Correlating social setting and the retention of contrast in Loanword Phonology*

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When a target language borrows words from a source language, a language will always retain the phonological contrasts that exist in the source language if they already exist naturally in the target language. However, if a source language has more contrast than the target language, either the extra degree(s) of contrast will be lost in borrowing, or the target language must find some way of retaining it. The objective of this paper is to present evidence that whether the degree of contrast is preserved or not via the introduction of markedness depends on the social relationship between the source language and the target language. This is done by comparing the social relation between the Japanese archipelago and the Chinese mainland with the number of contrasts retained in coda position in the loanwords borrowed from the Chinese language at various stages in the history of cultural contact with China.

1 Introduction

1.1 Contrast in Loanword Phonology

Languages naturally borrow words from other languages that they come into contact with. As the loanwords are formed, the target language attempts to satisfy three goals:

(1) a. maximally preserve the phonological content of the source language’s phonemes
b. minimally resort to the introduction of markedness into the target language’s phonology
c. maximally preserve the phonemic contrast found in the source language

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If the target language already has an equal or greater number of contrasts than the source language, then the loanwords do not pose a problem. However, if the target language has a fewer number of contrasts than the source language, then the second and third goals of the loanword phonology conflict with each other - the creation of a new degree of contrast in the relevant section of the phonemic inventory in order to satisfy (1a) introduces markedness into the source language, violating (1b). As a hypothetical example, consider how English would borrow the following Korean words (Korean data from Ladefoged and Maddieson 1996:56, the diacritic * indicates stiff voice):

(2) a. \( p^hul \) ‘grass’
   b. \( pul \) ‘fire’
   c. \( p^*ul \) ‘horn’

English has a two-way contrast in stops in onset position: aspirated voiceless stops versus unaspirated partially-voiced stops (Ladefoged 2001:43). The aspirated voiceless bilabial stop \([p^h]\) naturally corresponds to (2a). However this still leaves a two-way contrast in Korean that will be either neutralized in English if they are both borrowed as \([p]\), or the English phonology must resort to some device to retain the distinction between (2b) and (2c).

1.2 Maintaining the Contrast

If the loanword phonology decides to maintain the degree of contrast of the source language, there are a number of possibilities. The obvious solution is to just simply borrow the extra degree of contrast as is. Khoekhoe, a Khoisan language spoken in Namibia, borrows the English /r/ as an alveolar trill, and English /l/ as a lateral approximant /l/. The trill is native to Khoekhoe, and is found throughout the lexicon. /l/ however, is only found in loanwords such as skols, ‘school’.

Another possibility is that the target language may substitute the problematic phoneme with one (or more) of its own that the source language does not have. For example, in Korean, the approximants /r/ and /l/ are in complementary distribution, with /l/ only occurring in coda position, and /r/ only occurring in the onset position. Therefore, one solution to the problem of how to borrow the data in (2) into English is to use the /r/ for either (2b) or (2c). This of course does not help with the borrowing of the Korean alveolar and velar stops, which also show a three-way contrast, but more importantly, such an approach violates the goal of maximally preserving the phonological content of the source language’s phonemes.

Tok Pisin, a creole language spoken in New Guinea has an interesting approach to the problem of maintaining the degree of contrast of the source language. Tok Pisin lacks a post-alveolar fricative, and has only five vowels. Furthermore, complex codas are prohibited (data from Wardhaugh 1998).
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<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(3) sip &amp; ‘ship’</td>
<td>sipsip &amp; ‘sheep’</td>
</tr>
<tr>
<td></td>
<td>pis &amp; ‘peace’</td>
</tr>
<tr>
<td></td>
<td>pispis &amp; ‘to urinate’</td>
</tr>
<tr>
<td></td>
<td>san &amp; ‘sun’</td>
</tr>
<tr>
<td></td>
<td>sansan &amp; ‘sand’</td>
</tr>
</tbody>
</table>

