Phonotactic Rules Governing The Adaptation Of English Loan Nouns In The Purko Dialect Of The Maa Language In Narok North Sub-County, Kenya.

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Abstract
Linguistic borrowing is inevitable in any linguistic context. The Maa language has borrowed many nouns from the English language since the two languages co-exist through its speakers. The borrowed nouns have been adapted phonologically into the Maa sound system for correct and acceptable pronunciation. This paper aims at deriving the phonotactic rules governing the adaptation of the English loan nouns in the Purko dialect in Narok North Sub County. The paper majors on the borrowed English nouns as used by the Maa speakers of the Purko dialect, this is because the noun class is the most borrowed class of words as it is used in naming of items not found in the borrowing language. Being a study of phonological adaptation, the CV- phonology theory by George Nick Clements and Samuel Jay Keyser (1983) is used in deriving the phonotactic rules governing the adaptation of the loan nouns. This paper uses the qualitative approach where the descriptive and analytical research designs are used to describe and analyze the data. The Purko loan nouns were purposively sampled from the Purko nouns. The data was collected using introspection and key informant interview methods of data collection. The collected data was described and analyzed using content analysis and the data presented in tables. This paper found out that, there were phonotactic rules that governed the adaptation of the English loan nouns. The results of this research will contribute to the studies on phonotactic rules governing the adaptation of loan nouns between languages.
Keywords: *phonotactic rules, loan nouns, Purko dialect, Maa language.*

I. Introduction

The English and the Maa languages co-exist through its speakers, hence, due to the language contact, borrowing of words between the two languages is unavoidable. Thomas and Kaufman (1988) state that language contact can and often does, lead directly to linguistic changes; donations of some aspects from one language to the other is inevitable. English language has donated some nouns to Maa language; therefore, it is important to know the phonotactic rules governing the adaptation of the loan nouns. Zsiga (2014) defines phonotactic rules as the restrictions on the types of sounds that are allowed to occur next to each other or in particular positions in the word, that is, what sound sequences are possible and which are not possible in words of any given language.

Li-na (2016) defines a loanword as a word adopted from a source language and incorporated into a recipient language without translation. These words are also called borrowed words or borrowing. Borrowing of words normally happens when two languages come into contact. Loanwords are by far the most commonly attested language contact phenomenon. Thomason and Kaufman (1988) state that, invariably, in a borrowing situation the first foreign elements to enter the borrowing language are words. Haspelmath and Tadmor (2009) state that, no language in the world is entirely devoid of loanwords. The Maa language has interacted with the English language therefore causing the loanwords in the Maa language.

English is a West Germanic language of the Indo-European language family. Grimes (1996) states that, English originated in England and it is the dominant language of the United States, the United Kingdom, Canada, Australia, Ireland, New Zealand and various Island nations in the Caribbean Sea and Pacific Ocean. It is also an official language in India, the Philippines, Singerpore and many countries in Sub-Saharan Africa including South Africa. It is estimated that, about a third of the world's population, some two billion persons, now use English. It is definitely a global language being the second most spoken after Chinese language. In Kenya, English is one of the official languages, hence, it has an elevated status as it is used in schools, courts, in religious gatherings, in business among many other areas. This has made the Kenyan indigenous languages to borrow widely from the English language, Maa language being one of the beneficiaries of the borrowed word s.

Maasai is a Nilotic ethnic group inhabiting Northern central and Southern Kenya and Northern Tanzania. The Maasai people speak the Maa language, a member of the Nilotic language family. The Maasai population has been reported as numbering 1,189,522 in Kenya according to 2019 Kenya population and Housing Census. Meitamei (2020) notes that, in Kenya, the Maa language is spoken in parts of Samburu, Baringo, Nakuru, Narok, Trans Mara and Kajiado. In Tanzania, it is spoken in Moshi, Tanga, Arusha, Dodoma, Morongo and Iringa. The research also identified 22 dialects in the Maa language which included; Sampur, Siria, Ilaitayiok, Iltiamus, Wuasin kishu, Matapato, Loodokilani, Dalalekutuk, Lkeekonyokie, Ildamat, Kaputiei, Serenket, Ilarusa, Baraguyu, Ilaitokitok, Ilkisonko, Sikirrarri, Purko, Ilparakuo, Ilmotanik, and Loitai. All these dialects have borrowed several loanwords from the English language, mostly from the school environment and from the new inventions from technology that are getting entry to the Maa language. Narok county has speakers from the following dialects; Purko, Lkeekonyokie, Ildamat, Wuasin Kishu , Siria and Loitai. Narok North Sub-County is one of the six sub counties in Narok County, the Maa speakers in this sub county are from the Purko dialect which is of interest to this paper.

