The role of semantics in the morphological adjustment of English nouns borrowed into EkeGusii: an Optimality Theory approach

George Morara Anyona

Department of Languages, Linguistics & Literature, Kisii University-Kenya

georgeanyona@kisiiuniversity.ac.ke (Corresponding e-mail)

kaonianyona@yahoo.com

This paper investigates the role of semantics in morphological adjustments of EkeGusii nouns borrowed from English within the Optimality Theory framework (hereafter OT) (Prince & Smolensky 1993/2004). The language under consideration is EkeGusii, a Kenyan Bantu language characterized by nominal pre-pre-fixation and classification. Firstly, the paper deals with the nominal classification of borrowed nouns observing that the nouns fall into EkeGusii nominal classes. Secondly, it considers pre-pre fixation in which it is suggested that the English nouns are pre-prefixed just like EkeGusii nouns. Thirdly, the paper argues that the classification and pre-fixation are determined by the semantics of the roots of the borrowed nouns. Finally, a choice is made between EkeGusii and English constraint rankings in an attempt to determine the outputs of the borrowed nouns, concluding that EkeGusii ranking is favoured over that of English.

Keywords*: Adjustment, Borrowing, Constraint Ranking, Alignment, Augment*

1 Introduction

This paper investigates the morphological adjustments that English nouns borrowed into EkeGusii undergo in order to be accommodated in the EkeGusii morphological system; attempting to answer the question: how does the EkeGusii morphological structure impact on the English nouns it borrows? More specifically, the paper examines the role of semantics in the nativization of English nouns borrowed into EkeGusii in order to understand the internal structure of the morphology of EkeGusii. The focus of the paper therefore is on two languages in contact: EkeGusii, the borrowing language, and English the lending language.

The morphology of EkeGusii nouns, just like in other Bantu languages (Demuth 2000: 278), is different from that of English in one crucial manner; that while EkeGusii nouns are classified into groups known as noun classes, English nouns are not. In other words, as Demuth observes, Bantu noun classes tend to be realized as grammatical morphemes rather than independent lexical items; that the classification is part of the larger concordial agreement systems where nominal modifiers, pro-nominals, and verbs are all morphologically marked with the same noun class (gender) features. English nouns on the other hand are characterized as independent lexical items. EkeGusii, unlike English, enters into a system of pairs of prefixes (morphemes) that mark the morphology, semantic, and syntactic (morpho-semantic-syntactic) categories of singular and plural forms of the nouns as demonstrated by (1).

(1)   1   omo-   2   aba-

    1a   mo-   2a   ba-
    1b   Ǿ   2b   Ǿ
    3   omo-   4   eme-

5	eri-	6	ama-
7	eke-	8	ebi-
9	e-	10	chi-
9a	e-n-	10a	chi-n-
11	oro-	12	aka-
14	obo-	15	oko-
16	a-	21	na (Cammenga 2002:199)

According to Givon (1972), Cammenga (2002), and Ongarora (2009), the choice of the prefixes in (1) is determined by the semantics of the noun stems with which they occur. In other words, the prefixes carry the gender, number, and size of the stems to which they are appropriately prefixed (in terms of semantics) as illustrated by (2).

(2)   a. omonyaroka   abanyaroka
         omo –   nyaroka   aba-   nyaroka
         1.3psg-   girl   2.3ppl- girl
         'girl'   'girls'
         b. ekerandi   ebirandi
         eke-   randi   ebi-   randi
         7.3psg-gourd   8.3ppl-gourd
         'gourd'   'gourds' (Ongarora 2011: 24-32)

In (2a), the noun stem {nyaroka} denotes 'human' referent, hence co-occur with singular prefix {omo-} and a plural one {aba-}, while that in (2b) refers to an 'inanimate' referent {randi} 'gourd' and accordingly co-occur with the singular prefix {eke} and the plural prefix {ebi-}. Thus, the mutual exclusivity of these prefixes stems from the gender of the nouns (Givon 1972 & Ongarora 2009). Thus, the meaning of the stems to which the given prefix is attached in EkeGusii plays a major role in its choice. In other words, the occurrence of a prefix is not haphazard and without meaning. Appendix (I) gives EkeGusii prefixes, both in their singular and plural forms, and their semantic determinant stems.

This paper investigates the role of the meaning of the stems of the borrowed nouns in the nativization process. Nouns in English unlike in EkeGusii are not classified in terms of classes in the sense described by (1). In fact, as can be observed in Appendix (II), the class of a given noun in EkeGusii, like in other Bantu languages, is determined by the prefix of the stem of the given noun. Prefixation in English performs different functions such as marking opposite, for example, un- in 'un-lock'. English, according to Katamba (1993) is a language that is characterized by base word morphology. Base word morphology entails the study of the lowest indivisible level of a morphological construction (Kiparsky 1982: 15-17). McCarthy (2006) observes that an important feature of English, which differentiates it from many other languages, is that it has a high proportion of complex words, with an agglutinative morphology; and an equally large number of words with an isolated morphology. Therefore, as illustrated by (3), English morphology is neither purely isolating nor purely synthetic.

