger some phonological processes to make the unfamiliar consonant cluster suit the SSCs of Ewe. One of such processes is that the speakers insert a vowel to break the unfamiliar consonant cluster in the loanword. Examples are shown in (6) below

| (6) | input   | phonotactic nativization |
|-----|---------|--------------------------|
| (a) | tractor | [trata]                  |
|     | Driver  | [drava]                  |
|     | glass   | [glasi]                  |
|     | flowers | [flawesi]                |
| (b) | school  | [suku]                   |
|     | Store   | [sitɔ]                   |
|     | Skirt   | [siketi]                 |
|     | Smoke   | [sumoki]                 |

(6a) shows that the English consonant clusters shown above are maintained. These consonant clusters are not foreign to Ewe. As noted earlier, the consonant cluster in Ewe is restricted to what we referred to as the Cl or the Cr cluster and these occur only at the onset of syllables in Ewe. It is therefore not surprising that these consonant clusters are maintained while the other consonant clusters in (6b) are broken by the insertion of a vowel because Ewe phonotactic does not allow these consonant clusters.

Another example of phonotactic nativization is the insertion of vowels to re-syllabify loanwords. This process operates when there is a closed syllable in the loanword, especially at the final position of the word as Ewe syllable structure has no codas. Examples are in (7):

| (7) input | phonotactic nativization |
|-----------|--------------------------|
| ball      | [bɔlu]                   |
| rape      | [repu]                   |
| cup       | [kɔpu]                   |
| vote      | [voti]                   |

We have already noted that Ewe has a restricted use of consonant clusters and that one way that Ewe deals with unfamiliar consonant clusters is to insert a vowel to break the unfamiliar cluster. Another way that English loanwords with unfamiliar consonant clusters are dealt with to conform to the SSCs of Ewe is by consonant deletion. When a loanword has a sequence of two consonants at syllable boundaries, this sequence is broken. This is achieved through the deletion of one of the consonants. Let us consider the following examples in (8):

| (8) input | phonotactic nativization |
|-----------|--------------------------|
| tractor   | [trata]                  |
| picture   | [pitʃa]                  |
| Soldier   | [sodʒa]                  |

In (8) the words have two syllables, the first one ending in a consonant and the next one beginning with a consonant. So, we have a sequence of two consonants /kt/ ,/kʃ/ and /dʒ/ respectively; with each of them occurring in different syllables. The syllable that comes first is a closed syllable. As noted earlier, Ewe syllable structure does not permit codas. So, the SSCs of Ewe prevails on these words. This leads to the deletion of the consonant ending the first syllable. Sometimes where there is a sequence of two consonants, each occurring in a different syllable, a vowel is rather inserted. Examples are in (9):

| (9) input | phonotactic nativization |
|-----------|--------------------------|
| master    | [masita]                 |
| doctor    | [dɔkita]                 |

(9) shows that a vowel is inserted after the first syllable to break the consonant sequence.

### 3.4. Stress-to-tone Analysis (*Prosodic nativization*)

English is not a tone language. English phonetic pitch patterns are represented at the tonal patterns in Ewe. English intonation which is the pattern of pitch changes that occur during a phrase seems to have same correspondence with Ewe tonal patterns. Stressed syllables in English correspond with high tone in Ewe and unstressed syllables correspond with low tone in Ewe.

#### 3.4.1. *The Tone of Ewe Syllable*

Dutchie (1996) states that in Ewe, every syllable must be said with its correct tone. Every syllable must be spoken with either the high (H) or the non-high toneme. The non-high toneme may sound either low (L) or mid (M). This shows that tone is an integral part of the syllable in Ewe. Every syllable in Ewe therefore receives either a high tone or a non-high tone.

#### 3.4.2. *Primary Stress and Non-primary Stress*

Monosyllabic English forms that enter Ewe undergo epenthesis due to Ewe SSCs. Invariably, Monosyllabic English forms that enter Ewe either possess syllable codas or consonant clusters that are foreign to Ewe. Because Ewe syllable structure does not allow codas, there is the insertion of vowels to re-syllabify loanwords that have

closed syllable especially at the final position of the word. English forms that have consonant clusters which are foreign to Ewe are broken by the insertion of a vowel because Ewe SSCs do not allow these consonant clusters. This results in the creation of additional syllables for monosyllabic forms that enter Ewe.