Statement of the Problem

Linguistic borrowing is a common phenomenon in any language, since languages do not exist in a vacuum. The borrowing of words from one language to another is inevitable due to the need of communication to ease daily transactions among people of different speech communities. Any borrowed word has to fit into the phonological system of the borrowing language. Therefore, the borrowed words have to adapt to the sound system of the receiving language for correct utterances by the natives. There are phonotactic rules that the borrowed words follow as they fit into the sound system of the borrowing language. Therefore, this paper is geared to discussing the phonotactic rules governing the adaptation of the English loan nouns in Purko dialect of Maa language in Narok North Sub- County

II. Literature Review

Sang (2009) researched on the phonological adaptation of English loan words in Nandi using Feature Specification and optimality theories to account for the adaptation of vowel and consonant phonemes from English into Nandi and the adaptation constraints under girding the Nativization of English loanwords in Nandi. This research elaborated that epenthesis was preferred to deletion in the adaptation of illicit consonant clusters. The current paper differed slightly on the theory, since it used the CV-phonology theory in deriving the phonotactic rules used in phonological adaptation of the loan nouns in the Maa Purko dialect in Narok North sub county.

Freeman (2016) explores whether cross-linguistic activation of phonological structures extends to phonotactic constraints of the non-target language during spoken comprehension in bilinguals. The question this paper addressed was; Do Spanish-English bilinguals access Spanish phonotactics constraints during English comprehension? The conclusion from the analysis was that, Spanish- English bilinguals access Spanish phonotactic constraints during English comprehension. Moreover, bilinguals' access to structures across both languages during spoken word, comprehension is not limited specifically to phonology but also to phonotactic constraints. The observation aided this paper as it sought to know if the Purko speakers first access their phonotactic constraints in order to adopt the English loan nouns.

Al-Athwary (2017) researched on the phonotactic adaptation of English loanwords in Arabic. This study revealed that, speakers of Modern Standard Arabic (MSA) replaced the exotic English phonemes by familiar MSA ones. They do reorganize the way the sounds are arranged to conform to MSA phonotactics. That the foreign items are adapted at the syllabic level. This particular paper wanted to know if there was replacement of English phonemes by familiar Maa phonemes in conforming to Maa phonotactics.

Awad (2020) studied on the perception of the English phonotactics by Saudi English majors. The researcher noted that Saudi EFL have difficulty in pronouncing and perceiving consonant clusters due to the absence of these clusters from Arabic. They show slightly weak ability to perceive and differentiate permissible and impermissible sound combinations. This observation, made the researcher of this paper to be keen to note if there were such scenarios of difficulty in pronouncing and perceiving consonant clusters that were not permitted in the Maa speakers in the Purko dialect.

Mukulo (2016) analyzed the syllable structure in the study of phonological adaptation of English loanwords in Lukabras and notes that Lukabras has an open CV shaped syllable structure which was analyzed by universal theory of the syllable CV phonology. Additionally, the researcher noted that, all marked English syllable structures in loanwords are unmarked at the timing tier of the CV phonology theory. The unmarking of the English syllable is done in order to achieve the well-formedness of the forms which are acceptable to the Lukabras syllable structure. Vowel epenthesis is the most dominant strategy of unmarking the alien English syllable structure in Lukabras English loanwords. This observation was very critical to this paper since the researcher also used the CV- phonology theory to analyze and see if there was unmarking of the English

syllable in order to achieve the acceptable syllable structures in English loan nouns in the Purko dialect.

Mbwika (2018) used the optimality theory to analyze the adaptation of the English and Kiswahili syllable structure into the Rabai syllable structure and noted that there are some changes that occur in the syllable structure in order to fit into the phonotactic pattern of Rabai language. The study noted that syllable weight loss occurs through; vowel shortening, diphthongization, monophthongization, paragoge, anaptyxis, syncopation, apocopation, apheresis and merging of some segments in certain syllables. Though this analysis used the optimality theory unlike the current paper which used the CV-phonology in its analysis, the adaptation processes for the loanwords arrived at, was very significant to the current research in deriving the phonotactic rules governing the adaptation of English loan nouns in Maa language among the Purko dialect in Narok North sub county.

Theoretical framework
CV-Phonology Theory was used to derive the phonotactic rules governing the adaptation of English loan nouns.

The CV phonology theory was first postulated by Kahn (1976) in his thesis; Syllable-based Generalization in English phonology where he posits that a syllable is a hierarchical unit. Clements and Keyser (1983) expounded on this theory and came up with CV phonology, a generative theory of the syllable. The generative CV phonology model is a universal theory of the syllable which can be used to analyze syllables of any language since it states the universal principles of the syllable.