(3)   a. read – able   readable
          hear – ing   hearing
          en – large   enlarge
          perform – ance   performance
         b. leg – ible   legible
          audi – ence   audience

magn–ify　　　　magnify

In (a) the two morphemes affixed together are different respectively- free and bound, while those in (b) are both bound. The difference as observed by McCarthy is attributable to the history of English. Most of the free morphemes in (a) belong to that part of the vocabulary of English that has been inherited directly through the Germanic branch of the Indo-European language family to which English belongs, whereas the morphemes in (b) have been introduced or borrowed from Latin, either directly or via French. Again, the words in (a) are more common than those in (b) which reflect the fact that among the most widely used words, the Germanic element still predominates. This leads to the conclusion that in English, there is a strong tendency for complex words to contain a free morpheme at their core. This is the argument this paper is based on.

　　　Structurally, most noun prefixes in EkeGusii, unlike in English, have a bi-morphemic form. Thus, the prefix is divided into two elements: an initial vowel, sometimes referred to as an augment or pre-prefix, and the prefix per-se (Elwell 2005). The pre-prefix according to Elwell is a syllable added to the beginning of a word in certain languages. EkeGusii, unlike English, has such a syllable; especially in noun number and class marking prefixes and some monosyllabic words (in which case, the augment is just a single vowel). (4) gives the EkeGusii augment structure.

(4)　　a. omote　　　o - mo-te
　　　　　　　　　　aug-3sg-tree
　　　　　　　　　　'tree'
　　　　b. emete　　　e - me-te
　　　　　　　　　　aug-4pl-tree
　　　　　　　　　　'trees'

The prefix {omo-} in (4a) marks: the class of the noun 'tree', that is class three and number that is singular; while the prefix {eme-} in (4b) marks class four and in the plural.
This paper is of the view that the vowels at the beginning of a prefix are tolerated because, without them, the prefixes that result are those of classes 1b (ø-) and 2b (ø-), which carry the meaning of kinship terms or sometimes when referring to nobody in particular (that is neutral) as illustrated by (5).

(5)　　a. monto　　　mo-　　　　nto
　　　　　　　　　　1bØ.3psg　　person
　　　　　　　　　　'person'
　　　　　banto　　　ba-　　　　nto
　　　　　　　　　　2bØ.3ppl　　person
　　　　　　　　　　'persons'
　　　　b. mogaaka　mo-　　　　gaaka
　　　　　　　　　　1bØ. 3psg　old man
　　　　　　　　　　'old man'
　　　　　bagaaka　ba-　　　　gaaka
　　　　　　　　　　2bØ.3ppl　　'old men'
　　　　　　　　　　'old men'

Haugen (1950: 210) sees nativization (lexical adjustment) as the attempted reproduction in one language, patterns previously found in another language. Hock (1990: 385-386) defines it as the integration of foreign words into one's native structures; while Mberia (2004: 45) observes that

nativization or borrowing is the adjustments that borrowed words undergo at the various linguistic levels in order to be accommodated in another language. These perspectives indicate that borrowed items undergo certain linguistic processes in order to be accommodated or accepted in the target language. In other words, they undergo nativization processes to conform to the structural constraints of the borrowing language. This paper interrogates the role of meaning in this nativization process in the morphology of English nouns borrowed into EkeGusii. For example, the English word school is nativized as 'esukuru'. Morphologically, this is nativized as in (6).

(6)   e-   sukuru
        aug-9sg-school
        'school'

(6) shows that the noun 'school' enters class (9) in the Bantu classification of nouns (see appendix 1). The questions this work seeks to answer are: what determines the choice of the class(es) into which the borrowed nouns enter? Does the meaning of the nouns have anything to do with it? The structure of the nativized forms is not much interest in this paper.

1.1 *Theoretical framework*

Data in this paper is described and accounted for within the OptimalityTheory. Unlike many studies of this nature that employ rule-based approaches, this paper uses a constraint-based approach. According to Kaspersky (1982: 8-12), morphological changes in a word take place at three levels: base word level (root), vowel level, and affix level. Analyses of morphological changes of EkeGusii nouns borrowed from English in this paper focus on these levels and are analyzed within the OT theoretic framework. In particular, the paper seeks to show the morphological ranking favoured by the outputs; whether that of English, the loaner language, or that of EkeGusii, the loaned language. Using Lexical Optimization Framework of OT (McCarthy 2001), EkeGusii nouns borrowed from English constitute inputs that are analyzed by the grammars compared.

