PHONOLOGICAL ADAPTATION OF KISWAHILI LOANWORDS INTO GĨ-GĨCHŨGŨ DIALECT OF GĨKÛYÛ LANGUAGE

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Abstract
Borrowing is evidently a component of language growth and is, thus, a continuous process. No language whose speakers have had contact with any other language is completely free of borrowed forms. Gĩkûyû language has had long contact with Kiswahili from early last century. As a result, borrowing is evident. This paper explores the various phonological strategies used by Gĩ-Gĩchũgũ dialect of Gĩkûyû language in borrowing words from Kiswahili. To do this, the paper applies the Source-Similarity model, one of the most recent strands of Optimality Theory. This model exploits loanword specific faithfulness constraints that impose maximal similarity between the perceived source form and its corresponding spoken loanword. Using the Source-Similarity model, this paper shows that Gĩ-Gĩchũgũ uses such strategies as deletion, preservation, substitution as well as importation of consonants. On the other hand, the adaptation strategies used for vowels are insertion, preservation, and substitution. These strategies ensure that the borrowed words stay as similar as possible to the source forms.

Key words: Borrowing, adaptation, loanwords, source, similarity, phonological, Kiswahili, Gĩkûyû.

Introduction, Literature Review and Theory
This paper analyses how Kiswahili loanwords are modified phonologically to fit into Gĩ-Gĩchũgũ dialect of Gĩkûyû language. The Source-Similarity model of loanword adaptation which is applied in this study exploits loanword specific faithfulness constraints that impose maximal similarity between the perceived source form and its corresponding spoken loan.

Gĩ-Gĩchũgũ dialect of Gĩkûyû is spoken in Gĩchũgũ area of Kirinyaga County in Central Kenya. This is an area to the extreme end of where Gĩkûyû is spoken and it neighbours Kĩ-Embu in the language map. Gĩkûyû language has had a long history of contact with Kiswahili language. This contact can be traced to the pre-colonial period and it has significantly continued to enrich the language and its dialects with the introduction of foreign words. Langacker (1968, p. 176) states that “no language whose speakers have ever had contact with any other language is completely free of borrowed forms.” Campbell (1988, p. 57) refers to borrowed words or foreign words as “loanwords” and the process through which the words are introduced as “linguistic borrowing”. These terminologies will be adopted in this paper.

Wardhaugh (1977) on his part states that borrowing is a way of adding new vocabulary items to a language. A speaker of a language borrows a word from a speaker of another language if he does not have a readily available word for something. It is, for example, apparent that the first settlers in North America had contact with Indians who had already developed names for places and things. The settlers therefore borrowed such names of places as Massachusetts, Wisconsin, Michigan and Chicago, among many others (Radford et al., 1999). The new words that are brought to a language are known as borrowings. Apart from languages borrowing many words, they are
themselves great providers too. The question thus linguists would ask is: why do speakers borrow words from other languages? People primarily borrow for the most obvious reasons; sheer necessity (need) and prestige. Borrowing is also done as a result of foreign influence. A foreign culture sometimes imposes its way of life on speakers of another language. Langacker (1968, p. 178) states that “invasion brought about a large group of words into English in the case of Norman Conquest of England in 1066.”

Borrowing of words is a persuasive phenomenon of languages in contact. From a phonological point of view, borrowing is interesting when the borrower and the borrowed languages have distinct phonological structures. In such cases, words are typically adapted to the phonology of the borrowing language. However such adaptation is not unconstrained. Crucially there seems to be a requirement that the borrowed word remain as similar as possible to the source form. Recently there has been considerable work in a phonology arguing for different positions on the issue of borrowing.

Poplack et al., (1988, p. 64) in the study of English loanwords in Canadian French conclude that “one factor influencing the large presence of borrowed nouns in their corpus is their low level of structural integration in the discourse of the recipient languages and their quality of being the word class that carries most of the lexical content.” Noun class is open compared to other classes. Moravasik (1978, p. 11) observes that “noun borrowing is a universal of language contact and languages can borrow further lexical material only if nouns are borrowed first.”

In terms of literature, there are quite a number of works on Gikũyũ language although there are very few on Gĩ-Gĩchũgũ dialect. Some of the earlier works include Barlow (1951) who gives a descriptive grammar of Gikũyũ but it does not deal with Gĩ-Gĩchũgũ lexical borrowing. Another work on Gikũyũ grammar is Gechaga (1953). Armstrong (1967) investigates verbal and nominal tone in Gikũyũ although she doesn’t focus on Gĩ-Gĩchũgũ. Ford (1974) carries out an overview investigation of Gĩkũyũ tone and intonation systems. His study, however, does not deal with Gĩ-Gĩchũgũ dialect in its investigation.

