THE ROLE OF MSC'S IN OSHIKWANYAMA LOAN PHONOLOGY*

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This paper takes its data from Oshikwanyama, a Bantu language spoken in Namibia and Angola; the paper is an investigation of the phonological incorporation processes at work in the loanwords of this language. When loanwords are taken into a language the degree to which they undergo such phonological modification varies. There appears to be a hierarchy of such modifications in Oshikwanyama, such that some always apply, others normally apply, and yet others apply rarely and in special circumstances. These modifications are often based on, though not necessarily identical to, the MSC's of the borrowing language. The modifications appear to work in terms of a hierarchy of application. The paper describes several loanword incorporation processes and delineates the modification hierarchy.

1. Introduction

This paper explores some aspects of loanword phonology as illustrated by data from Oshikwanyama, a Western Bantu language spoken in northern Namibia and southern Angola. The principal European source languages for borrowing in Oshikwanyama are English, Afrikaans, and German. The paper will investigate the relationship between the morpheme/word structure constraints of Oshikwanyama, on the one hand, and, on the other, the actual loan incorporation processes which have modified the shape of Oshikwanyama loanwords.

The degree to which a loanword is modified can vary considerably: some loanwords are hardly changed at all and may seem quite "foreign-sounding" to native speakers of the borrowing language. Other words may be so strongly modi-

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1Oshikwanyama is classified as R.21 in Guthrie's classification, 70/2/2 by Doke.
fied that, to the native speaker, their shape is indistinguishable from that of a native word. Often, the degree to which a loanword is modified seems to depend as much on social, cultural, and historical factors as on purely linguistic ones. Thus, a loanword with few changes may be used by an educated speaker to show that he or she has a knowledge of the source language; this is particularly true if the source language has prestige of some sort. For example, a native speaker of English who knows French (or even one who doesn't, but wants to sound as if he or she does) may give a word like *genre* the pronunciation \[\text{[\textipa{\text{\v{z}a\text{v\oe}}}]}\], while a less-educated or less pretentious speaker may use the pronunciation \[\text{[\textipa{\text{\v{z}an\oe}]}}\]. The degree to which a loanword is modified may also depend on the age of the loanword. If borrowing from a source language continues for a considerable period of time, the accumulated number of loanwords and continued borrowing may eventually influence the phonological system of the borrowing language to change, thus resulting in new and different borrowing strategies. For example, Latvian borrowed words from German for almost eight centuries; the two words for coffee, *kapija* and *kafija*, were both borrowed from (High) German *Kaffee*, but on two different occasions: *kapija* is the older borrowing, *kafija* is the more recent borrowing and also the standard form of the word. These two examples illustrate a change in the way in which borrowing takes place: originally Latvian had no *f* sound—thus, when the word was first borrowed, *f* was replaced by the phonetically closest obstruent, which was *p*. Later the weight of borrowings gradually introduced *f* into the inventory. By the time the word was borrowed again, *f* was a phoneme of modern Latvian.

My focus in this paper is on loanwords which have been modified, and on the source of these modification processes. Those loanwords which have not undergone any of the modification processes I will discuss are not counter-examples; they are merely loanwords which have not been completely incorporated into the native lexicon.²

²Loanwords which have not been completely incorporated into the native lexicon tend to be used by the better-educated OshiKwanyama speakers, in particular, by younger people who know French and/or English well. These kinds of loanwords (as opposed to the more completely adapted ones) tend also to be used in urban, rather than rural, settings.
2. **Sound Substitution**

Since borrowing and source languages most often do not have the same inventory of sounds, one obvious way in which loanwords are modified is by sound substitutions. That is, for any source language sound which the borrowing language lacks, the phonetically closest sound is substituted. The consonant inventory of OshiKwanyama is shown in (1)—only $g$ is not contrastive.

\[(1) \quad p \quad t \quad k \quad b \quad d \quad g \quad \chi \quad \j \quad f \quad \xi \quad x \quad h \quad v \quad m \quad n \quad \eta \quad \nu \quad \gamma \quad \omega \quad \]