As (3) shows, Tok Pisin resorts to reduplication to maintain an extra degree of contrast of what would otherwise be the reduction of four contrastive syllables (‘ship’, ‘sip’, ‘sheep’, ‘seep’) to one sip.¹

Throughout recorded history the Japanese language has borrowed words from Chinese, and throughout the entire period of contact the problem of how to retain the greater degree of contrast in Chinese existed. How this problem was dealt with is the focus of the remainder of the paper, which is laid out as follows. §2 introduces the makeup of the Sino-Japanese in Modern Japanese. §3 presents a diachronic overview of the social relationship between Japan and China. §4 describes how codas were borrowed from Chinese during the various periods of contact. Lastly, conclusions are given in §5.

2 The Formation of the Sino-Japanese Stratum

2.1 The Strata of the Japanese Language

Modern Japanese is composed of four different strata, each with its own phonology (Itô and Mester 1995, 2000).

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(4) the four strata of modern Japanese</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Yamato (native)</td>
</tr>
<tr>
<td></td>
<td>• Foreign (mostly from English)</td>
</tr>
<tr>
<td></td>
<td>• Sino-Japanese</td>
</tr>
<tr>
<td></td>
<td>• Onomatopoeic / Mimetic</td>
</tr>
</tbody>
</table>

What is rarely discussed in the linguistic literature on Japanese is the fact that the Sino-Japanese stratum is made up from several different substrata, again each with their own phonology (Miller 1967).

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(5) the substrata of Sino-Japanese</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• pre-Nara period loans (nativized)</td>
</tr>
<tr>
<td></td>
<td>• Manyōgana (no longer used except in some place names)</td>
</tr>
<tr>
<td></td>
<td>• go’on</td>
</tr>
</tbody>
</table>

¹ As far as I know, the Tok Pisin reduplication process does not make direct reference to the English phonology (for example, reduplicate English tense vowels, reduplicate extra-heavy syllables, etc.). Rather, the loanword is rendered into Tok Pisin, and if the is a homonym then reduplication occurs. It may be that later loans are reduplicated. Note that, as I attempt to demonstrate in this paper, it is possible for the phonological processes to make direct reference to the phonology of the source language (c.f. §4.6).
Japan’s contact with the continental mainland had deep repercussions on Japanese society from long before the first recordings of Japanese history. The importation of rice cultivation allowed for the transition from a hunter-gather society to an agrarian one, whereas the introduction of metallurgy changed the face of warfare. This continental influence in prehistoric times set a precedent of extensive borrowing and adaptation from foreign culture that can still be seen today.

Due to the continuous contact with China and Chinese culture, either directly or indirectly via Korean culture, there has always been an influx of new technology, and along with it new vocabulary. However it was not until the beginning of the fifth century that the Chinese language began to play a significant role in Japan. According to the Nihon Shoki, a historical chronicle, the Chinese writing system was officially introduced to the Yamato court by an emissary from the Korean state of Paekche. Not long afterward, a group of Chinese immigrants arrived at the court and established themselves as scribes (Hall et al. 1993: vol.2 343). Their skills began to be utilized more and more, doing such tasks as recording taxes levied and writing official decrees. As this group of immigrants was slowly assimilated into the population literacy began to spread among the upper class, and over time the Chinese language and culture formed the basis for all things political.

At the same time, kanbun, the art of writing native Japanese prose with Chinese characters began to flourish. The Manyōshū, a collection of over 7000 poems, although compiled much later in 760, records many of these lexical items with both their original Chinese graphs and the Japanese pronunciations that were current at the time.

Initially the use of Chinese was limited to the upper echelons of society. However this soon changed with the official adoption of the Buddhism as the state religion in 594. As Chinese was used to write and recite the scriptures, there was a sudden zeal to learn the language. The fact that all religious canons, including the sutras were written in Chinese helped spread the language through the religious community (Loveday 1996: 31). The resulting pronunciation of the Chinese graphs based on borrowings at this time is called the go’on reading.