This theory attempts to solve the doubt about placement of the syllable boundary, Clement and Keyser (1983) state that the vowel element is associated with the syllable peak. In other words, the existence of the highest peak of sonority in each syllable is confirmed. A segment dominated by the C-element of the CV-tier is non-syllabic whereas one that is dominated by the V-element of the same tier is syllabic. The CV-phonology theory has three tenets which assisted in deriving the phonotactic rules used in the adaptation of English loan nouns in the Purko dialect. The following are the tenets of the CV-Phonology theory;

1. It provides an alphabet out of which syllable units are constructed together with a characterization of the permissible arrays of alphabetic units. The syllable trees consist of three- tiered representations in which each tier has a certain vocabulary associated with it. The vocabulary of the first or σ- tier consist of a single element σ, the vocabulary of the second or CV- tier consist of the two elements C, V and the vocabulary of the third or segmental tier consist of single column phonetic matrices characterizing consonants and vowels in the usual manner. Well-formed strings on each tier consist of concatenations of the members of the alphabet defined on that tier.

2. The CV phonology theory gives the core syllable associations, that is, it characterizes the class of language-particular rules which modify or extend the underlying syllable representations (syllabification rules) and state how these rules are integrated into the general organization of the phonological component. Unless otherwise stipulated in the grammar or lexicon of a given language, V-elements of syllable structure are freely allowed to dominate both [+ consonantal] segments and [+ high, -consonantal] segments. Other associations are possible only when admitted by language specific rules. Hence, the CV- phonology theory gives permissible elements of the CV tier and those of the segmental tier.

3. The theory specifies the parameters along which individual language vary in their choice of syllable type. The CV-phonology theory posits that words are fully syllabified at the level of lexical representation, that is, syllable trees are not built up in the course of phonological component. Therefore, the syllable structure is assigned at a single level, uniquely specifiable for all languages. English and Maa languages vary in their choice of syllable type.

The three tenets of the CV-Phonology theory aided in deriving the phonotactic rules that governed the adaptation of English loan nouns in the Purko dialect of the Maa language.

III.   Methodology

The descriptive and analytical research designs were used to describe and analyze the data. Purposive sampling was used to sample the English loan nouns from the Purko nouns. Introspection and key informant interviews methods of data collection were used to collect data from the Purko dialect of the Maa speakers in Narok North sub county, Kenya. Introspection was valid for this research due to the fact that the researcher is a native speaker of the Maa Purko language and therefore able to generate loan nouns through intuition. The researcher counter checked the data with other Maa native speakers so as to avoid subjectivity. Also, the researcher picked seven key informants who speak the Maa Purko dialect and who were also literate. The researcher provided several English nouns and the informants gave the Maa parallel nouns. The researcher and the key informant came to a conclusion to whether a given word is native or borrowed from the English language and not from other languages such as Kiswahili, Kikuyu and Sheng.
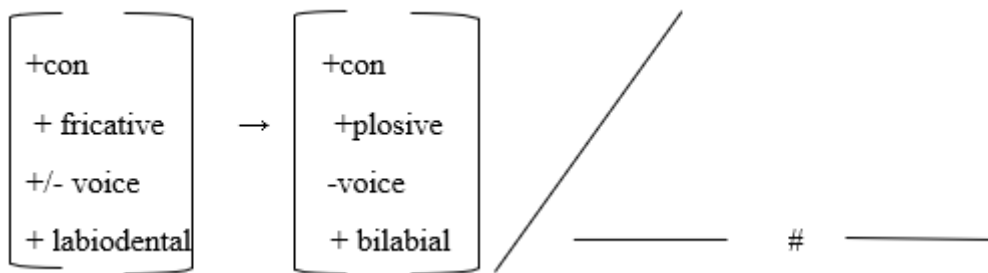
IV.   Results And Discussion

After analysis of the data, this paper arrived at six phonotactic rules which governed the adaptation of the English loan nouns in the Purko dialect.

Phonotactic Rule of Substitution

Lahey (1988) states that substitution is a phonological process involving systemic simplification, with one speech sound replacing another. Substitution was evident in this paper since the Purko dialect does not have sounds such as /f/, /v/, /Ɵ/, /z/, /ʒ/ and /ð/. Hence, when a word is borrowed having this consonant sounds, then they get replaced with available sounds in the Purko dialect.