Since OshiKwanyama has no $r$ sound, $l$ is normally substituted, as shown in (2).

\[(2) \quad \text{source language} \quad \text{source word} \quad \text{loanword in OshiKwanyama} \]

<table>
<thead>
<tr>
<th>Source Language</th>
<th>Source Word</th>
<th>Loanword in OshiKwanyama</th>
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<tbody>
<tr>
<td>German</td>
<td>[radiyo]</td>
<td>[oladiyo] 'radio'</td>
</tr>
<tr>
<td>English</td>
<td>[tayə]</td>
<td>[etayela] 'tire'</td>
</tr>
<tr>
<td>Afrikaans</td>
<td>[frax]</td>
<td>[ofulaxa] 'burden, loan'</td>
</tr>
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</table>

There are some loanwords in which $r$ has not been replaced, but they are a tiny minority and are precisely the kinds of examples I had in mind when I referred to words which seemed "foreign-sounding" to the native speaker—words which are not fully incorporated into the native system.

OshiKwanyama also has no $s$ sound; both $[f]$ and $[\xi]$ are phonetically close to $s$, and either sound can be substituted for $s$, although $[\xi]$, being

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3. The dialect shown is that of Mr. Joseph A. Taukondyo, who comes from the extreme northern part of Namibia. My sincere thanks to him for the many hours he worked with me.

4. The loanword data derive in part from the speech of Mr. Taukondyo and partially from written sources, in particular Tobias and Turvey [1965] and Tönjes [1910].
another sibilant, seems to be preferred. Some examples are shown in (3). The last example has two pronunciations, the two forms coming from two different dialects, one apparently preferring [§], the other [f].

(3) Eng [säk] [ošako] 'sack'
    Eng [vɔs] [oveliša] 'verse'
    Eng [soj] [ofoloto] 'sort'
    Eng [skuwI] [ošikola] 'school'

3. Interaction with MSC's

Some of the most intriguing modifications in loanwords are in response to constraints (in the borrowing language) on the occurrence of particular patterns of sounds, that is, to the word and morpheme structure constraints of the borrowing language.

One of the major constraints on sounds in Oshikwanyama is the constraint against closed syllables, i.e. no syllable may end in a consonant. It follows from this that all Oshikwanyama words must end in a vowel. This last appears to be the very strongest constraint in the language: I have found not one single loanword which ends in a consonant. Even loanwords which lack most other signs of incorporation have acquired a final vowel. The examples in (4) are very "foreign-sounding", yet all of them have final vowels.

(4) Eng [ays kriym] [oayskrima] 'ice cream'
    Eng [blI] [obira] 'beer'
    Eng [blaækboI] [blaækbolda] 'blackboard'
    Eng [særef] [šelafi] 'seraph'

The example words meaning 'ice cream' and 'beer' are foreign-sounding in large measure because the r was not replaced by l. 'Blackboard' and 'ice cream' contain word-internal consonant clusters, and 'seraph' and 'blackboard' lack noun class prefixes.

Oshikwanyama has nine noun classes. The canonical form of the nominal marker is an augment or pre-prefix (which is a vowel) followed by a class prefix, although this shape is not always visible as such on the surface. The noun class system (slightly simplified) is shown below. The class numbers at the left, which are the numbers I shall be referring to in what follows, are the
ones assigned by Tönjes [1910] in his grammar; the equivalent Bantu class numbers are shown on the right:

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<tr>
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<tbody>
<tr>
<td>1</td>
<td>omu-/ova-</td>
<td>1/2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>omu-/omi-</td>
<td>3/4</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>e-/oma-</td>
<td>5/6</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>o(N)-/e:(N)-</td>
<td>9/10</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>oši-/oi-</td>
<td>7/14</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>olu-/omalu- (or e:(N)-)</td>
<td>11/6 and 11, (or 10)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>oku-/oma-</td>
<td>15/6</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>ou-/omau-</td>
<td>14/6 and 14</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>oka-/ou-</td>
<td>12/14</td>
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</tbody>
</table>