From the data available, when a monosyllabic English form enters English, it receives H tone on the first syllable as it is marked with primary stress (higher pith) in English. The derived syllable which is realized as a result of epenthesis receives a non-high tone mostly L tone.

(10)

ball [bɔ{H}lu{L}]

rape [rɛ{H}pu{L}]

cup [kɔ{H}pu{L}]

A disyllabic form which receives primary stress on the first syllable in English enters Ewe with a H tone on the first syllable because it is stressed in English. However, a disyllabic form which receives final stress enters Ewe with a M tone on the initial syllable which is unstressed in English.

(11)

(a)

tractor [tra{H}ta{L}]

driver [dra{H}va{L}]

Bible [Bi{H}bla{L}]

(b) police [po{M}li{H}si]

account [a{M}kɔ{H}ta]

(11a) shows that the initial syllables are marked with high tone. This corresponds with high pith (stressed syllables) in English. For (11b), the initial syllables receive a non-high tone because they are unstressed (low pith) in English.

#### 4. The Optimality Theory (OT)

Loanwords undergo changes to suit the phonotactics of the native language. They do not undergo changes because there is a native rule that compels them to change. Loanwords undergo changes because requirements on surface syllable structure compel them to change (Uffman, 2001). This is why rule-based explanation of loanwords proposed earlier fail to account for how loanwords are nativized. As Yip (1993) points out, “rule-based analyses of loanwords miss the generalization that when a language adopts a loanword into its vocabulary it attempts to bring that word into conformity with the phonology of the language.”

Golston and Yang (2001:1) argue that “rule-based analysis of loanwords results in rules that are neither rules of the donor language nor of the native language.” They suggested that in the phonological adaptation of loanwords, the rules of Universal grammar seem to apply. This suggestion they pointed out may also not hold in all cases because phonological adaptation of loanwords differ from one language to another depending on the segments that exist in the native language and the phonotactic constraints that the syllable structure of the language in question possess. This makes constraint based modules of loanword adaptation useful in the study of loanword phonology. In fact, constraint base approaches are better suited for explaining loanword phonology.

Kenstowicz (2012) observes that the development of constraint-based models of phonology like the Optimality Theory (OT) has led to a renewed interest in the study of loanword adaptation. According to him, it is suitable to use OT to formally express the conflict that is observed in loanword adaptation where the segment in the loanword tries to remain faithful to the source of the loanword and also tries to fulfill the segmental and phonotactic constraints that exist in the recipient language. Yip (1993) has shown how loanwords undergo phonological nativization using the constraints in the phonological system of the language accepting the

loanword. Uffman (2001:7) is emphatic as he states, “OT is a powerful theory to describe loanword assimilation phenomena, for it is output-driven, which is the crucial point in loanword adaptation”.

#### 4.1. OT Analysis of Ewe Loanword Phonology

Prince and Smolensky (1993:93), propose the Basic Syllable Structure Constraints. These constraints describe the universally unmarked characteristics of syllable structure. They propose the CV structure as the basic syllable structure. They propose a set of constraints for a syllable structure governed by the Basic Syllable Structure. Below are excerpts from Prince and Smolensky (1993:93-97).

- (14) a. ONS: A syllable must have an onset
- b. –CON: A syllable must not have a coda
- c. NUC: Syllable must have nuclei
- d. \*COMPLEX: No more than one C or V may associate to any syllable position node. \*M/V; V may not associate to Margin nodes (Ons and Cod). \*P/C; C may not associate to Peak (Nuc) nodes.

\*COMPLEX does not permit consonant clusters.

