Loanwords, Phonological Treatment of

The term *loanword* refers to a word that enters a language through borrowing from some other language. Loanwords can be distinguished from native words in that native words derive from earlier historical stages of the language. Loanwords are of interest to phonologists for at least two reasons. First, the way in which the loanword is pronounced in the borrowing (or recipient) language is often quite different from its pronunciation in the original (or source) language. This is often because the word in the original language may contain sounds that do not occur in the recipient language. The way the loanword is actually pronounced in the recipient language may provide insights into the phonology of that language which would not otherwise be apparent from native words. Second, in many languages loanwords have particular phonological characteristics that make them distinct from the native vocabulary. For example, the Latin vocabulary in English, the Chinese vocabulary in Japanese, the Arabic vocabulary in Turkish, and the Sanskrit vocabulary in Dravidian each either undergoes special phonological rules that the native vocabulary does not participate in, or the foreign vocabulary fails to undergo regular phonological processes that affect the native vocabulary. Such phenomena provide insight into the phonology of the recipient language that would not have been otherwise apparent.

This article first focusses on how a recipient language adapts sounds from loanwords that are not present in its phonemic inventory. The second section of this article discusses issues related to the application of phonotactic constraints and phonological rules to loanwords.

1. Adaptation of Foreign Phonemes from Loanwords

Because both the type and number of phonemes in a phonemic inventory differ from language to language, borrowing requires
that a language have some strategy for dealing with foreign sounds that are not present in its phonemic inventory. In such a situation the recipient language normally pursues one of two strategies. Either the recipient language replaces the foreign phoneme with one of its own that is phonetically similar, or the recipient language retains the phoneme from the source language thus acquiring a new phonemic distinction through borrowing. With the first strategy the loanword is usually completely nativized so that the speaker may be unaware of the origin of the word. With the second strategy, the loanword may retain a nonnative flavor because of the presence of the borrowed phoneme. Both possibilities are well-attested, although it is not always apparent which of these two strategies is most likely to be chosen in a given situation.

As an example of the first strategy, consider how certain English vowels are realized in loanwords that are borrowed into Japanese. Japanese has five vowel qualities, /a/, /e/, /i/, /o/, and /u/ with no distinction between tense and lax vowels. English loanwords with lax vowels inevitably get borrowed into Japanese with their tense counterparts. For example, the English word *bid* ([bɪd]) is realized in Japanese as [biddo] with a tense vowel. The Japanese vowel /i/ is closest to the English vowel /ɪ/ both in terms of features and in terms of its acoustic properties. Similarly, English loanwords with the high back rounded vowel /u/ are inevitably realized in Japanese with the high back unrounded vowel /u/. For example, *rhubarb* [rubarb] is borrowed as [rubɑːb̚]. Finally, English loanwords that have the vowel /æ/ are realized in Japanese normally with the phoneme /a/ but sometimes with the phoneme /e/. Thus the English words *bat* [bæt], *bag* [bæɡ], and *hat* [hæt] are realized in Japanese as [batto], [baggu], and [hatto], respectively. However, English words with /æ/ preceded by a velar consonant can sometimes appear with the vowel /e/ when borrowed into Japanese. For example, *cabin* [kæbɪn] can either be realized as [kyabin] or [kebin]. This may be due to the fact that English /æ/ after velars often is diphthongal being pronounced with a high front on-glide.

While the Japanese case presents a nice example of how foreign phonemes in borrowings are replaced with their closest native equivalent, it is not always obvious how the closest native
equivalent is determined. The classic example frequently cited in
the literature (eg, Hyman 1970) that shows how the same foreign
sound is borrowed differently in different languages pertains to
the realization of the English th of thin (a voiceless interdental
fricative /†/) in French and Serbo-Croatian. In French, English
loanwords containing /†/ are borrowed with /s/ while in Serbo-
Croatian such English loanwords are borrowed with /t/. Both
French and Serbo-Croatian have /s/ and /t/ as phonemes. In
terms of phonetic features /†/ and /s/ differ only by the feature
[strict] while /†/ and /t/ differ only by the feature
[continuant]. Consequently, it is not clear why French opts to
replace /†/ with /s/ while Serbo-Croatian replaces it with /t/.
Perhaps there are acoustic differences between /t/ and /s/ in
French and Serbo-Croatian that make French /s/ and Serbo-
Croatian /t/ most similar to English /†/.