There are also some more recent works on Gikũyũ language and these include Gatherenji (1981) which looks at verbal morphology in Gĩkũyũ using the Functional Grammar approach. Mūgane (1997) is another descriptive work which gives a grammatical analysis of Gĩkũyũ. He analyses various aspects of the language especially the noun phrase and sentence types. One work that has carried a study on borrowing in Gĩkũyũ is Mwihaki (1998). It is, however, noteworthy that the research is not specifically on Gĩ-Gĩchũgũ and that it specifically deals with words borrowed from English, a non- Bantu language while this paper deals with words borrowed from Kiswahili. Ngugi (2008) is a study on phonological and morphological adaptation of English loanwords into Gĩkũyũ language. It is, however, noteworthy that Ngugi investigates borrowing into Kikabete Dialect which is phonologically and morphologically different from Gĩ-Gĩchũgũ.

Iribemwangi (2010) investigates the sound adjustments that affect borrowed vocabulary in Kiswahili and examines how such adjustments relate with Kiswahili morphophonology. Kimani (2005) did a study of phonotactic adaptation of Maasai loanwords in the Kikuyu language. The study looks at how loanwords derived from Maasai language are nativized into Gĩkũyũ. She focused on the nativization processes that have occurred and any effect of these loanwords into the phonology and/or morphology of Gĩkũyũ. Mberia (1993) investigated the behaviour of segments in borrowed vocabulary in Kitharaka. Chege (2009), in a study that investigates how loanwords are adapted into Maasai language, uses the Theory of Constraints and Repair Strategy. This theory is closely related to the Source-Similarity model applied in this paper. He deals with words borrowed from English and Kiswahili to Kimaasai.

As mentioned earlier, a few studies have been done on Gĩ-Gĩchũgũ dialect of Gĩkũyũ.

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1 For an analysis of the differences between various Gĩkũyũ dialects, see Mutahi (1983) and Iribemwangi (2012).
Phonological Adaptation in Gĩkũyũ

Some of the studies available to us include Mũtahi (1983). While carrying out a study on classification of Gĩkũyũ dialects, Mũtahi does an analysis of Gĩ-Gĩchũgũ phonology and also touches on its morphology. He does not, however, deal with borrowing. Iribemwangi (2012) also does an analysis of Gĩ-Gĩchũgũ phonology while arguing a case for the harmonization of Gĩkũyũ, Kiembu and Kimbeere phonology and orthography. The author gives phoneme inventories of Gĩkũyũ dialects as well as Gĩkũyũ syllable divisions.

Our research revealed only two studies that are wholly dedicated to the study of Gĩ-Gĩchũgũ dialect. Wachera (2008) investigates tone as a distinctive lexical feature in the lexicon of Gĩ-Gĩchũgũ. He deals quite extensively with aspects of phonology and morphology of Gĩ-Gĩchũgũ. It is, however, noted that Wachera’s is a research on supra-segmental phonology. His research is important since Gĩkũyũ language, and hence Gĩ-Gĩchũgũ, is highly tonal. This paper however does not deal with the tonal aspect of the dialect as a result of two reasons; firstly, tone is comprehensively covered by Wachera and secondly, because this research is purely segmental and introducing aspects of tone would lead us out of the selected scope. Karũrũ (2012) is the only study on borrowing in Gĩ-Gĩchũgũ that was available to us. However, her work is broad and it deals with borrowings from English and Kiswahili as well as on both phonological and morphological aspects of the borrowing from the two languages. The current paper is more focused on phonological aspects of borrowing from Kiswahili.

Paradis and Lacharite (1997), in their work on preservation and minimality in loan word adaptation, analysed French loanwords in Fula (a language spoken in West Africa). They aimed at showing the predictability of segment adaptation, preservation and deletion in borrowing. In the study they used the Theory of Constraints and Repair Strategies which is flexibly allowed in the Source-Similarity model.

Kayiegema (2010) focuses on morphological and semantic aspects of loanwords from French and English into Kinyarwanda. The study researches how, why and how many loanwords from French and English have been allocated to different domains of Rwandans’ daily life and how they have been adapted to fit the nominal class system of Kinyarwanda.

McManus (2008) looks at some aspects of English words in several Aboriginal languages. The study frames the analysis within Smith’s (2009) Source-Similarity model of loanword adaptation which the current paper has adopted. Denesi (1985) states that the whole process of adoption of loanword by a native speaker is what some linguists call “nativization”. A study of Canadian Italian has shown that the receiving language (Italian) has nativized the words of the sources language (English) in its phonological, syntactic and morphological systems. Antilla (1972) explores borrowing as an external factor in language change.

While analysing the Cantonese language, Silverman (1992) shows how loanword phonology possesses two distinct levels: the perceptual level and the operative level. Arlott (1972, p. 184) argues that “borrowing of whole words is the most common type of interaction between languages.” He also gives reasons for borrowing, for example, borrowing of cultural item. When this happens the borrowing language will take into its language the name of that item from the culture of the language supplying it. This work will be important in the present study, which is focusing on borrowed lexical items.