Examples of native words from the five classes with the largest membership are shown in (5):

(5)  

<p>| | | | |</p>
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<tbody>
<tr>
<td>Cl. 4 o(N)-/e:(N)-</td>
<td>[oši]</td>
<td>[e:ši]</td>
<td>'fish'</td>
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<tr>
<td></td>
<td>[ošo]</td>
<td>[e:šo]</td>
<td>'star'</td>
</tr>
<tr>
<td></td>
<td>[ošola]</td>
<td>[e:šola]</td>
<td>'bird'</td>
</tr>
<tr>
<td>Cl. 3 e-/oma-</td>
<td>[edina]</td>
<td>[omadina]</td>
<td>'name'</td>
</tr>
<tr>
<td></td>
<td>[ekombo]</td>
<td>[omakombo]</td>
<td>'large goat'</td>
</tr>
<tr>
<td>Cl. 5 oši-/oi-</td>
<td>[ošikombo]</td>
<td>[ošikombo]</td>
<td>'goat'</td>
</tr>
<tr>
<td></td>
<td>[ošikpute]</td>
<td>[ošikpute]</td>
<td>'wound'</td>
</tr>
<tr>
<td></td>
<td>[ošikwanama]</td>
<td></td>
<td>'Kwanyama language'</td>
</tr>
<tr>
<td>Cl. 1 omu-/ova-</td>
<td>[omukongo]</td>
<td>[omukongo]</td>
<td>'hunter'</td>
</tr>
<tr>
<td></td>
<td>[omulongi]</td>
<td>[omulongi]</td>
<td>'worker'</td>
</tr>
<tr>
<td>Cl. 9 oka-/ou-</td>
<td>[okakombo]</td>
<td>[oukombo]</td>
<td>'small goat'</td>
</tr>
<tr>
<td></td>
<td>[okambwa]</td>
<td>[oumbwa]</td>
<td>'puppy'</td>
</tr>
</tbody>
</table>

Loanword assignment to noun classes corresponds closely to the size of the noun class. That is, class 4 has the largest number of native nouns and is also the class to which most loanwords are assigned. Classes 3 and 5 are next

5Claims about the relative number of nouns in each class are the result of a count of several hundred nouns. I used the Tobias and Turvey [1965] dictionary.
largest and many loanwords are also assigned to these classes, and so forth. In some cases semantics may also play a role. Class 1 nouns are always human. Thus, it is not surprising that loanwords referring to human beings are almost always assigned to class 1, as shown in (6):

(6) Eng [pəliys] [omupolifi] 'police constable'⁶
Eng [bišap] [omumbišopa] 'bishop'
Eng [ɪŋgliš] [ovaengelisa] 'English people'
Germ [bas] [omubafa] 'bass (singer)'

Loanwords belonging to the five classes with largest membership are shown in (7).

(7) Eng [læmp] [olampa] 'lamp' Cl. 4
Eng [pɛn] [opena] 'pen'
Eng [fo:k] [efoloka] 'fork' Cl. 3
Germ [hawfə] [ehawfu] 'dune'
Afr [tə:fa:l] [ošitafula] 'table' Cl. 5
Eng [gowid] [ošingolodo] 'gold'
Eng [pəliys] [omupolifi] 'policeman' Cl. 1
Eng [bišap] [omumbišopa] 'bishop'
Eng [powniy] [okaponi] 'pony' Cl. 9
Eng [spʊ] [okašipolo] 'spur'

Although noun class prefixes are the morphological marker of a noun, the presence of this morphological marker in loanwords seems to be somewhat less important than the phonological constraint against consonant-final words, since the former may be ignored but the latter never is.