Another problem that sometimes arises in borrowing is that,
even though the recipient and source languages may share a
certain sound, words that are borrowed with that sound may be
realized as some other sound. An interesting case of this involves
the realization of English aspirated stops in loanwords into Hindi
(discussed by Hock 1988). English loanwords with aspirated
stops [pʰ], [tʰ], and [kʰ] surface with the corresponding
unaspirated stops [p], [t], and [k] in Hindi despite the fact that
Hindi has aspirated stops as phonemes. Moreover, a loanword
with a nonsibilant fricative (a type of sound not found in Hindi) is
realized in Hindi as an aspirated stop. Thus, loanwords with the
foreign sounds [f], [†], and [x] have realizations in Hindi with
[pʰ], [%ʊtʰ], and [kʰ], respectively. For example, the English
loanword proof is realized in Hindi as [pruupʰ]. One possible
explanation for this is that since the phonemic aspiration of Hindi
has much more noticeable turbulence than the allophonic
aspiration of English, the English aspirated stops are not perceived
as being equivalent to the corresponding Hindi aspirates so they
are interpreted as being unaspirated. On the other hand, the
turbulent friction noise of Hindi aspirates may have the acoustic
impression of foreign frication, and thus foreign (nonsibilant)
fricatives are borrowed as aspirated stops in Hindi. What the
Hindi example shows is that just because two languages seem to
share the same sound, it does not mean that the recipient
language necessarily borrows that sound without any changes. Minor acoustic differences between how a sound is realized in two different languages may become important in determining how that sound is borrowed into the recipient language.

Another strategy that sometimes occurs in adapting loanwords that have sounds which are not found in the recipient language is that the recipient language borrows the foreign sound as a new phoneme rather than replacing it with one of its own. One example relates to the introduction of the phoneme /Û/ in English (the final consonant of beige, rouge). This sound, which was not part of the Old English phonemic inventory, entered English through the influence of French borrowings which appeared on a massive scale in English in the period after the Norman conquest.

A somewhat related example on how the influence of loanwords can lead to the introduction of a new phonemic contrast in the recipient language involves the sounds [f] and [v] in English, as discussed by Bynon (1979). In Old English [f] and [v] were separate allophones of the same phoneme. They were essentially in complimentary distribution with [f] occurring in initial and final positions and [v] occurring between voiced sounds. However, with the influence of French loanwords on the English language after the Norman conquest, new words with initial [v] (such as vine and village) entered the language and the difference between [f] and [v] ceased to be allophonic.

Given the two strategies discussed for dealing with the adaptation of loanwords that have phonemes not found in the recipient language, is there any way to determine when a language will borrow the phoneme from the source language and when it will replace the source phoneme with an existing phoneme? The answer to this question is probably negative since there may be nonphonological factors involved. For example, one can speculate that in a society where balanced bilingualism is the norm, words would be borrowed from one of the languages into the other with their original phonemes intact. Even if one considers purely phonological criteria it is not obvious why in one case a language might borrow a phoneme from the source language while in a similar case the recipient language might replace the foreign phoneme. For example, one might speculate
that if the foreign phoneme fills a gap in the phonemic inventory of the recipient language then that phoneme will be borrowed. Under this view, English borrows the phoneme [\(\text{Û}\)] because it fills a gap in the English fricative inventory. English has the voiceless-voiced fricative pairs /\(\text{t}^-\)/- /\(\text{d}^-\)/ and /\(s^-\)/- /\(z^-\)/. However, there is a gap with /\(\text{c}s^-\)/ since it is not paired off with a voiced counterpart. Consequently, [\(\text{Û}\)] is more readily borrowed as a new phoneme since it fills in this gap in the phonemic inventory. On the other hand, one can find parallel cases where a sound that would fill in a gap in the phonemic inventory does not get borrowed. Consider for example how source words with /\(p^-\)/ are borrowed into Egyptian Arabic, a language that has a voiced-voiceless contrast with velar stops (/\(g^-\)/ and /\(k^-\)/) and with alveolar stops (/\(d^-\)/ and /\(t^-\)/) but not with bilabial stops (only /\(b^-\)/). Borrowed words with [\(p\)] such as pendulum and Pope are realized with [\(b\)], rather than [\(p\)] in Egyptian Arabic despite the fact that borrowing the sound as /\(p^-\)/ would lead to a more symmetrical phonemic inventory and despite the fact that [\(p\)] actually occurs as an allophone of /\(b^-\)/ in word-final position after a voiceless consonant (as in [\(\text{ʔuT}^\text{p}\)] 'pole').