In order to understand how loanwords are adapted in languages, this study applies the Source-Similarity model of loanword adaptation (Smith, 2009). This model exploits loanword specific faithfulness constraints that impose maximal similarity between the perceived source form and its corresponding spoken loanword. The model demands identity between the perceived source form and the corresponding source form.

Source-Similarity correspondence model was proposed in answer to problems that arose in other optimality theoretic explanations that proposed to account for loanword adaptation using the internal phonological grammar of the
borrowing language. In those other approaches, candidate loan outputs are assessed using the constraint hierarchy of the language internal grammar. Smith’s model straightforwardly captures the distinction between modeling internal processes and modeling loanword adaptation in initial language contact. In other processes, the borrower perceives a form and actively ensures that a maximal amount of information is utilized to produce a form that is most similar to the source form. Source-Similarity correspondence model appears thus:

\[ \text{Lb speaker’s phonological system} \]

\[ \begin{array}{c}
\text{Information about the Ls(source) form} \\
/\text{PLS representation/} \\
\end{array} \]

\[ \begin{array}{c}
\text{Source-Similarity model allows perceptual similarity in the selection of adaptation strategy (Yip, 2002; Kang, 2003) and accommodates the deletion of non-salient segments at the perceptual level (i.e. pre-phonologically) (Peperkamp & Dupoux, 2003; Yip, 2002; Shinohara, 2006). Consequently, this model allows variations between adaptation strategies related to phonological mappings and misperceptions of the borrower. Source-Similarity model makes an explicit representation of the correspondence between the perceived source loan forms and allows flexibility of adaptation strategies.}
\end{array} \]

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Adaptation has also been attributed to the misperception of unfamiliar speech sounds (Silverman, 1992; Peperkamp & Dupoux, 2003; Perperkamp, 2004), the mispronunciation of non-native forms (Paradis & Lacharite, 1997), a combination of perceptual and phonological

\[ \begin{array}{c}
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influences (Yip, 2002, 2006; South, 2006) and the borrowers’ attempt to maximize perceptual similarity between perceived source form and the loan form (Kang, 2003; Adler, 2006; Kenstowicz, 2003).

To sum up the process of borrowing, Arlottoto (1972, p. 184) gives one very significant fact about borrowing; that is that “the borrowed words are assimilated into the phonemic (or sound) system of the borrowing language”.

This means that after a word has been fully absorbed into a new language, it sounds like an ordinary word of that language and is subject to all its rules. Arising from all the above then, a borrowed word or a loanword is a word taken over from another language and modified in phonemic shape, spelling, paradigm or meaning according to the standards of the recipient language.

Since both Kiswahili and Gĩ-Gĩchũgũ have a common Bantu origin, it is not easy to diagnose whether similar lexical items share common features as a result of borrowing or genealogy. To deal with this problem, this paper uses data that denote things that are foreign to Gĩ-Gĩchũgũ. Some of the words referring to such items can safely be said to be borrowings.

Brief Remarks on Gĩ-Gĩchũgũ and Kiswahili Phonology and Morphology

Both Gĩkũyũ and Kiswahili are Bantu languages. As a result, their structures have much in common since they share a common genealogy. It is, however, noted that both languages have diverse dialects whose structures project some minor differences. This paper only deals with Standard Kiswahili (henceforth Kiswahili) and Gĩ-Gĩchũgũ dialects of the said languages. These two dialects have a different number of vowels. While Kiswahili has five vowels, Gĩ-Gĩchũgũ has seven. However, as Mutahi (1983) states, vowel length is a distinctive feature in Gĩ-Gĩchũgũ, hence the distinction between short and long vowels. As a result of this, it is viable to state that Gĩ-Gĩchũgũ has fourteen vowels. While length is at times evident in Kiswahili, it is not recognized as a major distinctive feature by most Kiswahili scholars.

The five Kiswahili vowels maybe described as follows:

/i/ is a front high unrounded vowel
/u/ is a back high rounded vowel
/e/ is a front mid-low unrounded vowel
/o/ is a back mid-low rounded vowel
/a/ is a centre (near back) low rounded vowel

The Standard Kiswahili phonemes form what Matthews (1997:384) refers to as a “triangular vowel system” which appears thus:

![Kiswahili Vowels Triangle](image)

Phonological Adaptation in Gĩkũyũ
On the other hand, Gĩ-Gĩchũgũ has a vowel quadrilateral and the fourteen vowels may be represented thus:

\[
\begin{array}{c}
/i/ \quad /i:/ \\
/e/ \quad /e:/ \\
\varepsilon/ \quad /\varepsilon:/ \\
/a/ \quad /a:/
\end{array}
\]