An interesting interaction occurs between the phonological constraint against certain kinds of consonant clusters and the sound substitution processes. Native OshiKwanyama words have a constraint against all clusters except

⁶Note that this word shows evidence of spelling pronunciation, as 0 is never pronounced in the source word. It seems likely that a number of words, such as the words for 'bishop' and 'Christmas', for example, have been created using the written form of the word. I suspect that many of these were missionary creations.
consonant plus glide and nasal plus voiced stop. This last is a deep structure constraint, since it can be violated at the surface: as a result of certain fast speech rules, nasal clusters may be broadened to include nasal plus any consonant. I will discuss nasal clusters in more detail later in the paper. First I will examine the treatment of source language clusters which contain liquids and clusters made up of obstruents. Neither type of cluster is allowed in OshiKwanyama either by deep or surface constraints.

4. Cluster Simplification

When clusters containing liquids or obstruents occur in OshiKwanyama borrowings, they are almost always eliminated. A few of the small number of examples which have not eliminated such clusters are shown in (8):

(8) Eng [blækboJd] [blækbolda] 'blackboard'
    Eng [ays kjiym] [oayskrima] 'ice cream'

The most common method of cluster simplification is to insert a vowel,7 as in the first five examples in (9). Occasionally one of the two consonants is deleted, particularly if the cluster was word final in the source language, as in the last three examples in (9).

(9) Eng [faJrn] [ofalama] 'farm'
    Germ [karto] [okalita] 'map'
    Eng [kjismes] [okilišitiša] 'Christmas'
    Germ [brot] [ombolota] 'bread'
    Afr [spelit] [ošipeša] 'pin'
    Eng [powst] [opoša] 'post, mail'
    Afr [kombers] [ošikumbafa] 'blanket'

The examples I have provided show that sounds may or may not be substituted and that clusters may or may not be simplified (but, of course, whether or not

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7Most commonly a copy of the vowel of an adjacent syllable is inserted; see 'farm' and 'bread' in (9). However, between sC clusters the vowel inserted is always i, giving [šiC]. Byarushengo [1976:82] notes a similar use of the vowel in breaking up clusters in Haya loanwords. He suggests that i is used because it is the "closest" vowel in the language. However, in the Oshi-Kwanyama examples I suspect that a better explanation would be that this is the most "palatal" vowel and, therefore, most appropriate after [§].
substitution and simplification take place is merely an indication of the degree to which the loanword has been incorporated into the native lexicon. However, note that while unsimplified clusters of consonant plus \( r \) and consonant plus \( l \) may occur (as in (8)), simplified clusters, like those in (9), always contain the substituted \( l \) sound. Thus, while substitution of a native sound for a foreign sound does not necessarily imply cluster simplification, cluster simplification does imply sound substitution; consequently, forms such as those in (10) never occur.

(10) *[oaysikirima] *[osikola]

The implication of this is that there must be a hierarchy of loanword incorporation processes, and sound substitution is previous to—or primary with respect to—the processes which reflect constraints against consonant clusters.

5. Nasal Clusters

Finally, I will discuss the processes which modify nasal clusters. Some treatments of borrowing (see Hyman [1970], for example) have suggested that borrowing languages treat source language words as underlying forms and, therefore, that it is the synchronic phonological rules of the borrowing language which modify loanwords. We shall see that this approach is insufficient to handle the examples about to be discussed.

First, look at the distribution of stop consonants in OshiKwanyama, as shown in (11).

(11) \( \begin{array}{ccc}
\text{intervocically} & \text{word initially} & \text{after a nasal} \\
p & \text{yes} & \text{yes} & \text{no} \\
t & \text{yes} & \text{yes} & \text{no} \\
k & \text{yes} & \text{yes} & \text{no} \\
b & \text{yes} & \text{no} & \text{yes} \\
d & \text{yes} & \text{yes} & \text{yes} \\
g & \text{no} & \text{no} & \text{yes} \\
\end{array} \)

In the native system of the language, the voiceless stops are all underlyingly distinct, since they all contrast in intervocalic position and in initial position. The voiced alveolar stop \( d \) is also contrastive in these environments;
however, on occasion it will alternate with \( \mid \). The bilabial \( b \) also is contrastive intervocalically, but it is never word-initial and sometimes alternates with \( v \). Finally, the voiced velar stop \( g \) is most restricted in its occurrence: it is found only after \( [\eta] \). None of the voiceless stops occur after nasals—only voiced stops may occur in this environment. When nasals and stops come together as a result of morpheme conjunction, the results are illustrated in (12): nasal plus \( p \) gives \( m \), nasal plus \( t \) gives \( n \), and nasal plus \( k \) gives \( [\eta] \).