Substitution of sound /f/ and /v/ by sound /p/

The Purko dialect does not have the voiceless and voiced consonant sounds /f/ and /v/ which are labiodental fricatives. Therefore, if the Purko dialect borrows nouns with these consonants sounds, then the sounds get substituted by the voiceless plosive bilabial consonant sound, /p/ at the middle of the loan nouns. The phonotactic rule is;

$$\begin{bmatrix} +con \\ +fricative \\ +/- \; voice \\ +labiodental \end{bmatrix} \rightarrow \begin{bmatrix} +con \\ +plosive \\ -voice \\ +bilabial \end{bmatrix} / \underline{\hspace{2cm}} \# \underline{\hspace{2cm}}$$
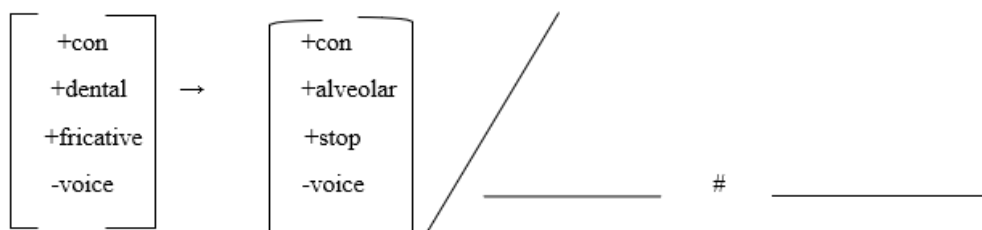
This rule states that, the voiceless labiodental fricative and the voiced labiodental fricative consonant sounds /f/ and /v/ changes to a voiceless bilabial plosive consonant sound /p/ at the middle of Purko loan nouns. Examples in words are;

English		Maa
Governor	/gʌvənər/	/ɔlgapɑnɑi/
Office	/ɒfis/	/eŋkɔpis/
Fridge	/frɪdʒ/	/ɔlpiridʒ/
Veranda	/vərandə/	/ɔlpɑrɑndɑ/
T.V	/tiːviː/	/ɛntiːpiː/
Culvert	/kʌivət/	/ɔlkɑlpɑt/

Phonotactic Rule of Substitution of Sound /Ɵ/

Similarly, the Purko dialect does not have the voiceless dental fricative consonant sound /Ɵ/, hence, the sound gets replaced with the voiceless alveolar stop consonant sound, /t/ at the middle of the words. The phonotactic rule is;

$$\begin{bmatrix} +con \\ +dental \\ +fricative \\ -voice \end{bmatrix} \rightarrow \begin{bmatrix} +con \\ +alveolar \\ +stop \\ -voice \end{bmatrix} / \underline{\hspace{2cm}} \# \underline{\hspace{2cm}}$$

This rule states that, the voiceless dental fricative consonant sound /Ɵ/ gets changed to the voiceless alveolar stop consonant sound /t/ at the medial environment of the loan nouns.
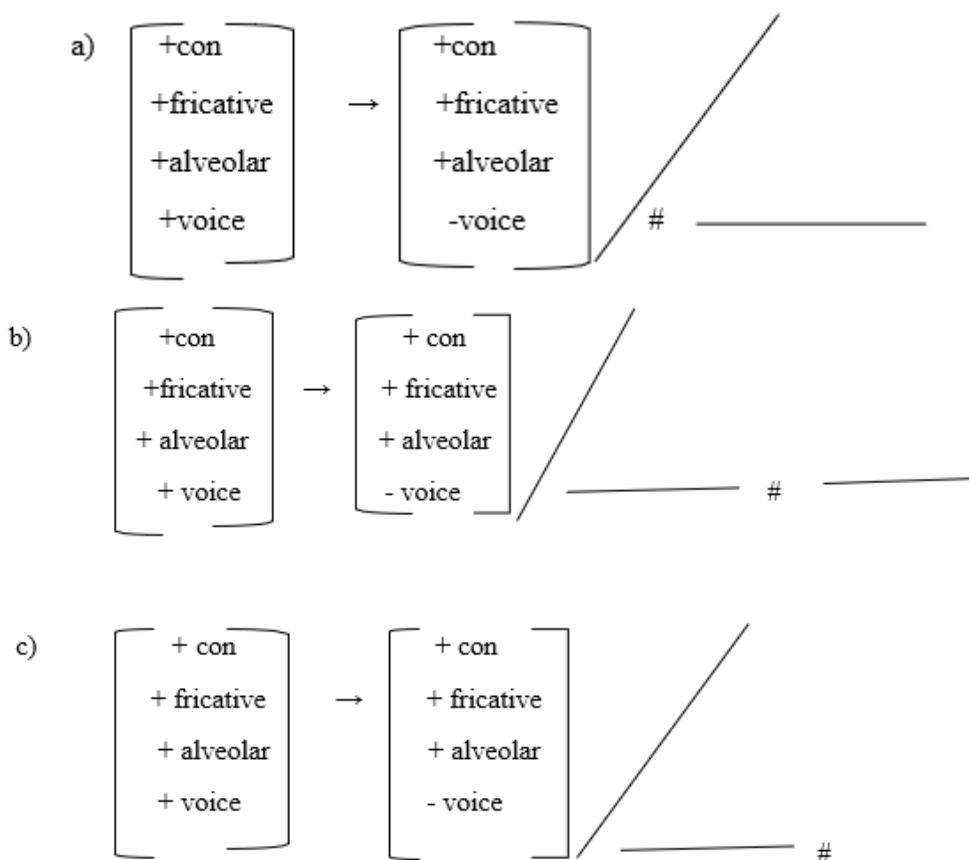
Examples in words are;