The Optimality Theory is different from the rule-based generative theories of phonology in a number of ways (Prince and Smolensky, 1993/2004). For example, OT and the Principles and Parameters Theory (Chomsky 1981) differ in that while the two theories view grammatical principles as universal, they elaborate the principles differently: Parametric theory sees the principles as a set of inviolable constraints, while OT sees them as a set of hierarchically ranked and violable constraints. Thus, while language typologies are obtainable through parameter setting (switching on/off of a constraint) in Principles and Parameters Theory, the same is achievable through re-ranking of violable constraints in OT (Kager 1999). The present paper sees languages as differing in this sense; that is in the re-ranking of the universal constraints.

OT dictates that an optimal output form is selected from a set of candidates based on a (re)-ranking of violable well-formedness constraints; the candidate that minimally/least violates the constraints in the given ranking (which is language particular) is selected as the optimal candidate and thus appears as the surface form. These candidates are evaluated in parallel instead of subject to a series of ordered rules – as in the rule-based theories. Additionally, the set of constraints in OT is proposed to be universal, and that the grammars of languages theoretically differ in the ranking order of the constraints. For instance, a highly ranked constraint in one language (for example *CODA in EkeGusii) may be lowly ranked in another language (such as English). According to the theory, a violation of a highly ranked candidate is fatal, which means that such a candidate will never be optimal. The opposite is true.

According to this theory there are two main types of constraints: Constraints on the form of the output structure (the well-formedness constraints) on segments, and segment organization. These being constraints grounded in universal markedness principles such as syllables must have onsets and constraints on the relationship between the input and the output aimed at the preservation of information (maintaining faithfulness of the output to the input) (Kager 1999). Kager observes that these two constraints are inherently in conflict.

This theory has three key components. Generator (**GEN**), the component which takes an input and generates a list of possible outputs called candidates (possible realizations of an input which are potentially infinite in number). Constraint (**CON**) is another component. This provides the criteria in the form of strictly ordered violable constraints used to decide between candidates. These constraints are assumed to be universal. Universal in the sense that they affect all languages, though each language ranks them differently (which is one of the reasons behind language differences). The third component is Evaluator (**EVAL**). This is the component that chooses/selects, depending on the grammar (language in question), and the optimal candidate. Each candidate is evaluated by all constraints at once in parallel rather than in a serial fashion of the derivational generative frameworks. The candidate (output) that violates the fewest high ranked constraints is chosen as the optimal by the grammar. The evaluation takes place by a set of hierarchically ranked constraints in the form ($C_1 \gg C_2 \gg \dots C_n$), each of which may eliminate some candidate output; until a point is reached at which only one output candidate survives. This elimination process is represented schematically by Figure (1) below.
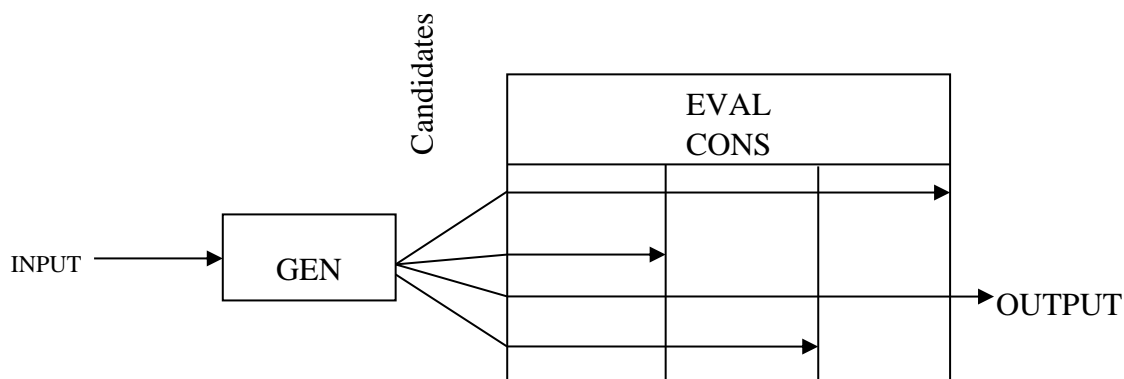

Figure 1: Process of candidate elimination in OT (Kager 1999: 24)

According to McCarthy (2001), OT has had a significant impact on various fields of linguistics including phonology and morphology. This paper employs the premises of OT that are most directly applicable to morphology in its presentation and analysis of data. Morphologically, Optimality Theory provides insights into various morphological phenomena, including affixation, reduplication, and allomorphy (McCarthy 2001). However, this study employs the tenets of OT that are most directly applicable to the morphology of loanword nativization: affixation, alignment constraints, constraint ranking and violability, competition among candidate outputs, faithfulness, and parallelism of evaluation. McCarthy (2001) observes that constraint violability is pervasive in applications of OT, but there are two areas of morphology in which it assumes particular importance: affix location and template morphology. These are the areas of focus in this paper.