Beginning in 607, a series of Japanese missions were sent to the Chinese capital to learn directly from the Chinese. Those who managed to safely return to Japan brought with them many books and much contemporary knowledge. As well, Chinese scholars who accompanied the missions returning to Japan augmented the already established tradition of Chinese scribes and language experts. By the time of the Nara period (710-94), the Chinese language and culture had substantial influence on almost every aspect of aristocratic life, ranging from politics and religion to the fine arts such as painting, poetry composition, painting, and fashion, to the point that a small portion of the society was bilingual (Loveday 1996: 32).
At the beginning of the Tang dynasty (618 - 907) the capital of China moved to the city of Chang-an, and over time, the dialect spoken in and around this city gained prestige. Eventually the go’on pronunciation that the Japanese Buddhist monks had exerted so much effort to learn, which was based on the dialect of the Mandarin before the relocation of the capital to Chang’an, was considered out of date. It then became the job of the Chinese pronunciation experts residing in Japan, and those returning from having studied abroad in China to establish new standards of pronunciation based on the Chinese dialect current, the capital of Tang China. This new pronunciation was called kan’on.

The last official mission to go to Tang China left in 838 and returned in 847. After this, although political, economic and cultural trade continued, it was no longer deemed necessary to borrow exhaustively from China. After 847, maintaining “correct” pronunciation of the Chinese loan words gradually became less important. The hyaku-yomi, or ‘peasant reading-style’ gained popularity among the general populace, and eventually established itself as the norm (Loveday 1996:29-37). Although there was later contact and another influx of vocabulary items, due to its wide-spread usage, the kan’on substratum was never replaced, and now forms the basis for the majority of the modern Sino-Japanese vocabulary, while the later reading styles, the sō’on reading borrowed during the Kamakura period (1185-1333) and the tō’on reading borrowed during the Edo period (1600-1867), were for the most part limited to Zen Buddhism terminology and Neo-Confucianism.

3 Language Contact Settings between Japan and China

3.1 A Typology of Language-Contact Settings

Loveday (1996) proposes a universal typology for relating types of language contact to the social settings. The typology consists of six example settings, with each setting determined by the degree of bilingualism within a community. This typology is meant to be general enough to allow for cross-linguistic comparison and the formation of generalizations concerning the phenomena related to language contact. The six settings, arranged in order of the prestige of the contact language, are roughly as follows.

The Distant and Non-Bilingual Setting

The distant and non-bilingual setting is the scenario that within a community the usage of the contact language is extremely limited. The community does not maintain any special relationship with the speakers of the donor language, nor is it socially prestigious to learn the language. Contact with the language may be through direct exposure, or indirectly via media or other community members knowledgeable of the language. This setting is also used for a community of contact language speakers that are located within a socially, economically and ethnically superior community. Any borrowing into the prestigious language that does occur tends to be local place, fauna and flora names, or cultural terms specific to the subordinate group.
The Distant but Institutional Setting

The distant but institutional setting is similar to the previous setting with the exception that the contact language is also promoted by some institution, such as a church or a school. The language, however, is not a learned as a community. This setting is typical of non-English speaking communities that learn English in school.

The Bounded Community

Within a bounded community, the degree of bilingualism is greater than the previous two settings, but is still restricted in that it is not fluent, nor accurate. This restricted level of proficiency is due to the limited social contact between the two communities. This setting differs from the first setting in that due to the decreased degree of language exposure, various phenomena occur such as pidginization and language interference. The bound nature of the donor community may be a result of physical isolation, urban segregation, or an ethnic-minority enclave.

The Equal Bilingual Setting

The equal bilingual setting entails either two languages used by one community, or two communities using two languages within the same territory. In either case, both languages are considered equal in almost all social domains.

The Diglossic Bilingual Setting

The diglossic bilingual community is one where there are two languages that are not of equal status. The prestigious language is accessible to most members of the community, although there may be limited fluency, as it is often learned through formal education, religion, government, or the workplace.