English	Transcription	Maa	Transcription
Thermos	/Өɜ:məs/	Oltamos	/ɔltɑmɔs/
Thermometer	/Өəmɒmitə/	Oltamometa	/ɔltɑmɔmɛtɑ/

Phonotactic rule of Devoicing
      Silveira (2004) defines devoicing as a process by which voiced speech sounds are made voiceless. This paper noted that, the Purko dialect does not have sound /z/ which is a voiced alveolar fricative consonant sound.
      Therefore, when the English language lends a word with a /z/ to the Purko dialect then the /z/ sound is devoiced to a voiceless alveolar fricative consonant sound /s/ either at beginning, middle or at word final. The phonotactic rules derived here are;

a)
$$\begin{bmatrix} +con \\ +fricative \\ +alveolar \\ +voice \end{bmatrix} \rightarrow \begin{bmatrix} +con \\ +fricative \\ +alveolar \\ -voice \end{bmatrix} / \# \underline{\hspace{2cm}}$$

b)
$$\begin{bmatrix} +con \\ +fricative \\ +alveolar \\ +voice \end{bmatrix} \rightarrow \begin{bmatrix} +con \\ +fricative \\ +alveolar \\ -voice \end{bmatrix} / \underline{\hspace{1cm}} \# \underline{\hspace{1cm}}$$

c)
$$\begin{bmatrix} +con \\ +fricative \\ +alveolar \\ +voice \end{bmatrix} \rightarrow \begin{bmatrix} +con \\ +fricative \\ +alveolar \\ -voice \end{bmatrix} / \underline{\hspace{2cm}} \#$$

      The above rules state that, the consonant sound /z/ which is a voiced alveolar fricative gets changed to the consonant sound /s/ which is a voiceless alveolar fricative in the three-word environments; beginning, medial and final positions.

Examples in words are;

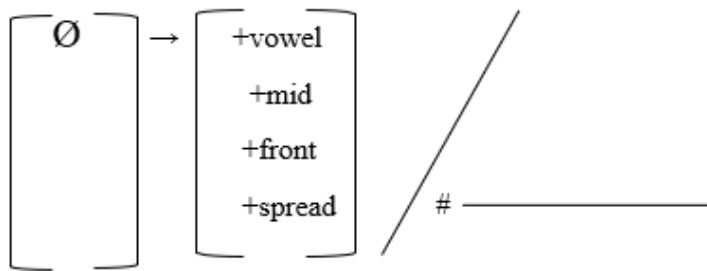| English		Maa		
Zero	/zɪərəʊ/	/siro/	-	initial
Z	/zed/	/sed/	-	initial
Rosary	/rəʊzə:v/	/ɔrɔsɑri/		middle
Dozen	/dʌzn/	/endɑsɑn/	-	middle
Blouse	/ blɑʊz/	/emblɑʊs/	-	final
Plies	/plaɪz/	/ɔlpulɑɪs/	-	final

The phonotactic Rule of Vowel Epenthesis

Hall (2006) refers to epenthesis as a process in which a phoneme is added to an utterance in order to repair an input that does not meet a language's structural requirements. The English loan nouns in the Purko dialect add vowel sounds at various positions of the loan nouns; beginning, middle or end of the word.
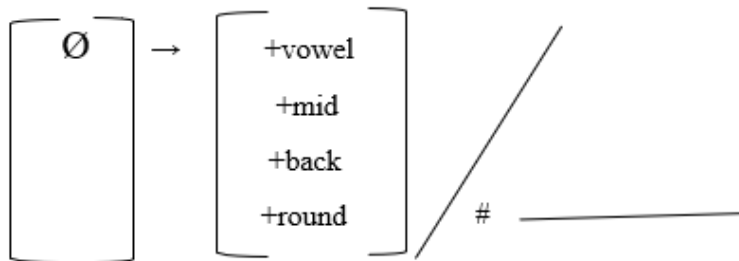
To begin with, vowel sounds /e/ and /o/ are added at the beginning of a loan noun depending on the gender of the noun. Tucker and Mpaayei (1955) state that the Maa language has three classes of gender; masculine, feminine and neuter. This paper was interested in the masculine and the feminine genders. The paper noted that the class of gender is manifested on the prefixes of the nouns, vowel /e/ is used to begin the loan nouns that are femine while vowel /o/ is used to begin the loan nouns that are masculine. However, assigning of the masculine and feminine gender depended majorly on the semantic meaning of the sentence or the context of the word at that particular moment. This research noted that the Purko dialect assigns gender on nouns depending on size and power, if a noun is small in size and less powerful, then it is regarded to be feminine but, when the noun is perceived to be big in size and powerful then it is masculine.