According to McCarthy and Prince (1993: 38-41), affix alignment constraints demand that the edge of two constraints coincide. In particular, a constraint requiring that the left edge of an affix align with the right edge of a word (ALIGN (Affix, L; Word, L)) has the effect of declaring an affix a suffix, while a constraint requiring that the right edge of an affix align with

the left edge of a root (ALIGN (Affix, Root; L)) will have the effect of declaring this affix to be a prefix. McCarthy and prince further observe that constraints on affixal alignment have also been applied to clitic and affix order restrictions, for example, align the right edge of an affix to the left edge for a word (ALIGN (Affix, R; Root, L)). This paper analyzes affix location of EkeGusii loan words from English, vis-à-vis the stated alignment constraints.

The input, the supposed underlying form of a grammar, plays a crucial role in this theory. According to Prince and Smolensky (1993) the input has two main functions: to determine the output candidates which compete for optimality and to be referred to by faithfulness constraints that prohibit output candidates from deviating from specifications in the input. This paper utilizes the correspondence framework of Optimality Theory by McCarthy & Prince (1993), and McCarthy (2001). This framework provides that both input and output consist entirely of overt non-abstract phonological material. It gives a relation between the input segments and the output segments; that is correspondence (input- output correspondence). This framework rejects abstract outputs and strengthens the notion input – bringing on board input optimization arguments of (Prince & Smolensky 1993). The input or lexicon optimization framework provides that the output is faithful to an input. This observation is demonstrated by the change of Old English /sk/ to modern English /ʃ/ as in scip [skip] → ship [ʃip] (McCarthy 2001). In OT, and particularly in the input optimization approach, this change means that the input as well as the output are the same ([ʃip]). Thus, the faithfulness constraints, such as MAX IO is obeyed at the expense of the markedness constraint *COMPLEX C; (MAX IO >> *COMPLEX C), as analyzed in Table (1). (Table is used in this paper instead of tableau as required by the theory).

Table 1: Modern English realization of the input /ʃip/

input: /ʃip/	MAX IO	*COMPLEX C
a)☞ʃip		
b) skip	*!	*

Table (1) shows that the input has been optimized; that is, it has been realized without any change and therefore is faithful to the output. It is an input as well as an output. This is how this paper treats English nouns borrowed into EkeGusii.

2 Methodology

2.1 *Data sources, population and sample*

Data analyzed in this paper include English nouns borrowed into EkeGusii as found in the EkeGusii dictionary (Machogu & Bosire 2013). The choice of this source was purposive and was informed by two main factors: firstly, the dictionary is among the few published books in the language under investigation; secondly and most importantly it is the most recent book published in the language under investigation.

Available literature indicates that the population of English nouns borrowed into EkeGusii is not known. This paper, therefore, treats all the English nouns borrowed into EkeGusii as found in the dictionary as its target population. Native speaker intuition of the researcher and verification by competent first speakers of the language were used to identify the

borrowed nouns. This was done by identifying the nouns referring to things or concepts that were not part of the OmoGusii culture, thus might have come with the English culture.

A total of 349 English nouns borrowed into EkeGusii were identified from the dictionary (see sample in Appendix (II). All these nouns constituted the sample size of the study. This is because the nouns could not be sampled any further because; first, their number was fairly small; and secondly sampling them could have left out some which could be used to describe certain morphological processes, while those which could not describe any processes sampled. Thus, the nouns were selected purposively to describe and explain a process when and where it occurred.

The data in this paper are in the morphological form (see Appendix 3). Presentations, analyses and interpretations of data are carried out within the tenets and principles of the constraint-based Optimality Theoretic (OT) framework as follows: English nouns borrowed into EkeGusii were presented, analysed and interpreted against EkeGusii and English morphological constraints rankings in order to account for the various morphological changes observed since constraint ranking between any two languages differs. This, according to the theory, is carried as follows: **INPUTS** are fed into the **GEN** component of OT which generates an infinite set of candidates. The candidates are then subjected to the **EVAL** component, which, using the **CON** component (ranked on a language-specific basis) assesses and selects the most harmonic candidate depending on the grammar in question. The selected candidate becomes the **OUTPUT** of the grammar (see Figure 1above).