(12) native root | non-nasal precedes | nasal precedes
---|---|---
-pat- | [olupati] 'rib' | [e:mati] 'ribs'
pot- | [okupota] 'to be rude' | [omote] 'good-for-nothing'
tan- | [okatana] 'little calf' | [onana] 'calf'
tungwa- | [okatumwa] 'little basket' | [onungenwa] 'basket'
kak- | [olukakwa] 'shoe' | [e:naku] 'shoes'
wat- | [okukwata] 'to take, seize' | [onwate] 'prisoner of war'
ving- | [oluvinga] 'horn' | [e:mbinga] 'horns'
vel- | [okuvela] 'to arrive' | [embedi] 'arrival'
ly- | [okulya] 'to eat' | [e:ndya] 'food'
lim- | [omulumenu] 'human male' | [onduene] 'male' of Cl. 4 nouns

The sequence \( mb \) arises from nasal plus \( v \), and \( nd \) comes from nasal plus \( l \). The sequence \( ng \) arose historically from nasal plus \( k \) although no synchronic alternations now remain.

What, then, occurs in loanwords? If the source language word has an initial voiced stop, normally the loanword is modified in one of two ways (as illustrated in (13)): either a homorganic nasal is inserted before the voiced stop, as in 'bet' and 'gold', or else the word is assigned the nasal-final form of the class 4 prefix. In the latter case the loanwords will, accordingly, have initial syllables which resemble native words of this class, such as \([\text{ombele}] 'knife', [\text{ondudu}] 'hill', or [\text{ongodi}] 'rope'.

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8The underlying form of the prefix, in each of these cases, ends in a nasal, thus, \(/e:N + pati/ 'ribs', /oN + pote/ 'good-for-nothing', /oN + tana/ 'calf', etc.
Source language words which contain clusters of nasal plus voiceless stop are normally modified as well:

(14) Eng [stæmp] [sitamba] 'stamp' (verb)  
Afr [pomp] [opomba] 'pump'  
Eng [pʃiŋt] [pelɛnda] 'print' (verb)  
Germ [ʃtʃnte] [otində] 'ink'  
Afr [ʃtʃnk] [ɔndolɔnɡo] 'prison'  
Eng [iŋk] [oŋɡa] 'ink'

Note what happens to the (underlined) voiceless stops: they are voiced after nasals. But note, this modification cannot be the result of applying a synchronic phonological rule. Oshikwanyama has no rule that voices stops after nasals. Instead the Oshikwanyama rule would delete the voiceless stops, as in (12). If it were the synchronic phonological rule operating here, one would find forms like *[ʃitama] or *[oŋɡa], instead of [ʃitamba] and [oŋɡa]. Thus, treating the source language words as underlying forms predicts an incorrect result; the actual modification which occurs is the result of an independent loanword incorporation process, which is not the same as any synchronic phonological rule. This loanword incorporation process is derived from the prohibition against nasal plus voiceless stop clusters, but since it is a particular positive response to this negative prohibition, the incorporation process must be considered a different and separate entity from the constraint. The prohibition against nasal plus voiceless stop could be expressed in a number of different ways, for example, vowel insertion between the nasal and the stop; however, the particular method that Oshikwanyama has chosen (voicing of the stop) is a language-specific loanword incorporation process. Therefore, it is evident that loanword incorporation processes need not be identical either to phonological rules or to morpheme structure constraints.
Note also that, on the surface, nasal plus voiceless stop clusters are, in fact, allowed in OshiKwanyama. Native words have them as a result of certain fast speech rules. Thus, 'tree' may be pronounced \[\text{omut}\text{i}\], \[\text{om}\text{t}\text{i}\], \[\text{omt}\text{i}\], or even \[\text{ont}\text{i}\] in increasingly more casual and faster speech. However, the loanwords are modified in spite of this. It seems clear that in this case the loanword incorporation process is derived not from surface structure, as suggested by Shibatani [1973], but as a result of the deep structure constraints. Additional support for this analysis is provided by an article by Kaye and Nykiet [1979], which points out similar effects of deep phonotactic constraints on English-source loanwords in Odawa.