The Language Shift Setting

The language shift setting involves the gradual renunciation of the community’s language in favour of the more prestigious language.

3.2 A Chronology of Contact Settings

Based on the history of contact with the Chinese language, Loveday (p.30-36) posits the following settings:
(6) A Chronology of Language Contact Settings

<table>
<thead>
<tr>
<th>Period</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>pre-Yamato</td>
<td>distant, non-bilingual</td>
</tr>
<tr>
<td>Yamato (c. 400-700)</td>
<td>distant, non-bilingual, evidence of borrowing</td>
</tr>
<tr>
<td>Nara, early Heian (c. 700-1000)</td>
<td>diglossic with bilingualism</td>
</tr>
<tr>
<td>late Heian through Tokugawa (c. 1000-1850)</td>
<td>diglossic without bilingualism</td>
</tr>
<tr>
<td>Meji to modern day (c. 1850-present)</td>
<td>distant, non-bilingual</td>
</tr>
</tbody>
</table>

The switch from diglossic with bilingualism to diglossic without bilingualism during the Heian period is primarily due to two factors. Firstly, during the Nara period the Japanese gradually developed their own script. This in turn led to a variety of native writing styles that slowly gained prestige. Secondly, civil war in China and court struggles in Japan further impeded cultural exchange. The result was long periods in which the Japanese did not travel to China, with a few exceptional cases of Buddhist monks. The consequence of this was the gradual decline in the level of fluency of Chinese at the Japanese court, although it continued to remain the prestige language. On the other hand, writing native Japanese in Chinese script became a highly refined art that helped spread the (written) Chinese language from the nobility to the warrior and religious classes (Loveday p.34).

4 The Rendering of Chinese Codas in Sino-Japanese

4.1 The Consonant Inventories of Middle Chinese, Early Mandarin and Old Japanese

Pulleyblank (1984, 1991) divides what has traditionally been termed as Middle Chinese into Early Middle Chinese (EMC) and Late Middle Chinese (LMC). With the reunification of the kingdom by the southern forces in 590 and the commencement of the Sui Dynasty, the northern city of Chang’an became the capital. The prestigious speech after reunification was based on the vernacular of the refugees that had fled south after the fall of the north to the non-Chinese armies approximately 300 years earlier and therefore was not that removed from the local speech of the north. The *Qieyun* (a set of Chinese rhyme tables written in 601) was a codification of that speech, and forms the foundation for the EMC reconstructions.

Chang’an however was a city with a long history and a prestigious past, and by the end of the seventh century, the local vernacular spoken in and around Chang’an

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2 While there is a high degree of confidence in the reconstructions of the consonants for both MC and OJ, the vowels are another story altogether. Due to the general lack of agreement on the reconstruction of the vowels among the authors, I do not include the vowels in the inventories.
had become the new standard. This new standard forms the basis for the LMC reconstructions.

EMC had the following onsets (Pulleyblank 1984:63ff, 1991):

(7) the onsets of Early Middle Chinese

- labial: \( p, p^h, b, m, w \)
- alveolar: \( t, t^h, ts, ts^h, s, z, d, dz, n, l \)
- retroflex: \( tr, tr^h, ts, ts^h, s, dz, dr, nr, r \)
- palatal: \( t\c, t\c^h, c, dz, z, \eta, j \)
- velar: \( k, k^h, g, \eta, x, \gamma \)
- laryngeal: \( ?, fi \)

LMC had the following onsets (Pulleyblank 1984:63ff, 1991):

(8) the onsets of Late Middle Chinese

- labial: \( p, p^h, m \)
- labiodental: \( f, f^h, v \)
- alveolar: \( t, t^h, ts, ts^h, s, s^h, n, l \)
- retroflex: \( tr, tr^h, ts, ts^h, s, s^h, dr, nr, r \)
- palatal: \( j \)
- velar: \( k, k^h, g, \eta g, \eta, x, xf \)
- laryngeal: \( ? \)

In both cases, the phonemes that occurred in the coda position were limited to \([p, t, k, m, n, \eta, j, w]\).