On the other hand, while Kiswahili has 26 consonants, Gĩ-Gĩchũgũ has only 17. This is a major difference in phoneme inventories of the two codes. One other notable difference is the pre-nasalization of all stops (plosives and affricates) in Gĩ-Gĩchũgũ. This is different from Kiswahili where prenasalisation is word-specific. In summary Gĩ-Gĩchũgũ phoneme inventory chart is:

<table>
<thead>
<tr>
<th>PLACE OF ARTICULATION</th>
<th>Categories according to Manner of Articulation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OBSTRUENTS</td>
</tr>
<tr>
<td></td>
<td>STOPS</td>
</tr>
<tr>
<td>Bilabial</td>
<td>/mb/</td>
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<tr>
<td>Labio-dental</td>
<td></td>
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<tr>
<td>Dental</td>
<td>/d/</td>
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<tr>
<td>Alveolar</td>
<td>/t/</td>
</tr>
<tr>
<td>Palatal</td>
<td>/ɲ/</td>
</tr>
<tr>
<td>Velar</td>
<td>/k/</td>
</tr>
<tr>
<td>TOTALS</td>
<td>5</td>
</tr>
</tbody>
</table>

Kiswahili language has about 26 consonants. The use of the word “about” is deliberate. This is because the issue of Kiswahili phonemes lacks consensus among scholars. Some, like Habwe and Karanja (2004) suggest that Kiswahili has 23 consonants (excluding the 2 semi-vowels) while others like Massamba et al. (2004) have listed a total of 27 consonants. Njogu et al. (2006) postulate a table with 27 consonants and 2 semi-vowels, thus bringing the total number of Kiswahili phonemes to 34. Iribemwangi (2010) suggests that Kiswahili has 25 consonants and 2 semi-vowels. This paper lays down the following summary of 26 consonants:
Another phonological feature worth description in this paper is the division of Gĩ-Gĩchũgũ syllables. This will give a glimpse of phoneme combinations or syllables evident in the two dialects under study. While issues concerning the structure of syllable in terms of onset, nucleus and coda as well as syllable weight (heavy and light syllables) may be of interest, they are not particularly core in advancing the discussion envisaged in this paper. This paper therefore just gives syllable divisions. The first structure is what is usually referred to as the preferred syllable structure; that of a consonant–vowel cluster (CV). As in many Bantu (and indeed world) languages, this is the structure that forms the bulk of syllables in Gĩ-Gĩchũgũ. This is evident in words such as /kerato/ - shoe (CV$CV$CV), /keβereti/ - match-box (CV$CV$CV$CV), /ŋgamera/ - camel (CV$CV$CV) and /mokuβe/ - short (CV$CV$ CV).

The other structure consists of C½VV. Various consonants are used in the initial position and are then followed by a semi-vowel. A vowel takes the final position of the syllable. There are quite a number of words with such syllables like:/mweri/ - moon/month(C½VV$CV), /mbwɛ:/ - jackal (C½VV$V) /orja/ - ask (V$ C½VV). In each of the above forms, one of the two semi-vowels in Gĩ-Gĩchũgũ, /w/ and /j/, is used in the medial position. Kikuyu also has the vowel syllable (V). Such syllables have a single vowel and have a high prevalence. They occur in any position of Kikuyu words. Examples are: /ando/ - people (V$CV) and /ao/ - their (people) (V$V). Another syllable structure is that of a consonant and double vowel (CVV). As mentioned earlier, vowel length is very important in Kikuyu as it has direct bearing on meaning. This structure is widespread in Kikuyu and examples include, /ta:ta/ - trickle in drops (CVV$CV), /da:ka/ - play (CVV$CV) and /ri:ka/ - age group (CVV$CV).

As is evident, Gĩ-Gĩchũgũ does not exhibit many syllable divisions. As noted, the CVCV division is quite dominant. Gĩ-Gĩchũgũ also uses an open syllable structure. Even when such syllables occur in borrowed words, they are immediately blocked through vowel insertion, which again creates the preferred structure.

Kiswahili on the other hand has no less than nine syllable divisions. Interestingly, unlike Gĩ-Gĩchũgũ, Kiswahili has closed syllables. Such syllables are a result of borrowing. In summary, Iribemwangi (2010,pp. 54-58) identifies the following divisions: consonant –vowel cluster (CV); a double consonant and vowel cluster (CCV); consonant, semi-vowel and vowel cluster (C½VV); a double consonant, semi-vowel and vowel cluster (CC½VV); a vowel syllable (V); a consonant syllable (C); a consonant and double vowel cluster (CVV); a closed syllable structure and a triple consonant cluster followed by a vowel cluster (CCCV).