The phonotactic rules derived here were;

a) Phonotactic rule of epenthesis of vowel /e/ at the beginning of a feminine loan nouns;

$$\varnothing \rightarrow \begin{bmatrix} +\text{vowel} \\ +\text{mid} \\ +\text{front} \\ +\text{spread} \end{bmatrix} \Big/ \# \underline{\hspace{3cm}}$$

b) phonotactic rule of epenthesis of vowel /o/ at the beginning of masculine loan nouns;

$$\varnothing \rightarrow \begin{bmatrix} +\text{vowel} \\ +\text{mid} \\ +\text{back} \\ +\text{round} \end{bmatrix} \Big/ \# \underline{\hspace{3cm}}$$
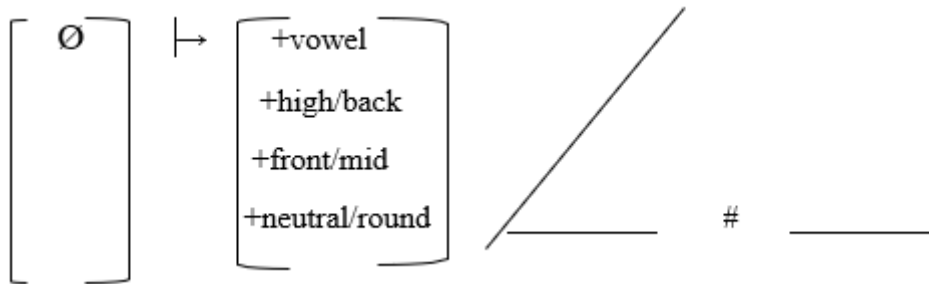
In the rules above, vowels are described according to the tongue and lips positions. Vowel /e/ is pronounced at the middle part of the mouth and the tongue is advanced to the front and the lips are spread. While vowel /o/ is pronounced at the middle part of the mouth and the tongue is advanced to the back while the lips are rounded. These vowels, are added at the beginning of words.

Examples of Purko loan nouns taking vowel /e/ (feminine) and vowel /o/ masculine at the beginning of words.

Gloss	Femine-vowel/e/	Masculine-vowel/o/
Gate	/engeːt/	/ɔlgeːt/
Bucket	/embaket/	/ɔlbaket/
Sheet	/entʃiti/	/ɔltʃiti/
Basin	/embeʃen/	/ɔlbeʃen/
Box	/embɔkis/	/ɔlbɔkis/

Vowel epenthesis at the middle of loan nouns

The Purko dialect also add vowels at the middle of the loan noun, vowel sounds are added at the middle to break consonant clusters that may not be allowed in the Purko dialect. The phonotactic rule of epenthesis of vowels at the middle of the Purko loan nouns is as follows;

$$\left[\varnothing \right] \mapsto \left[\begin{array}{l} +\text{vowel} \\ +\text{high/back} \\ +\text{front/mid} \\ +\text{neutral/round} \end{array} \right] \Big/ \underline{\hspace{2cm}} \# \underline{\hspace{2cm}}$$

This rule states that, vowels /i/ (high, front spread vowel) and /u/ (back, mid, round vowel) get added to the middle of words in order to break consonant clusters that are not permitted in the Purko dialect.
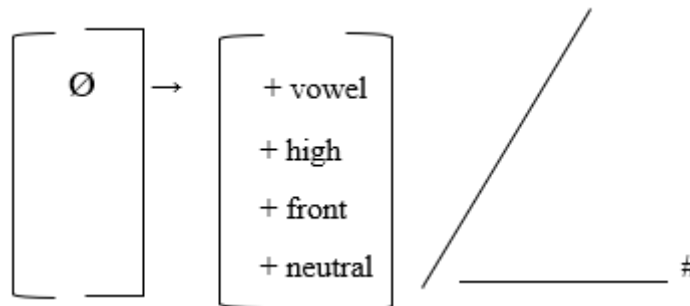
For example;

English	Maa	Gloss
/skuːl/	/sukuːl/	School
/prinsipl/	/ɔlpirinsipɔl/	Principal
/plɑstik/	/ɔlplɑsitik/	Plastic
/wiːlbarəu/	/ewilibarɔ/	Wheelbarrow
/bɛdrum/	/ɔlbedurum/	Bedroom

Vowel epenthesis at the end of loan nouns

Lastly, under vowel epenthesis, a vowel sound is added at the end of the loan nouns when forming their plural forms. It's important to note that, when the plural of the loan noun is given, then the vowels /e/ and /o/ that were at the beginning of the noun changes to vowel /i/ and add the same vowel /i/ at the end. Therefore, we will have vowel /i/ both at the beginning and at the end of the loan noun.