Morphological forms of English nouns borrowed into EkeGusii, EKeGusii and English nouns serve as inputs (as and when appropriate) to yield outputs. Constraints are ranked on a language input basis. All these are aimed at establishing the constraint ranking that the borrowed nouns adapted; either that of English or that of EkeGusii.

3 Presentation, analyses, interpretation and discussion of data

This section analyzes, interprets and discusses the role of semantics in the morphological adjustments of English nouns borrowed into EkeGusii. The analyses and interpretations are accounted for within the Optimality Theory (Prince and Smolensky, 1993, McCarthy 2001). Morphological change takes place at three levels: base word level (root), vowel level and affix level (Kaspersky 1982: 13-19). Analyses of morphological change of EkeGusii nouns borrowed from English in this study focus on the three levels and are explained by Optimality Theory principles and guidelines. In particular, the study investigates the morphological ranking favoured by EkeGusii outputs, given the EkeGusii nouns borrowed from English as inputs; whether it is that of English, the lending language or that of EkeGusii the borrowing language.

3.1 *The role of semantics in morphological nativization*

It has been observed that a noun in EkeGusii, and indeed in most Bantus languages with a noun class system (Givon 1972: 97-113), enters into a specific class depending on its stem gender, number and size. Thus, nominal class membership of a noun depends on its meaning and that it is this meaning which determines the kind of prefix it will take. The chosen prefix puts the noun in the class it belongs to as shown in Appendix (I). Indeed as the nouns in EkeGusii enter into their classes on the basis of their semantic content, so are the borrowed words from English as (7) shows.

(7)	**noun**	**class**	**gloss**	**root meaning**
	omo-gabana	**1**	governor	animate being; human

aba-gabana	**2**	govenors	animate being; human
obo-ranketi	**14**	blanket	inanimate object
ama-ranketi	**6**	blankets	inanimate objects
eke-ragita	**7**	tractor	inanimate cultural object
ebi-ragita	**8**	tractors	inanimate cultural objects
e-retio	**9**	radio	inanimate object
chi-retio	**10**	radios	inanimate objects

In data set (7), the loans are affixed with a class marking prefix which is determined by their root meanings or semantics. For example, the noun governor enters into class (1) and not any other class because of its semantic features. It is: [+animate, +human being]. This class demands that the prefix be {omo-}. The word 'tractor' on the other hand falls within the semantic features: [-animate, -human being +object], and therefore enters into its appropriate class - 7{eke-}. Thus, the English nouns entering EkeGusii morphology do not enter haphazardly; but rather they are determined by their semantics. That is, depending on the meaning of the root of the loan, an appropriate class, which preserves the meaning of the input in the output, is determined and assigned.

This, in OT, presupposes faithfulness constraints which preserve the meaning of the input in the output form, that is, MAX IO (meaning). Because EkeGusii nouns must belong to a noun class, and that the noun class is marked by a prefix, an appropriate alignment constraint is also presupposed: (ALIGN (AFX, R; RT, L)), which demands that an affix be a prefix. Therefore, the loaned word must be prefixed. This differs from affixation of plurality in English, which demands suffix affixation (ALIGN (AFX, L; RT, R)) (Prince and Smolensky 2004 and McCarthy 2001). Finally, the structure of the English word as input changes in it nativized or output form. This means that the structure preservation constraint (STRPRES) (Golston & Yang 2001: 97-113; Aronoff 1998: 237-247 and Kiparsky 1982: 1-23) is presupposed. This constraint provides that the structure of an input form be preserved in the output (no change of the structure form in the output). These constraints are ranked differently for English and EkeGusii outputs as analysis in Tables (2) and (3) below show.

Input: {tractor}{-s}

Constraints and their ranking: MAX IO (meaning) >> {STRPRES, (ALIGN (AFX, L; RT, R)), (ALIGN (AFX, R; RT, L))}.

Table 2: English output of the input {tractor}{-s}

Input: tractor-s	MAX IO (meaning)	STRPRES	(ALIGN(AFX, L; RT, R))	(ALIGN(AFX, R; RT, L))
a.☞ tractor-s				*
b. tractor	*!	*	*	
c. ebi-ragita		*!		

In Table (2), candidate (a) is the output because it only violates the relatively low ranked constraint in English, which provides that there must be a prefix to mark class and other nominal features, a feature not recognized by English. The rest of the other candidates lose because they violate the highly ranked constraint MAX IO (meaning), for (b), which demands that the meaning of the input be preserved in the output; and STRPRES in (c), which demands that the structure of the input be preserved in the output. This is compared to EkeGusii analysis of the input 'ebi-ragita'. Constraint ranking in this case is: MAX IO (meaning) >> (ALIGN (AFX, R; RT, L)) >> {(ALIGN (AFX, L; RT, R)), STRPRES}.