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6 It is, however, noted that Wachera (2008: 29-37) deals with issues of structure and weight of Gĩ-Gĩchũgũ syllables in a more comprehensive manner.
This paper also finds it prudent to give a matrix of noun class prefixes evident in Ur-Bantu, Gĩ-Gĩchũgũ and Kiswahili. This matrix will assist in identifying the adaptation processes that come into play once words are borrowed from Kiswahili into Gĩ-Gĩchũgũ. This matrix will make it possible to compare the source forms and the adaptations evident vis-à-vis the proto forms.

The Ur-Bantu nominal classes in Table III below were first postulated by Meinhof (1932, p. 40). Meinhof listed 21 nominal classes, two more than Guthrie who reconstructed 19 nominal classes for Proto-Bantu. Table III below is borrowed *mutatis mutandis* from Miti (2006, pp. 113-114).

### Table 3
Nominal Class Prefixes for Ur-Bantu, Gĩ-Gĩchũgũ and Kiswahili

<table>
<thead>
<tr>
<th>Class</th>
<th>Ur-Bantu</th>
<th>Gĩ-Gĩchũgũ</th>
<th>Kiswahili</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>1</td>
<td><em>mu-</em></td>
<td>mo-</td>
<td>m-</td>
<td>singular of 2</td>
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<td>2</td>
<td><em>va-</em></td>
<td>a-/ə-</td>
<td>wa-</td>
<td>plural of 1</td>
</tr>
<tr>
<td>3</td>
<td><em>mu-</em></td>
<td>mo-</td>
<td>m-</td>
<td>singular of 4</td>
</tr>
<tr>
<td>4</td>
<td><em>mi-</em></td>
<td>me</td>
<td>mi-</td>
<td>plural of 3, occasionally of 14</td>
</tr>
<tr>
<td>5</td>
<td><em>li-</em></td>
<td>e/ri</td>
<td>ji-</td>
<td>singular of 6</td>
</tr>
<tr>
<td>6</td>
<td><em>ma-</em></td>
<td>na-/mɛ</td>
<td>ma-</td>
<td>plural of 5 and 14</td>
</tr>
<tr>
<td>7</td>
<td><em>ki-</em></td>
<td>ke-/ge-</td>
<td>ki-</td>
<td>singular of 8</td>
</tr>
<tr>
<td>8</td>
<td><em>vi-</em></td>
<td>i-/cio-</td>
<td>vi-</td>
<td>plural of 7</td>
</tr>
<tr>
<td>9</td>
<td><em>ni-</em></td>
<td>n-</td>
<td>N-</td>
<td>singular of 10</td>
</tr>
<tr>
<td>10</td>
<td>*li-/ni-</td>
<td>n-/m-</td>
<td>N-</td>
<td>plural of 9, 11</td>
</tr>
<tr>
<td>11</td>
<td><em>lu-</em></td>
<td>ro-</td>
<td>u-</td>
<td>singular of 10, sometimes of 12</td>
</tr>
<tr>
<td>12</td>
<td><em>tu-</em></td>
<td>ka- /ra</td>
<td>--</td>
<td>plural of 13, 19 and occasionally of 11</td>
</tr>
<tr>
<td>13</td>
<td><em>ka-</em></td>
<td>to-</td>
<td>--</td>
<td>singular of 12 and occasionally of 14</td>
</tr>
<tr>
<td>14</td>
<td><em>vu-</em></td>
<td>o-</td>
<td>u-</td>
<td>sometimes singular of 4, 6 and plural of 13</td>
</tr>
<tr>
<td>15</td>
<td><em>ku-</em></td>
<td>ko-/go-</td>
<td>ku-</td>
<td>infinitives</td>
</tr>
<tr>
<td>16</td>
<td><em>pa-</em></td>
<td>ɓ a-</td>
<td>pa-, ni-</td>
<td>‘at, on’</td>
</tr>
<tr>
<td>17</td>
<td><em>ku-</em></td>
<td>ko-</td>
<td>kwa-, ni-</td>
<td>‘outside’</td>
</tr>
<tr>
<td>18</td>
<td><em>mu-</em></td>
<td>---</td>
<td>mwa-, ni-</td>
<td>‘in’</td>
</tr>
<tr>
<td>19</td>
<td><em>pi-</em></td>
<td>---</td>
<td>---</td>
<td>singular of 12</td>
</tr>
<tr>
<td>20</td>
<td>*gũ-</td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td><em>ũi-</em></td>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>

Having discussed some aspects of borrowing, Kiswahili and Gĩ-Gĩchũgũ phonology and morphology, this paper now embarks on an analysis of Gĩ-Gĩchũgũ adaptation of loanwords borrowed from Kiswahili.

**Kiswahili Adaptation of Loanwords: Results & Discussion**

Since Kiswahili is a lingua franca in the region where Gĩkũyũ is spoken, many words enter Gĩ-Gĩchũgũ due to accessibility resulting from language contact. The exposure to Kiswahili influences borrowers’ similarity to the source form. This is also influenced by the explicit knowledge of the source language’s (Kiswahili) phonological and morphological structures as well as its grammar by bilingual speakers of Gĩ-Gĩchũgũ.