Lastly, consider the data in (15).

(15) Afr \[\text{papir}\] \[\text{ombapila}\] 'paper, letter'  
Eng \[\text{puk}\] \[\text{ombiki}\] 'pick-axe'  
Afr \[\text{kork}\] \[\text{ongeleka}\] 'church'  
Germ \[\text{kamel}\] \[\text{ongamelo}\] 'camel'  
Afr \[\text{trnk}\] \[\text{ondolongo}\] 'prison'

Although OshiKwanyama allows voiceless stops in native words to occur both in stem-initial and word-initial position, nevertheless a small number of loanwords with initial \p\, \t\, or \k\ undergo the modification illustrated above; the word in each case is assigned the \oN\-form (rather than the \o\-form) of the class 4 prefix, even though initial \op\, \ot\, or \ok\ are perfectly allowable sequences. However, there are no sequences of these sounds in this particular class of nouns. Thus, it is possible to find words like the adverb \[\text{opo}\] 'here', the pronoun \[\text{otwa}\] 'we', or the noun \[\text{okakadona}\] 'girl' (class 9), but no such sequences occur in the native nouns of class 4 because of the rule illustrated in (12), which gives \m\ from nasal plus \p\, \n\ from nasal plus \t\, and \[\eta\] from nasal plus \k\. However, these initial voiceless stops could have been retained without inserting a preceding nasal if the words had been assigned to class 3 or class 5, both of which allow stem-initial voiceless stops (see, for example, 'table' in (7)). Furthermore, class 4 has no single, coherent semantic characterization; thus, the loanwords certainly did not have to be assigned to class 4 because of their meaning.

It would appear that these words were merely assigned to class 4 because this
is the class that most loanwords are assigned to; however, once in class 4, a class-specific constraint against stem-initial voiceless stops gave rise to the use of the \( \text{oN-} \) form of the prefix. Note that this constraint must be of very low priority because, in fact, the majority of loanwords in this class with stem-initial voiceless stops were not assigned a nasal form of the prefix (see 'pen' in (7)). However, once the \( \text{oN-} \) prefix form was assigned, the incorporation process illustrated in (14) then came into effect and voiced all of these post-nasal voiceless stops.

6. Conclusion

Four conclusions obtain from these OshiKwanyama data. First, the evidence shown in section 4 leads to the conclusion that there is a hierarchy of loanword incorporation processes in OshiKwanyama: the constraint against consonant-final words gives rise to the most important loanword incorporation process—the one which adds final vowels to all loanwords. Next the process which substitutes sounds applies, and lastly, the processes which derive from constraints against clusters, such as vowel insertion and consonant deletion, will apply.

Second, as exemplified in (14), loanword incorporation processes in Oshi-Kwanyama are not necessarily the same as the synchronic phonological rules of the language nor are they identical to the morpheme or word structure constraints; however, the incorporation processes may certainly be (indirectly) derived from these constraints. Note that these conclusions are further supported by my work on borrowing in TshiLuba and Latvian (see Steinbergs [1981, 1982]).

Third, there are incorporation processes in OshiKwanyama which derive not from the surface structure (as Shibatani [1973] suggests), but rather from the deep structure constraints. This conclusion is further supported by the work of Kaye and Nykiel [1979].

Finally, as exemplified in (15), OshiKwanyama has a loanword incorporation process that derives from a constraint which does not even hold across the phonology of the language, but which is specific only to a particular class of nouns.
REFERENCES