Table 3: EkeGusii output of the input {ebi}-{ragita}

INPUT: ebi-ragita	MAX IO(meaning)	(ALIGN(AFX,R; RT, L))	(ALIGN(AFX, L; RT, R))	STRPRES
a.tractor-s		*!		
b.eke-ragita	*!		*	*
c.☞ebi-ragita			*	*

Candidate (c) is the optimal in Table (3) since it does not violate the constraint demanding that the input meaning be preserved in outputs. This is the determining constraint. (b) loses because it changes the meaning of the input from being in plural to singular. Candidate (a) loses because it aligns the given prefix wrongly in EkeGusii; it is a suffix, yet EkeGusii demands a prefix.

The analysis of the role of semantics in morphological nativization and OT handling of the same is one of the major contributions of this paper in theoretical linguistics. This is because the available literature (Zivenge 2009; Kayigema, 2010 & Riaz 2011 among others) indicates that morphological loaned word nativization this far has not focused on the role that semantics plays in the process. None of these studies focuses on the role of semantics in the process of loanword nativization (7) above indicates that the English nouns are pluralized by suffixation (the suffix {-s}) in all the given cases. However, their plurals in EkeGusiinativized forms are prefixed (the prefixes differ as per the semantics of the noun root) as shown in (8).

(8)   **English forms**   **EkeGusii forms**   **class**   **semantics**
        scouts   aba-siikaouti   2   animate, humam
        records   chi-rɛkɛkɔti   9   inanimate, object
        blankets   ama-rangeti   14   inanimate, object
        pastors   aba-basita   2   animate, human being
        governors   aba-gabana   2   animate, human being
        sacraments   ama-sakaramento   6   inanimate, object

In (8), all English nouns entering EkeGusii are affixed for class and gender. This is because each word in the language belongs to a particular class and gender. Given the difference in affixation for plural marking between English words and their nativized forms in EkeGusii as indicated in (8) above, affix location constraints are presupposed, (Prince and Smolensky 2004 and McCarthy 2001). EkeGusii language demands the following affix location constraint: ALIGN (AFX, R; RT, L), which states that align the right edge of an affix to the left edge of a root to mark plurality among other functions. To illustrate, EkeGusii noun 'omote' omo-te 'tree' is analyzed in Table (4). This input presupposes the constraints: (ALIGN (AFX, R; RT, L)), (ALIGN (AFX, L; RT, R)), ranked as: ALIGN (AFX, R; RT, L) >> (ALIGN (AFX, L; RT, R)).

Table 4: EkeGusii output of the input {omo}{-te}

INPUT: omo-te	(ALIGN (AFX, R; RT, L))	ALIGN (AFX, L; RT, R))
a. ☞omo-te		*
b. te-omo	*!	

In Table (4) Candidate (a) is the output because it does not violate the constraint that requires that the right edge of an affix be aligned with the left edge of the root to which it is affixed. Its violation of the constraint (ALIGN (AFX, L; RT, R)) is of little consequence in determining the output in EkeGusii. Candidate (b) loses because the affix has been affixed in the wrong part of the root that is; to the right edge instead of the left edge as demanded by the language. In essence, as McCarthy (2001) observes, the affix location alignment constraint, (ALIGN (AFX, R; RT, L)), declares that this affix be a prefix. This kind of affix location alignment affects both the singular and plural forms of EkeGusii. The plural form of the noun [omo-te] is [eme-te] 'trees'. Its OT analysis will have similar results as in tableau (4), because the constraints and their ranking are similar. The constraint (ALIGN (AFX, R; RT, L)), which declares that this affix be a prefix means that the plural marking morpheme be a prefix. However, constraint ranking will not be the same in the English forms. In the plural form, the presupposed constraints will be: (ALIGN (AFX, L; Root, R)), which demands that the left edge of an affix be aligned to the right edge of a root and (ALIGN (AFX, R; RT, L)). This is analyzed in Table (5) which presents the English word records / rekɔ:ds/. This input presupposes the following constraints and their ranking: (ALIGN (AFX, L; RT, R)) >> (ALIGN (AFX, R; RT, L)).

Table 5: English output of the input {record}{-s}

INPUT: records	(ALIGN (AFX, L; RT, R))	(ALIGN (AFX, R; RT, L))
a. ☞record-s		*
b. s-record	*!	

In Table (5), candidate (a) is the output in this tableau because the plural marker affix (which is a suffix in English) is correctly aligned. The singular forms of the English nouns do not require an affix and therefore no affix location constraint is required. The relevant constraint in this case is MAX IO (meaning) which demands that there should be no change of meaning in the output, input meaning should be maintained. This is illustrated by the singular form 'record' as analyzed in Table (6). The input presupposes the following constraints and their ranking: MAX-1O (meaning) >> (ALIGN (AFX, L/R; RT, L/R)).