The phonotactic rule of epenthesis of vowels at the end of the Purko loan nouns is;

$$\left[\varnothing \right] \rightarrow \left[\begin{array}{l} +\text{ vowel} \\ +\text{ high} \\ +\text{ front} \\ +\text{ neutral} \end{array} \right] \Big/ \underline{\hspace{3cm}} \#$$

This rule states that, vowel /i/ which is pronounced when the tongue height is in the high position and the tongue is advanced to the front and the lips are neutral is added to the loan nouns at the end of the words while forming their plural forms.
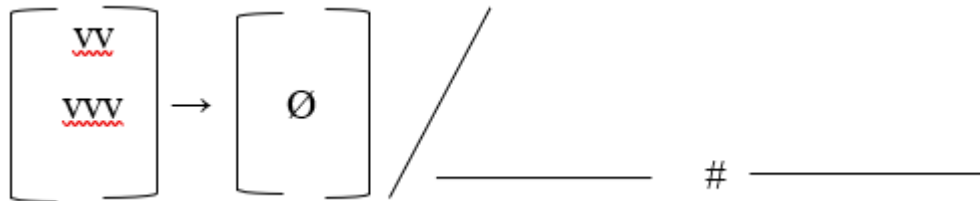
Examples of words are;

English	Purko	Gloss
/bɛdruːmz/	/ilbedurumuni/	Bedrooms
/ɒfisiz/	/inkɔpisini/	Offices
/skuːls/	/isukuːlini/	Schools
/hɒspɪtls/	/isipitalini/	Hospitals
/wiːlbarəuz/	/iwilibarɔni/	wheelbarrows
/plæstɪks/	/implastikini/	Plastics

Phonotactic Rule of Vowel Reduction

Katherine (2004) state that, vowel reduction is a phonological phenomenon where certain vowels undergo qualitative changes in unstressed positions. Vowel reduction was evident in this research since, the Purko dialect do not have diphthongs and triphthongs and therefore, English loan nouns having diphthongs and triphthongs undergo vowel reduction in order to fit into the Purko phonology. It was noted that, two members of the triphthongs were merged into one vowel and another simple Purko distinct vowel was added, on the other hand, the diphthongs were reduced to single vowel.

The phonotactic rule is;

$$\begin{bmatrix} VV \\ VVV \end{bmatrix} \rightarrow \begin{bmatrix} \emptyset \end{bmatrix} / \underline{\qquad} \# \underline{\qquad}$$

The bove rule states that, the diphthongs /vv/ and triphthongs /vvv/ are reduced to monophthongs or simple Purko distinct vowels at the middle of words as shown below in the following examples.
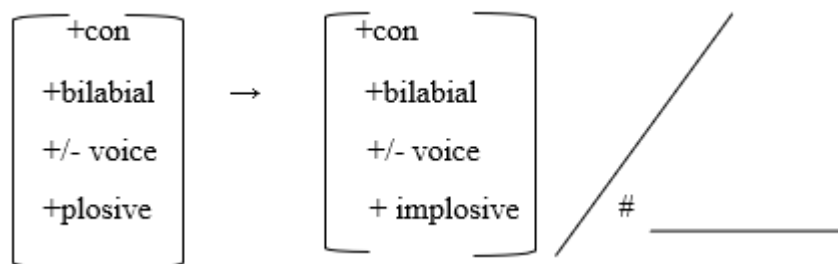
Gloss	English	Maa
Radio	/reidiəʊ/	/eredio/
Wire	/wʌiə/	/ewɑyɑ/
Video	/vidiəʊ/	/empidiɔ/
Blouse	/blɑʊz/	/embulɑʊs/
Rosary	/rəʊzəri/	/ɔrɔsɑri/

Phonotactic Rule of Assimilation

Pavlik (2003) states that, assimilation is a sound change in which a phoneme typically a consonant or a vowel change to become more similar to a nearby sound. This paper noted that there was bilabial assimilation of the female gender loan nouns having the prefix /en/ in the Purko dialect. The prefix /en/ was assimilated to /em/ sound, for instance, the Purko loan nouns /embuku/ and empaamp were assimilated as follows;

en + book → em + buku = /embuku/
en + pump → em +paamp = /empɑ:mp/
en + blouse → em + bulaus = /embulɑʊs/