In OT, McCarthy and Prince (1995) put forth that “there must exist a one-to-one correspondence between the input and the output.” As a requirement in OT if the segments in the input do not match the segments in the output, then this will result in the violation of MAX-IO or DEP-IO, which are faithfulness constraints. Item (15) below shows some faithfulness constraints stated by McCarthy and Prince (1995:16)

- (15) a. MAX-IO: Every segment in the input must have a correspondent in the output.
- b. DEP-IO: Every segment in the output must have a correspondent in the input.

DEP-IO requires that there should not be any insertion, since any segment inserted in the output will not have a segment in the input that it will correspond to. As DEP-IO ensures that segments are not inserted, MAX-IO ensures that segments are not deleted. This is because the deletion of any segment in the output will result in the situation where some segments in the input will not have their corresponding segments in the output. This ensures that in loanword phonology we cannot have instances where segments are deleted or inserted arbitrary.

From the Ewe data that has been analyzed so far, it shows that vowels are inserted in some cases to re-syllabify loanwords. This process operates when the loanword has a closed syllable especially at the end as Ewe syllable structure does not permit codas. This shows that in Ewe the constraint DEP-IO is violated. This means that MAX-IO is ranked higher than DEP-IO in Ewe loanword phonology. And since Ewe SSCs do not permit codas, –CONS is more dominant than MAX-IO, followed by DEP-IO. The way these constraints interact is shown in tableau (1).

Tableau(1)

| Input: bɔ:l | -CONS | MAX-IO | DEP-IO |
|-------------|-------|--------|--------|
| →bɔlu       |       |        | *      |
| bɔl         | *!    |        |        |
| bɔlu        |       |        | **     |
|             |       |        |        |

Ewe syllable structure allows consonant clusters but in a restricted sense. The data shows that loanwords from English which have consonant clusters found in Ewe are maintained. However, when a loanword has a sequence of consonants that are unfamiliar in Ewe, this triggers some phonological processes to modify the unfamiliar consonant cluster to suit the (SSCs) of Ewe. This means that in Ewe \*COMPLEX is violated.

Since Cl and Cr consonant clusters are common in Ewe, \*COMPLEX is not dominant in Ewe. Moreover, because loanwords from English which have consonant clusters that are found in Ewe are maintained, \*COMPLEX is violable in Ewe and is therefore lowly ranked. We can sketch the ranking so far in as (17)

(17) -CONS>> MAX-IO>> DEP-IO>>\*COMPLEX

Syllables with consonant clusters in Ewe will violate \*COMPLEX. This means that to maintain faithfulness, when a consonant cluster is not foreign to Ewe, \*COMPLEX will be violated by the optimal candidate. Tableau (2) and (3) illustrates this.

Tableau (2)

| Input: driver | -CONS | MAX-IO | DEP-IO | *COMPLEX |
|---------------|-------|--------|--------|----------|
| dirava        |       |        | *      |          |
| →drava        |       |        |        | *        |
| dirav         | *!    | *!     |        |          |
| drav          | *!    | *!     |        |          |

Tableau (3)

| Input: store | -CONS | MAX-IO | DEP-IO | *COMPLEX |
|--------------|-------|--------|--------|----------|
| →sitɔ        |       |        | *      |          |
| stɔ          |       |        |        | *        |
| sitɔli       |       |        | **     |          |

The data analyzed so far reveal that there are some instances where English loanwords with unfamiliar consonant clusters are dealt with to conform to the (SSCs) of Ewe by consonant deletion. This may sound as if MAX-IO which is highly ranked is violated but it is not. The deletion happens only when a loanword has a sequence of two consonants at syllable boundaries. The deletion does not violate MAX-IO because the two consonants occur in two separate syllables; and it is the consonant that occupy the coda of the loanword that is deleted. The deletion therefore satisfies the basic syllable structure constraint that stipulates that a syllable must not have a coda (-CON).

The penalty for violating ONSET seems low because syllables without onset abound in Ewe native forms and loanwords. Since ONSET is easily violated in Ewe, it means that it is not ranked highly in Ewe. The tableau below shows the ranking of ONSET.