Table 6: English output of the input {record}

INPUT: /record/	MAX-1O (meaning)	(ALIGN (AFX, L/R, RT L/R))
a. record-s	*!	

b. s-record	*!	
c. ☞rekɔ:d		*

Candidates (a) and (b) in Table (6) lose in the tableau because they are affixed; affixation and prefixation respectively. These affixations are banned in singular forms of English which ranks them highly in the language and which demands that a singular form should not be affixed with any morpheme in English. (ALIGN (AFX, L/R; RT, L/R)) is satisfied in (a) and (b) because the candidates are affixed as required by the constraint: (a) aligns the left edge of an affix to the right edge of a root - a suffix); while (b) aligns the right edge of an affix to the right edge of a root- a prefix). However, this satisfaction is inconsequential because the constraint is relatively low ranked in the language regarding singular forms in the grammar of English.

Data indicate that all the English nouns borrowed by EkeGusii have to be nativized; that is, they have to enter into a given a noun class. These classes, as has been observed in this subsection, are marked by prefixation. The English noun loans into EkeGusii are therefore prefixed in order to be admitted into the various EkeGusii noun classes. The constraint which demands this prefixation as has been observed is (ALIGN (AFX, R; RT, L)) that is; align the right edge of an affix to the left edge of a root. To illustrate, EkeGusii loan word 'erekoti' 'record' is analyzed in Table (7). This word is nativized into class 9 and in third person singular which presupposes the following constraints and their ranking: (ALIGN (AFX, R; RT, L)) >> DEP IO (MORPH).

Table 7: EkeGusii output of the singular input {e}-{rekoti}

INPUT: e-rekoti	(ALIGN (AFX, L/R; ROOT L/R))	DEP IO (MORPH).
a. ☞e-rekoti		*
b. record	*!	
c.record-s	*!	

In this Table, candidate (a) is optimal because it does not violate the alignment constraint which is highly ranked in EkeGusii. Violating it is fatal because the given word will not be prefixed for class and therefore will not be classified. The loaned word in Table (7) above has been effectively prefixed and nativized into class 9 marked by the prefix {e-} or {ɛ-}. The right edge of the prefix {ɛ-} is correctly aligned to the left edge of the root {-rekoti} as demanded by the constraint. The constraint DEP IO (MORPH) is of no consequence here, though it is of great significance in determining English outputs, where it is relatively high ranked. EkeGusii plural form of the word 'chirekoti', behaves in a similar manner in terms of affixation only that changing it to plural changes its nominal class and number as illustrated by Table (8). In this case, the noun is in class 10 and in the plural form. The constraints pre-supposed are the same as those used in the analysis of the singular form in Table (7): (ALIGN (AFX, R; RT, L)) >> DEP IO (MORPH).

Table 8: EkeGusii output of the input {chi}-{rekoti}

INPUT: chi-rekoti	(ALIGN (AFX, L/R, RT L/R))	DEP IO (MORPH).
a. ☞ chi-rekoti		*
b. record	*!	
c.record-chi	*!	

Table (8) shows that candidate (a) is optimal since it violates the less serious constraint in the tableau, DEP IO (MORPH). The rest of the candidates violate the serious constraint and therefore are fatal violations.

Most of the borrowed nouns into EkeGusii from English, it is observed, seem to favour certain classes over others. In fact majority of the borrowed nouns enter classes: 9 {e-} , 10 {chi-}, as in 9 (a) e-nnda 'stomach' 10 (a) chi-nda 'stomachs; a few enter classes 1 {omo-}, 2 {aβa-} and 6 {ama-} ; very rare cases in some other classes such as 14 {oβo-} as in {obo-}{ranketi} 'blanket' The rest of the classes do not seem to be favoured at all. This is because most of the borrowed words name newly invented things, objects and names of places (institutions), and that these words belong to the mentioned classes (Kayigema 2010: 67-125).

4 Conclusion

A number of conclusions can be drawn from this study. Key of which being that the morphological systems of EkeGusii and English are significantly different. Noun classification systems and affixation processes between the languages differ quite significantly. Firstly, the semantics of the roots of EkeGusii nouns borrowed from English determine the nominal class into which the borrowed nouns enter, the bi-morphemic structure of EkeGusii prefix characterize the EkeGusii nouns borrowed from English; and affixations in the borrowed nouns obey that of EkeGusii in which plurality and singularity are prefixed and class paired. Secondly, the phenomenon of loan word nativization in EkeGusii can be accounted for within the Optimality Theory, a constraint-based approach. Through this theory, an explanation as to why the morphology of EkeGusii borrowed nouns from English change is possible. Alignment constraints such as (ALIGN (AFX, R; RT, L)), which outrank faithfulness constraints such as STRPRES, motivate morphological loanword nativization in EkeGusii. Thirdly, the morphological nativization of EkeGusii nouns borrowed from English is motivated by EkeGusii ranking of the universal constraints proposed in OT. Thus, the ranking of constraints in EkeGusii is responsible for the morphological outputs of EkeGusii borrowed nouns from English. This rules out any possibility that the loaning language influences the morphology of the target language besides the lexical item itself (Owino 2003: 17-26).