The Source-Similarity model demands identity between the perceived form and the source form. The model also relates the nature of the source form directly to the selection of the adaptation strategy. The posited loan form may at times be distinct from the source form. The
nature of Kiswahili form can be related directly to the phonological adaptation strategies according to the model. The strategies used in adaptation include deletion, preservation and substitution. These strategies allow the borrowed forms to be very similar to the source forms.

Consonant Adaptation Strategies

The consonant adaptation strategies of loan words borrowed from Kiswahili analyzed in this paper are deletion, substitution and preservation.

Consonant deletion

Perceptual similarity in the selection of adaptation strategy (Yip, 2002; Kang, 2003) accommodates the deletion of non-salient segments at the perceptual level. This similarity is very important in any analysis under Source-Similarity model since the PLS is influenced by perception, orthography and other phonological factors of the language. As is evident in Table I, Gĩ-Gĩchũgũ does not have the voiced glottal fricative /h/ in its phonemic inventory but the phoneme is present in Kiswahili phonemic inventory (see Table II). As a result, when phoneme /h/ occurs in a borrowed item, it is deleted because it is ill-formed in Gĩ-Gĩchũgũ and would therefore be offending. In words borrowed into Gĩ-Gĩchũgũ form Kiswahili, such deletion is evident where /h/ is followed by low vowels (see Figure III) such as /a/ and /ɛ/ as exemplified in data (1) below:

(1)  
Kiswahili (S)  Gĩ-Gĩchũgũ (B)  Gloss
/kahawa/  /kaoa/ coffee
/hekalu/  /ekaro/ temple
/ðahabu/  /Δaːβu/ gold

The three forms describe things that are foreign to Gĩ-Gĩchũgũ speakers. Our thesis is that the things are also foreign to Kiswahili but Kiswahili speakers got into contact with them before users of Gĩ-Gĩchũgũ. As a result, it is safe to hypothesize that Kiswahili is the source language in so far as Gĩ-Gĩchũgũ is concerned. It is important to remember that under the Source-Similarity model, in a borrowing situation, the input is the PLS. This is neither the underlying form of the source language nor an underlying form of the borrowing language – it is a perceived form.

Consonant preservation

Where there are Kiswahili segments that are similar to those found in Gĩ-Gĩchũgũ inventory, such segments are usually preserved. A good example is Kiswahili phoneme /t/ which is also present in Gĩ-Gĩchũgũ. This segment is preserved as in the following lexical items:

(2)  
Kiswahili (S)  Gĩ-Gĩchũgũ (B)  Gloss
/karata/  /karata/ playing cards
/karatasi/  /karataði/ paper
/kitamba:/  /rɛtamba:/ cloth

Kiswahili phoneme /k/ is preserved as follows:

(3)  
Kiswahili (S)  Gĩ-Gĩchũgũ  Gloss
/kiatu/  /kerato/ shoe
/kalamu/  /karamu/ pen
/duka/  /nduka/ shop

Kiswahili phoneme /d/ is preserved as follows:

(4)  
Kiswahili (S)  Gĩ-Gĩchũgũ  Gloss
/duka/  /nduka/ shop
/saduku/  /eðandoko/ box
/bɛndɛra/  /βɛndɛra/ flag

Kiswahili phoneme /m/ is preserved as follows:

---

7 See Figure I on Smith’s Source - Similarity Correspondence Model of Loanword Adaptation and the explanation that follow.
8 In the case of the voiced stop /d/, pre-nasalization occurs and /n/ is prefixed so as to construct the Gĩ-Gĩchũgũ stop /nd/.
At times Kiswahili phoneme /s/ is preserved as follows:

<table>
<thead>
<tr>
<th>English</th>
<th>Gĩ-Gĩchũgũ</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mɛza/</td>
<td>/mɛða/</td>
<td>table</td>
</tr>
<tr>
<td>/mkate/</td>
<td>/morate/</td>
<td>bread</td>
</tr>
<tr>
<td>/msumari/</td>
<td>/mosumare/</td>
<td>nail</td>
</tr>
</tbody>
</table>

The Kiswahili voiced alveolar lateral /ɬ/ is realized as voiced alveolar trill /r/. It is noted that Gĩ-Gĩchũgũ does not have the segment /l/ in its inventory.