The scourge of the Mongols during the 13th century resulted in the founding of the Yuan dynasty (1271-1368), with the capital located in modern day Beijing. During the Yuan dynasty, there was a decrease in the prestige of older, conservative pronunciations of Chinese, and the local vernacular flourished. Pulleyblank’s (1991) reconstruction of Early Mandarin (EM) is based on two Mongol-Chinese dictionaries written during that dynasty. EM had the following phonemic inventory:

(9) the onsets of Early Mandarin

- labial: \( p, p^h, m \)
- labiodental: \( f, v \)
- alveolar: \( t, t^h, ts, ts^h, s, n, l \)
- retroflex: \( ts, ts^h, s, r \)
- palatal: \( j \)
- velar: \( k, k^h, x \)

\[TR, tr^h, dr, n^{dr}\] are non-strident retroflex affricates, somewhat like the \( tr \) in English. \( r \) is a retroflex continuant.
Besides the reduced inventory of consonants in onset position, EM also had a greatly reduced number of codas [m, n, ŋ, j, w].

Next the phonemic inventory of OJ will be introduced. Based on the usage of Chinese ideographs in the Manyōshū and liturgies (Japanese norito), Shintō religious texts, the following inventory has been reconstructed for the Japanese language spoken during the period of c. 650 AD to c. 750 AD (Bentley 2001, Kishida 1998, Lange 1973, Syromiatnikov 1981, Yoshitake 1934):

\[(10)\] the phonemic inventory of Old Japanese

- labial: p⁴, b, m
- alveolar: t, d, n, z⁵, s
- retroflex: r
- palatal: j
- velar: k, g
- labio-velar: w

Old Japanese had a seven vowel system: the five vowels of modern Japanese /i/, /u/, /e/, /o/, /a/, and two other vowels which have merged with two of the modern vowels. There is no consensus as to the phonological nature of these last two vowels, nor does this have any impact on the discussion at hand. As such they are ignored.

Other than loanwords borrowed from Chinese, OJ did not have codas. By the time of the formation of the kan’on substratum (c. 800), this inventory (10) had been expanded somewhat with the addition of the alveolo-palatals [c, ts, dz], which occurred only as allophones of /s/, /t/ and /z/, and the moraic nasal N, all of which were used in the earlier go’on forms. There was also allophonic variation of some of the phonemes of which one alternation needs mentioning, namely that at some point between the period of Old Japanese and the 16th century, /t/ began to surface phonetically as [ts] before /u/ and as [ts] before /i/.

4.2 Chinese Codas in Manyōgana Loans

Manyōgana is the writing system used to transcribe a collection of over 7000 poems compiled around 760. The poems were written in native Japanese with very little loanword vocabulary. However, the poems were completely written in the Chinese script. For the most part, the script was used to transcribe the Japanese syllables, without any concern for the original meaning of the graphs, but there are some examples of Japanese words replaced with the corresponding Chinese graph with the same semantic meaning, without any concern for the pronunciation of the graph. Only the former type of usage is of concern here.

The usage of Chinese graphs with codas as Manyōgana is divided into two types: simple kana and compound kana. In the case of simple kana, the Chinese graph

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4 Kishida and Yoshitaki reconstruct this phoneme as a bilabial fricative [fusc]. There is convincing evidence from the Ryūkyūan dialects that at one point this phoneme was a /f/ that later on lenited to [fusc] (c.f. for example Nakamatsu 2000).