2. Phonotactics, Phonological Rules, and Loanwords
Most languages differ from one another in terms of their phonotactic patterning. Because of this difference, when a recipient language borrows words from a source language the loanwords may contain sequences of sounds that are not otherwise attested in the recipient language. In such a situation the loanword is either modified so as to fit the phonotactic patterning of the recipient language, or it is not modified and so remains distinct from the native vocabulary. The former possibility often occurs when the recipient language has a much more limited range of consonant clusters in comparison to the source language. In this type of case the recipient language frequently breaks up impermissible consonant clusters through vowel insertion. For example, Japanese allows neither syllable-initial nor syllable-final consonant clusters. Japanese has borrowed many English words containing such clusters. When these words are borrowed into Japanese various vowels are
inserted so as to make the loanwords permissible given the phonotactic constraints of Japanese. For example, the English words *craft*, *drive*, and *stroke* are realized in Japanese as *[kˌrafiˌto]*, *[doraibu]*, and *[sˌtoroku]*, respectively, without any consonant clusters. (The type of vowel that is inserted depends on the preceding consonant. See Lovins (1975) for a detailed discussion on this matter.)

There are cases in which a recipient language borrows words containing consonant clusters that it systematically lacks and yet fails to modify them in any way. A good example of this involves Yiddish words beginning with *[çsm]* and *[çsl]* that are borrowed into English. These clusters do not appear word-initially in native English words. However, when Yiddish words with these word-initial clusters are borrowed into English no modification occurs. Examples of relevant words include *shmuck*, *shmo*, *shlep*, and *shlemiel*. Probably the reason that these clusters do not get modified has to do with the similarity in sonority between the English phonemes /s/ and /çs/. Consonant phonemes with similar sonority (like /s/ and /çs/) often pattern alike in terms of their phonotactics. Since Modern English allows word-initial /sl/ and /sm/ clusters then it is probably accidental (due to historical reasons) that initial *[çsm]* and *[çsl]* clusters are lacking. The clusters from these Yiddish loanwords just fill in an accidental gap within the Modern English consonant phonotactic system; they do not really violate the phonotactic patterning of English.

Similarly, there are no native English words with word-initial çs-plus-stop clusters, although many native English words begin with s-plus-stop clusters. However, Yiddish loanwords like *shtick* and *shpiel* are borrowed into English without modification of these otherwise unattested word-initial clusters. Consequently, the loanword evidence strongly suggests that /çs/ in Modern English has the same phonotactic patterning as /s/. There is really no phonotactic constraint preventing them from occurring at the beginning of a word-initial cluster. Their absence in the native English vocabulary can be deemed accidental.