Kiswahili phoneme /ɲ/ is preserved as follows:

<table>
<thead>
<tr>
<th>English</th>
<th>Gĩ-Gĩchũgũ</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ɲaɲa/</td>
<td>/ɲaɲa/</td>
<td>tomato</td>
</tr>
<tr>
<td>/mɲapara/</td>
<td>/moɲaβara/</td>
<td>foreman</td>
</tr>
</tbody>
</table>

Kiswahili phoneme /r/ is preserved as follows:

<table>
<thead>
<tr>
<th>English</th>
<th>Gĩ-Gĩchũgũ</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/gari/</td>
<td>/ŋgari/</td>
<td>car</td>
</tr>
<tr>
<td>/siri/</td>
<td>/ðiri/</td>
<td>secret</td>
</tr>
<tr>
<td>/barua/</td>
<td>/maro:a/</td>
<td>letter</td>
</tr>
</tbody>
</table>

In data 2 to 8 above, some consonant phonemes found in both Gĩ-Gĩchũgũ and Kiswahili are preserved in the borrowed items. This preservation means that the borrowed word remains very similar to the source word even where some other phonemes change.

Consonant substitution

It was earlier observed that Kiswahili has more consonant phonemes in comparison to Gĩ-Gĩchũgũ. ¹⁰Kiswahili segments that do not exist in Gĩ-Gĩchũgũ phonemic inventory are substituted with those in Gĩ-Gĩchũgũ inventory that are phonetically close to them. This is so because speakers of Gĩ-Gĩchũgũ perceive the segments as the ones close to the borrowed ones in their inventory. This allows the speakers to produce loanwords that are well-formed. As exemplified in data 9 below, Kiswahili voiced alveolar lateral /ɬ/ is realized as voiced alveolar trill /r/. It is noted that Gĩ-Gĩchũgũ does not have the segment /l/ in its inventory.

The Kiswahili voiced alveolar fricative /z/ is realized as voiced dental fricative /ð/ as phoneme /z/ does not exist in Gĩ-Gĩchũgũ. It is noted that both sounds are anterior fricative.

Kiswahili bilabial plosives /p/ and /b/ are perceived as voiced bilabial fricative /β/. This is evident in data 11 below. It is noted that Gĩ-Gĩchũgũ does not have these two bilabial plosives. Perceptually, the phoneme close to them is the bilabial fricative /β/.

At times, Kiswahili voiced alveolar fricative /s/ is perceived as voiceless dental fricative /ð/ as in data 12 below.

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⁹ As is evident in data 12, phoneme /s/ is at times replaced by the voiced dental fricative /ð/. This issue is explored further at a later point.

¹⁰ See Tables I and II for the full consonant inventory of the two codes.
In data 6 above, it was noted that there are times when /s/ does not change. For us the substitution of /s/ with /ð/ is baffling because of two reasons. Firstly, according to our model, the sounds that are replaced are the once that do not appear in the phoneme inventory of the recipient language. However, /s/ is a consonant phoneme in Gĩ-Gĩchũgũ and there seem to be no justification for its substitution safe for a phonological process. This leads to our second reason, that the substitution does not seem motivated by any phonological process. This is because the two sounds occur in diverse but similar environments where they are preceded and/or followed by different phonemes; vowels (high, low, mid, front and back) in the neighbourhood of different types of consonants (nasals, pre-nasalized plosives, voiced and voiceless, anterior and non-anterior, coronal and non-coronal etc). This phenomenon requires further research.

Kiswahili voiceless palatal alveolar fricative /ʃ/ is perceived as voiceless alveolar fricative /s/ as in:

<table>
<thead>
<tr>
<th>(13)</th>
<th>Kiswahili (s)</th>
<th>Gĩ-Gĩchũgũ</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/diriʃa/</td>
<td>/ndirisa/</td>
<td>window</td>
<td></td>
</tr>
<tr>
<td>/maʃindanɔ/</td>
<td>/masindanɔ/</td>
<td>competition</td>
<td></td>
</tr>
<tr>
<td>/bahaʃa/</td>
<td>/mba:sa/</td>
<td>envelop</td>
<td></td>
</tr>
</tbody>
</table>

This seems plausible as Gĩ-Gĩchũgũ does not have the voiceless palatal alveolar fricative /ʃ/.

Kiswahili voiced velar plosive /g/ is realized as voiced velar fricative /ɣ/, as exemplified in data 14. Gĩ-Gĩchũgũ does not have the phoneme /g/ and /ɣ/ is the closest to it in terms of articulation and perception.

<table>
<thead>
<tr>
<th>(14)</th>
<th>Kiswahili (s)</th>
<th>Gĩ-Gĩchũgũ</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/mgɔmɔ/</td>
<td>/moɹɔmo/</td>
<td>industrial strike</td>
<td></td>
</tr>
<tr>
<td>/goiɡɔi/</td>
<td>/ɡɔiɡɔi /</td>
<td>a lazy person</td>
<td></td>
</tr>
</tbody>
</table>

Importation

The borrower can conceivably produce a form which is exactly like the source form. This may include segments that are absent in the native inventory or syllable structures unattested in the native forms. At times, there seems to be no obvious phonological or phonetic reasons that motivate importation. Some Kiswahili forms are imported into the Gĩ-Gĩchũgũ dialect and are pronounced the same and are also similar orthographically. Data 15 below exemplifies importation from Kiswahili to