5 Bentley’s inventory does not include the voiced alveolar fricative /z/.
was used to represent an initial consonant and a vowel, much the same way the modern *kana* Japanese orthography does. The codas were simply ignored. In the case of compound *kana*, the graph was used to transcribe two syllables of Japanese, the first syllable consisting of the onset and the vowel borrowed from the Chinese pronunciation, and the second syllable consisting of the coda borrowed as an onset followed by an epenthetic vowel. Following are some examples of simple and compound *Manyōgana* for the same Chinese graph. Only the *Manyōgana* that were used to transcribe sounds (as opposed to meaning) are examined, and therefore glosses are not given.

(11) **rendering of Middle Chinese codas in *Manyōgana*⁶**

<table>
<thead>
<tr>
<th>EMC</th>
<th>simple</th>
<th>compound</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>dzap</td>
<td>sa</td>
</tr>
<tr>
<td></td>
<td>kjit</td>
<td>ki</td>
</tr>
<tr>
<td></td>
<td>lak</td>
<td>ra</td>
</tr>
<tr>
<td>b.</td>
<td>kem</td>
<td>ke</td>
</tr>
<tr>
<td>c.</td>
<td>muan</td>
<td>ma</td>
</tr>
<tr>
<td>d.</td>
<td>nruawŋ</td>
<td>nu</td>
</tr>
</tbody>
</table>

If a compound *kana* reading was used, then the borrowed coda was faithful to the Chinese pronunciation with the exception of the velar nasal /ŋ/, which was borrowed as /ŋ/. There were not any hard, fast rules to determining the quality of the epenthetic vowel, but there was some pattern to it. /u/ tended to be used after labial and velar consonants, whereas /i/ tended to be used after alveolar consonants. /o/ was also used, but rare. /a/ and /e/ were never used as epenthetic vowels (Numoto 1986:87). In the compound readings, the six codas of EMC were distinguished, but there was a large degree of arbitrariness to it in that sometimes a single compound reading was used, while other times two simple readings were used for the same word or morpheme.

### 4.3 Chinese Codas in Go’on Loans

By the time of the formation of the *go’on* substratum, large numbers of loanwords were being borrowed into the Japanese language. When these words were rendered into Japanese, the pronunciation was borrowed as faithfully as the Old Japanese language would allow. EMC codas were borrowed into *go’on* as in (12).

Voiceless coda stops were resyllabified as onsets followed by an epenthetic vowel (12a). Nasal codas were treated differently depending on the place of articulation. The labial /m/ was resyllabified as an onset (12b), the moraic nasal was used in the case of the alveolar /n/ (12c), and the velar /ŋ/ was replaced by a nasalized high vowel whose frontness was the same as the previous vowel (12d). The result was

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⁶ All Middle Chinese transcriptions are from Pulleyblank 1984, 1991. The corresponding Old Japanese transcriptions are from Numoto 1986.
that the six-way contrast in the consonantal codas of EMC was maintained as six-way contrast in the go’on readings.

(12) rendering of Middle Chinese codas in go’on

<table>
<thead>
<tr>
<th>EMC</th>
<th>go’on</th>
<th>examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. p</td>
<td>pu</td>
<td>ɲiap &gt; gopu ‘industry’</td>
</tr>
<tr>
<td>t</td>
<td>tɕi</td>
<td>ɲuat &gt; gotɕi ‘moon’</td>
</tr>
<tr>
<td>k</td>
<td>kɨ/ku</td>
<td>kɑk &gt; kaku ‘each’</td>
</tr>
<tr>
<td>b. m</td>
<td>mu</td>
<td>ŋim &gt; ôngu ‘sound’</td>
</tr>
<tr>
<td>c. n?</td>
<td>ɲ</td>
<td>şen &gt; sen ‘mountain’</td>
</tr>
<tr>
<td>d. ɲ</td>
<td>ŭ</td>
<td>tawŋ &gt; tôu ‘winter’</td>
</tr>
</tbody>
</table>

4.4 Chinese Codas in Kan’on Loans

Although significant changes took place in the phonemic inventory between Early Middle Chinese and Late Middle Chinese, the codas remained the same. The treatment of the codas in the kan’on loanwords was identical to that of go’on with one exception: the palatal velar nasal was borrowed as /u/ in kan’on. LMC codas were borrowed into kan’on as follows (the same lexical items as (12) have been used for easy of comparison).