The assimilation phonotactic rule is;

$$\begin{bmatrix} +con \\ +bilabial \\ +/- \text{ voice} \\ +plosive \end{bmatrix} \rightarrow \begin{bmatrix} +con \\ +bilabial \\ +/- \text{ voice} \\ + \text{implosive} \end{bmatrix} / \# \underline{\qquad}$$
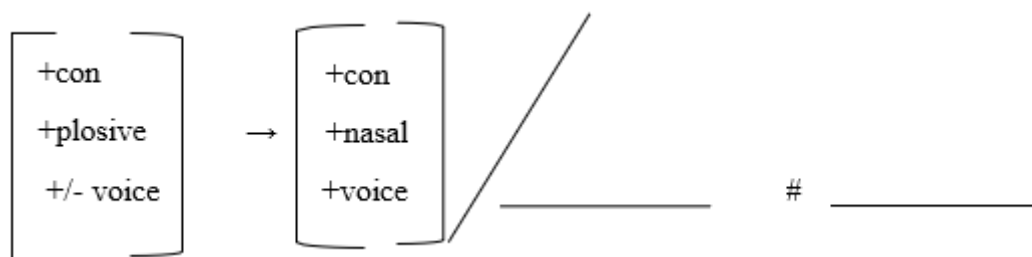
This rule states that, English loan nouns with consonant bilabial plosive sounds which can either be voiced or voiceless and have the Purko female gender prefix /en/ gets assimilated to an implosive sound /em/ at the beginning of the word.

The Phonotactic Rule of Nasalization

Ladefoged (1971) states that nasalization is the production of sound while the velum is lowered so that

some air escapes through the nose during the production of the sound by the mouth. This paper noted that when an English noun has a plosive sound at the beginning and the Maa language borrows the noun, then the plosive sound is nasalized at the middle of a word. The nasal sounds /m/, /n/ and /ŋ/ are attached to the plosive sound of the loan noun after a vowel epenthesis has taken place.

The phonotactic rule is;

$$
\begin{bmatrix} +con \\ +plosive \\ +/- voice \end{bmatrix} \rightarrow \begin{bmatrix} +con \\ +nasal \\ +voice \end{bmatrix} / \underline{\hspace{2cm}} \quad \# \quad \underline{\hspace{2cm}}
$$

This rule states that, the plosive consonant sounds found in the English loan nouns that are either voiced or voiceless get nasalized by the voiced nasals /m/, /n/ and /ŋ/ at the medial environment after the vowel epenthesis has taken place.

For example;

English		Maa
Tray	/treɪ/	/enture:/
Class	/klɑ:s/	/enkilasi/
Dairy	deːri/	/endɛiri/
Degree	/digri:/	/endikiri:/
Pump	/pʌmp/	/empɑ:mp/
Plastic	/plastik/	/empulɑsitik/
Book	/bʊk	/embuku/
Computer	/kəmpju:tə/	/enkɔmputɑ/
T-shirt	/ti:ʃɑ:t/	/entishɑt/

V.   Conclusion

It is evident that, there are six phonotactic rules that governs the adaptation of the English loan nouns. First, there is the phonotactic rule of substitution where sounds /f/, /v/ and /Ɵ/ which are not found in the Purko dialect are substituted by sound /p/ for the two labiodental fricatives and by sound /t/ for the dental fricative. Second, the phonotactic rule of devoicing where the voiced sound /z/ in the borrowed nouns is devoiced to the voiceless sound /s/ in all word positions. Third, the phonotactic rule of vowel epenthesis where vowel /e/ and vowel /o/ are added at the beginning of loan nouns that are feminine and masculine respectively. There was also vowel epenthesis at the middle and final positions of the loan nouns hence the phonotactic rule of vowel epenthesis at the middle and final positions. Also, there is the phonotactic rule of vowel reduction of diphthongs and triphthongs found in the English loan nouns. The Purko dialect does not have diphthongs and triphthongs hence, they are reduced to monophthongs or to simple Purko distinct vowels in the loan nouns. In addition, there is the phonotactic rule of assimilation where the Maa gender prefix /en/ gets assimilated to /em/ in loan nouns that had bilabials at the beginning of the loan nouns. Finally, there is the phonotactic rule of nasalization, English loan nouns with plosive sounds at the beginning had the plosive sound nasalized at the middle of the words. The nasal sounds /m/, /n/ and /ŋ/ are attached to the plosive sound of the loan noun after a vowel epenthesis has taken place. These phonotactic rules governs the adaptation of the English loan nouns in the Purko dialect.

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