Normally when a loanword contains the environment for a phonological rule of the recipient language, that phonological rule would apply to the loanword. For example, English has a rule that aspirates word-initial voiceless stops. When words containing
initial unaspirated voiceless stops are borrowed into English those stops are always realized as aspirated. There are, however, some interesting cases where a seemingly regular phonological rule fails to apply to a loanword even though the loanword contains the environment for the rule's application. For example, Fries and Pike (1948) note that in Mazateco, a Native American language of Mexico, sequences of /nt/ are always realized as [nd]. Since [t] and [d] are allophones with [d] only occurring after nasal consonants, this suggests that there is a rule that converts /t/ to [d] when after a nasal consonant. Fries and Pike observe that in Spanish loanwords the rule fails to apply. For example, Spanish *siento* 'one hundred' is pronounced in Mazateco with [t] after [n]. That is, the /t/ exceptionally fails to change to [d]. Based on this example, Fries and Pike suggest that Mazateco speakers have coexistent phonemic systems: one for native words and one for loanwords. In the phonemic system of native words [t] and [d] would not be separate phonemes since they never contrast, but in the phonemic system of loanwords they can be considered separate phonemes since they both would be able to occur after /n/.

The phenomena of loanwords being exceptional to native phonological rules is not uncommon, but it need not lead to the positing of coexistent phonemic systems. Consider for example vowel harmony in Finnish. Normally, in Finnish, vowels within a word are either all front or all back. (We are ignoring the "neutral vowels" /i/ and /e/ which can occur with either front or back vowels.) However, borrowed words often fail to display vowel harmony. For example, French *jongleur* [œ̃glœʁ] 'juggler' is borrowed into Finnish as the disharmonic [jonglööri]. Do such examples necessitate a conclusion that Finnish speakers have two phonemic systems, one for native words with vowel harmony and one for loanwords without vowel harmony? Maybe not. It is probably the case that examples like Finnish vowel harmony involve rules that apply in derived environments (eg, over a morpheme boundary). Thus the fact that vowel harmony does not apply to [jonglööri] does not mean that loanwords have a separate phonology, rather it might indicate that the productive rule of vowel harmony applies only in derived environments. Since
[jonglööri] is monomorphemic there is no relevant derived environment within that word.

A final type of phenomena that has been noted about loanword phonology is that some languages seem to have phonological rules that apply only to loanwords of a particular type. For example, English has phonological rules that apply only to words of the Latinate vocabulary (most of which entered English through French). One example is the rule of Velar Softening which converts /k/ to [s] in such forms as electricity and criticism. Hock (1988) cites this as an instance where a synchronic rule (ie, velar softening) comes about because a language (ie, English) has borrowed a fair number of lexical items exhibiting the alternation, although there is no basis for the rule in the native phonology. It is quite possible that in any situation where one language has borrowed quite extensively from another, the recipient language will develop restricted synchronic rules that just apply to the borrowed vocabulary since the (borrowed) alternation is not otherwise attested in the native vocabulary.

Bibliography


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The term *loanword* refers to a word that enters a language through borrowing from some other language. Loanwords can be distinguished from native words which presumably can be traced back directly to the earliest (historical) stages of that language. Loanwords are of interest to phonologists for at least two reasons. First, the way in which the loanword is pronounced in the borrowing language is often quite different from its pronunciation in the original language. This difference in pronunciation may provide insights into the phonology of the borrowing language that would not otherwise be apparent from native words. Second, in many languages loanwords seem to maintain particular phonological characteristics that make them distinct from the native vocabulary. For example, the Latinate vocabulary in English, the Sino vocabulary in Japanese, and the Arabic vocabulary in Turkish each either undergoes special phonological rules that the native vocabulary does not participate in, or the foreign vocabulary fails to undergo regular phonological processes that affect the native vocabulary. Such phenomena provide insight into the phonology of the borrowing language that would not have been otherwise apparent.

Main Section headings (and proposed content)

1. Phonological Adaptation of loanwords
   This section focuses on the adaptation of loanwords that contain phonemes not found in the borrowing language as well as on loanwords that violate the phonotactics of the borrowing language.

2. Loanwords and Phonological Rules
   This section focusses on the anomalous behaviour that loanwords sometimes display with respect to phonological rules. One point to
be made is that loanwords are not exceptional to allophonic (or post-lexical) rules but only to neutralization rules.

In both sections examples will for the most part come from loanwords in English, Japanese, and Turkish. Each section will be approximately 3-6 pages.