(13) rendering of Middle Chinese codas in kan’on

<table>
<thead>
<tr>
<th>LMC</th>
<th>kan’on</th>
<th>examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. p</td>
<td>pu</td>
<td>ɲiap &gt; gepu ‘industry’</td>
</tr>
<tr>
<td>t</td>
<td>tsu</td>
<td>ɲɨjat &gt; ɡjetsu ‘moon’</td>
</tr>
<tr>
<td>k</td>
<td>ki/ku</td>
<td>ɲak &gt; kaku ‘each’</td>
</tr>
<tr>
<td>b. m</td>
<td>mu</td>
<td>ŋim &gt; imu ‘sound’</td>
</tr>
<tr>
<td>c. n</td>
<td>N</td>
<td>şan &gt; san ‘mountain’</td>
</tr>
<tr>
<td>d. ɲ</td>
<td>ŭ /ɨ</td>
<td>tawŋ &gt; tôu ‘winter’</td>
</tr>
</tbody>
</table>

There is no reason to believe that the OJ phonemic inventory contained nasalized vowels as contrastive phonemes. It is however believed that nasalization has played a key role the history of Japanese phonology, as shown by the modern day dialects in northern Japan (Shibatani 1990 204-205). Modern Japanese distinguishes between voiced and voiceless stops. In northern Japan, voiceless stops are voiced intervocalically. However the voiced-voiceless distinction is not lost, as voiced stops are pre-nasalized intervocalically. This pre-nasalization also spreads to the proceeding vowel, resulting in nasalized vowels occurring as allophones. Shibatani claims that the

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7 I use N to represent the reflex of the Modern Japanese moraic nasal. Considering that same moraic nasal occurs in the sister language of Ryûkyûan (c.f. for example Nakamatsu 2000), there is no reason to assume that the phonological and phonetic behaviour of this phoneme at the time of OJ was different from that of the modern-day moraic nasal.
northern dialects reflect the speech of the Kyōto area (the capital) during the Muromachi period (1367-1573), but it is not clear how far back the nasalization process goes. Even if it went back to OJ, the use of nasalized vowels to borrow the Chinese velar nasal would still be extremely marked, since the presence or absence of a nasalized vowel was not predictable from the environment in the loanwords in which they occurred.

4.5 Chinese Codas in Sō’on and Tō’on Loans

During the Kamakura period (1185-1333) and again in the Edo period (1600-1867) there was renewed interest in the Chinese mainland, but this interest was mostly limited to religion and philosophy. Vocabulary borrowed during these periods often made use of a graph that was borrowed during an earlier period and was already in common use in Japan, but with a different pronunciation. Following are examples of EM consonantal codas in sō’on readings.

(14) rendering of Early Mandarin codas in sō’on

<table>
<thead>
<tr>
<th>EM</th>
<th>sō’on</th>
<th>examples:</th>
</tr>
</thead>
<tbody>
<tr>
<td>m</td>
<td>n</td>
<td>jim &gt; in</td>
</tr>
<tr>
<td>n</td>
<td>n</td>
<td>an &gt; an</td>
</tr>
<tr>
<td>η</td>
<td>n</td>
<td>tsən &gt; son</td>
</tr>
</tbody>
</table>

Regardless of the place of articulation of the Chinese nasal coda, the sō’on readings always use the moraic nasal. This resulted in the three-way contrast of consonantal codas of EM being lost in sō’on readings.

4.6 Chinese Codas in Modern Day Sino-Japanese Loans

Any use of Chinese in an informal way, such as a popular magazine, or non-academic discussions of the Chinese language such as Ding 1981 use native Japanese pronunciation written in kana, whereas formal or academic discussion use the Pinyin romanization of Modern Standard Mandarin. The three-way contrast of consonantal codas in EM is reduced to a two-way contrast in Modern Mandarin: /n, η/. Both codas are borrowed as the syllabic nasal in Modern Japanese. Following are a list of place names taken from a Japanese atlas (Shitanaka 1980:14-15).