<table>
<thead>
<tr>
<th>(15)</th>
<th>Kiswahili (s)</th>
<th>Gĩ-Gĩchũgũ Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ɲaɲa/</td>
<td>/ɲaɲa/</td>
<td>tomato</td>
</tr>
<tr>
<td>/ɲaɲana/</td>
<td>/ɲaɲana/</td>
<td>keep trying</td>
</tr>
<tr>
<td>/ndo:/</td>
<td>/ndo:/</td>
<td>bucket</td>
</tr>
</tbody>
</table>

Vowel Adaptation Strategies

This paper identifies four vowel adaptation strategies that are applied to loanword from Kiswahili. These strategies are re-insertion, insertion, preservation and substitution of vowels.

Vowel re-insertion

In Table 3, it is shown that while Kiswahili has {m-} as the class prefix for nouns in classes 1 and 3, Gĩ-Gĩchũgũ and Ur-Bantu have prefixes {mo-} and {mu-} respectively for the same nominal classes. When Gĩ-Gĩchũgũ borrows Kiswahili words that belong to the said classes and where {m-} is followed by a consonant, vowel /o/ is re-inserted. By so doing, the borrowed word gains an acceptable structure in Gĩ-Gĩchũgũ. In Gĩ-Gĩchũgũ the syllable structure CCV is unfamiliar. This therefore makes it imperative to insert a vowel where the phoneme /m/ occurs followed by a consonant that it does not pre-nasalize. This paper calls this process vowel re-insertion since it appears that Kiswahili lost the Ur-Bantu vowel that follows the bilabial nasal. This re-insertion allows the borrowed item to fit into the appropriate Gĩ-Gĩchũgũ nominal class. Examples are as follows in data 16:
Vowel insertion

In some instances a vowel is inserted where the syllable structure does not allow Gĩ-Gĩchũgũ's preferred vowel cluster. However, such instances are not many since both Gĩ-Gĩchũgũ and Kiswahili are both Bantu codes that are closely related and which have CVCV as the preferred syllable structure. Examples of vowel insertion include:

<table>
<thead>
<tr>
<th>Gĩ-Gĩchũgũ (B)</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/moβira/</td>
<td>ball/rubber</td>
</tr>
<tr>
<td>/moروح/</td>
<td>bread</td>
</tr>
<tr>
<td>/mokɛbɛ/</td>
<td>tin</td>
</tr>
<tr>
<td>/mohende/</td>
<td>an Indian</td>
</tr>
</tbody>
</table>

Vowel preservation

As is clear from Figure 2, Kiswahili has vowels /i/ /a/ /ɔ/ /u/ /a/ and /ɛ/. These vowels are at times preserved in the borrowed words. The examples in 18 below show the preservation of various vowels when the vowels appear as word final.

<table>
<thead>
<tr>
<th>Gĩ-Gĩchũgũ (B)</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/aramisi/</td>
<td>Thursday</td>
</tr>
<tr>
<td>/ndaβurao/</td>
<td>collision</td>
</tr>
</tbody>
</table>

Vowel substitution

At some instances, Kiswahili's high back vowel /u/ is realized as the lower /o/ in Gĩ-Gĩchũgũ after borrowing as in the following examples:

<table>
<thead>
<tr>
<th>Gĩ-Gĩchũgũ (B)</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ʀesɪkɔ/</td>
<td>spoon</td>
</tr>
<tr>
<td>/mbɛtɛ/</td>
<td>ring</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gĩ-Gĩchũgũ (B)</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/kifaru/</td>
<td>military tank</td>
</tr>
<tr>
<td>/keβaro/</td>
<td>letter</td>
</tr>
</tbody>
</table>

In this case, vowel height is lowered. This is also evident in data 20 where the high front vowel /i/ is realized as /e/:

<table>
<thead>
<tr>
<th>Gĩ-Gĩchũgũ (B)</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>/ᴋɪti/</td>
<td>chair</td>
</tr>
<tr>
<td>/ᴋaɭia/</td>
<td>sit on</td>
</tr>
</tbody>
</table>

Most of the vowel processes do not seem to be motivated by particular phonological or phonetic reasons. It is, however, noted that since Gĩ-Gĩchũgũ has more vowels as compared to Kiswahili; it is plausible that some of the processes like substitution are an attempt to have a diversity of vowels in the borrowed lexical items.

Conclusion

This paper has shown the phonological adaptation processes of Kiswahili loan words into Gĩ-Gĩchũgũ dialect of Gĩkũyũ language. It has established Kiswahili consonant and vowel adaptation processes involved so that the borrowed forms fit into Gĩ-Gĩchũgũ lexicon. The processes identified in this paper include consonant and vowel deletion, substitution, preservation, and insertion.

References


62