Tableau (4)

| Input:account | -CONS | MAX-IO | DEP-IO | *COMPLEX | ONSET |
|---------------|-------|--------|--------|----------|-------|
| akant         | *     |        |        |          |       |
| →akɔta        |       |        |        |          | *     |

## 5. Conclusion

In loanword phonology, both the Perception and Perception-Phonology Approaches maintain that the input to the process of adaptation is mostly based on auditory perception but differ in whether or not the borrowing language's phonotactics play a vital role in the adaptation process. The variation in consonants and the extensive re-syllabification of the loanwords to conform to the SSCs of Ewe and syllable-tone combinations reflect the dominant phonological force and supports theories of loanword adaptation that incorporate the borrowing language's phonological grammar. Instead of writing rules which fail to account for how the SSCs operate to get the nativized forms, OT is used to show the ranking of constraints in the language. Even though constraint base approaches are lauded to be better suited for explaining loanword phonology, they are not adequate. Loanword nativization should be analyzed at the phonemic level, the phonotactics level, the prosodic level as well as ranking the constraints to account for how nativized forms are realized.

The analysis of loanwords at the phonemic level reveals how differences in the phonemic inventory of the two languages results in the selection of segments that are the approximates of those in the input. If it happens that the two languages share the same phoneme, there is largely a direct match of segment to segment. This shows the relevance of perception in the adaptation of loanwords. The role of phonotactic constraints cannot be ignored

in loanword adaptation. The syllable structure constraints of Ewe contribute to how the loanwords are realized in Ewe. The use of OT in the analysis of English loanwords in Ewe exposes the constraints which are easily violated in Ewe and the ones that are difficult to violate.

## References

- Adomako, K. (2008). *Vowel Epenthesis and Consonant Deletion in Loanwords: a study of Akan*. MPhil Thesis: University of Tromso.
- Capo, H.B.C. (1991). *A Comparative Phonology of Gbe*. New York: Foris Publications.
- Davis, S. (1993). *Loanwords, Phonological Treatment: The encyclopedia of Language and Linguistics*. Oxford: Pergamon Press.
- Dutchie, A.S. (1996). *Introducing Ewe Linguistics Patterns: a textbook of phonology, grammar and semantics*. Accra: Ghana Universities Press.
- Golston, C. & Yang, P. (2001). White Hmong Loanword Phonology. Proceedings of HILP 5
- Kenstowicz, M. J. (2012). Cantonese Loanwords: Conflicting Faithfulness in VC Rime Constraints. *Catalan Journal of Linguistics, Special issue on Loanword Phonology*.
- Kenstowicz, M. J. (2003). Review Article: The Role of Perception in Loanword Phonology. A review of *Les emprunts linguistiques d'origine europeenne en Fon* by Flavien Gbeto, Koln: Rudiger Koppe Verlag, 2000: *Studies in African Linguistics*, 32, (1), 96 -112.
- McCarthy, J. & Prince, A. (1993). *Generalized Alignment*. Linguistics Department Faculty Publication Series. Paper12. [http://scholarworks.umass.edu/linguist\\_faculty\\_pubs/12](http://scholarworks.umass.edu/linguist_faculty_pubs/12).
- McCarthy, J.J. & Prince, A. S. (1995). *Faithfulness and Reduplicative Identity*. Retrieved March 19, 2016, from <https://rucore.libraries.rutgers.edu/rutgers-lib/41852/PDF/1/>.
- Prince, A.S. & Smolensky, P. (1993). *Optimality Theory: Constraint Interaction in Generative Grammar*. Ms, Rutgers University and University of Colorado, Boulder.
- Silverman, D. (1992). Multiple Scansions in Loanword Phonology: Evidence from Cantonese. *Phonology* 9, 289-328.
- Steriade, D. (2000). *The Phonology of Perceptibility Effects: The P-map and its Consequences for constraint Organization*. University of California, Los Angeles.
- Uffmann, C. (2001). Patterns of Vowel Epenthesis (not only) in Shona Loanwords. Proceedings of HILP5, x-x, University of Potsdam.
- Yip, Moira (1993). Cantonese Loanword Phonology and Optimality Theory. *Journal of East Asian Linguistics*, 2, 261-291