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Appendixes

Appendix I: EkeGusii prefixes and their semantic determinants stems

Prefix		Noun stem semantics (meaning) determinants
Singular	**Plural**	
1. omo-	2 aβa-	Personal, spiritual, animate beings, kinship terms i.e. God, angles, devils, the spirits of the ancestors and kinship terms (human referents)
1b Ø-	2aβa	kinship terms (human referents)
3 omo-	4 eme-	socio-culturally relevant objects, events or periods; trees, parts of the body (non-human referents)
5. eri-/rii-	6. ama-	various types of common nouns e.g. cultural or objects and location, tools, parts of the body, fruits
5. eri-	6. ama-	augmentative + or pejorative-
7. eke-	8. eβi-	inanimate, mostly cultural objects; some parts of the body; some animals, some shrubs or plants; language names
7. eke-	8. eβi-	diminutive +or - pejorative
7. ke-		no plural: adverbs, places names
9. e-	10. tʃi-	many names of animals; socially or culturally relevant entities (place, objects, events); some concepts
9a. e-n	10a. tʃi-n	same as 9-10
11. oro-	10a. tʃi-n	social cultural and some natural objects
12. aka-	8. eβi-	Diminutive
12. aka-	14. oβo-	diminutive, non- pejorative
14. oβo-	ama-	some body parts; culturally relevant entities (objects, places, events, activities); some crop names
14. oβo-		no plural: concepts
14. βo-		no plural: adverbs, place names

15. 0ko-	6. ama-	some body parts; abstract nouns mostly referring to activities or events conceived abstractically (usually without plural)
15. ko-		infinitive marker (together with word- final suffix –a, expressing activities or events
16. a-	[ase]	'place' only, no plural
21. ŋa-		no regular plural: proper names, of persons, individual heads of cattle, and places

Source: Cammenga (2002: 201)

Appendix II: Sample raw data

Loan word	morphological form	source word form
Burekibasiti	burek-i-basit-I	breakfast /brekfa:st/
ranchi	ranch-i	lunch /lʌndʒ/
saba	sab-a	supper /sʌpə/
ekaroti	e-karot-i	carrot /kərət
chikaroti	chi-karot-i	carrots /kərəts/
ekabichi	e-kabich-i	cabbage /kəbɪdʒ/
chikabichi	chi-kabich-i	cabbages /kəbɪdʒiz/
ekeki	e-kek-i	cake /keɪk/
chikeki	chi-kek-i	cakes /keɪks/
ekerimu	eke-rim-u	cream /kri:m/
ebirimu	ebi-rim-u	- -
esota	e-sot-a	soda /sɒdə/
chisota	chi-sot-a	- -
gurukosi	gurukos-i	glucose /glu:kəʊz/
eturunki	e-turunk-i	drink /drɪŋk/
ekoko	e-kok-o	cocoa /kɒkəʊ
ripaipai	ri-paip-ai	pawpaw /pəʊpəʊ
amapaipai	ama-paip-ai	-
esigara	e-sigar-a	cigeratte /sɪgəret/

Appendix III: Illustrations of morphologicalnativization

Source word form	nativized form	morphological process
Scout	**o-mo**-sikaoti	nominal classification (1)
scout-s	**a-ba**-sikaoti	nominal classification (2)
motor-car	**o-mo**-tokaa	nominal classification (3)
motor-car-s	**e-me**-tokaa	nominal classification (4)
torch (very big)	**ri**-toochi	nominal classification (5)
torch-es	**ama**-toochi	nominal classification (6)
school (very small)	**e-ke**-sukuru (small school(deminution))	nominal classification (7)
school-s	**e-bi**-sukuru (small schools (deminition))	nominal classification (8)
record	**ɛ**-rɛkɔti	nominal classification (9)
record-s	**chi**-rɛkɔti	nominal classification (10)
room (very small)	**aka**-ruumu (diminution)	nominal classification (12)
room-s (very small)	**obo**-ruumu	nominal classification (14)
ticket**e**-tiketi		prefixication
ticket-s	**chi**-tiketi	prefixication
governor	**o-**mo-gabana	pre-prefixication
governor-s	**a-**ba-gabana	pre-prefixication