(15) Mandarin codas in Modern Japanese

<table>
<thead>
<tr>
<th>place name</th>
<th>Modern Japanese⁹</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tianjin</td>
<td>Tenshin</td>
</tr>
<tr>
<td>Shandong</td>
<td>Santon</td>
</tr>
</tbody>
</table>

⁸ This is similar to the history of the words ‘chief’ and ‘chef’ in English. Both words, borrowed into English via French, are reflexes of the Latin word capitellus ‘the head of a pillar’. ‘Chief’ was borrowed during the Norman conquest of England, while ‘chef’ is a recent loan. Note the more general usage of the first (police chief, tribal chief, etc.) while the second originally was a title reserved for the head cook.

⁹ Modern Japanese items use the Hepburn romanization.
Both the alveolar nasal (15a) and the velar nasal (15b) are borrowed as the moraic nasal.

It is possible that the rendering of codas in Modern Japanese loanwords is a consequence of the phonology of the Japanese language alone, and that external factors such as the source of the loanwords do not play a factor. However, this is not the case, as shown by the way Modern Japanese borrows nasals codas from English (16).

(16) English nasal codas in Modern Japanese

<table>
<thead>
<tr>
<th>English</th>
<th>Modern Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. ham</td>
<td>hamu</td>
</tr>
<tr>
<td>cream</td>
<td>kuriimu</td>
</tr>
<tr>
<td>b. napkin</td>
<td>napukin</td>
</tr>
<tr>
<td>ball point pen</td>
<td>booru pen</td>
</tr>
<tr>
<td>c. song</td>
<td>songu</td>
</tr>
<tr>
<td>singer</td>
<td>hingaa</td>
</tr>
</tbody>
</table>

English has a three-way contrast of nasals in coda position: /m, n, ŋ/. In striking contrast to loanwords from Chinese, all three of the English nasals are borrowed into Japanese with the faithful retention of the place of articulation.

Furthermore consider the rendering of the (15c) group of Chinese place names that were clearly borrowed into Japanese via the English transliteration. In the Wade-Giles system of Romanization, Beijing is Peiking, and Nanjing is Nanking. Hong Kong is a transliteration of the Cantonese; the Pinyin rendering is Xianggang [ɕjɑŋgɑ̂n]. Even though the names of these places have entered the Japanese language via the English spellings, the Japanese language borrows the velar nasal as if the source of the word was Chinese and not English.

While the way of rendering the codas is due to factors external to the Japanese phonology (c.f. Itô and Mester 2000), the fact that there is a difference is in the rendering of codas in loanwords from English and Chinese must be because the borrowing language pays attention to where the loanword comes from. If that is the case, then certainly the social relationship between the two languages must play a role.

5 Conclusions

A comparison of the degree of contrast preserved in consonantal codas at various periods in the history of contact between Japanese and Chinese (17) and the social status of relationship between the two languages (18) reveals a significant correlation, namely that the only time the full number of contrasts in the Chinese codas was preserved was during the Nara and early Heian periods, when there was a significant degree of bilingualism. As the degree of bilingualism in the Japanese upper class
community slowly eroded, even though the Chinese language continued to be prestigious, the loanwords no longer maintained the full number of contrasts of consonants in coda position.

Furthermore, at the time of the formation of the go’on and kan’on substrata of Sino-Japanese, the loanword forms were not used daily speech, but rather considered to be “learned forms” reserved for fields such as politics, technology, etc. Thus it is doubtful that a Japanese growing up in the Heian court would hear such forms frequently enough that there would be sufficient evidence that the nasalized vowel - oral vowel contrast was robust, but would have had the luxury of relying on their knowledge of the Chinese itself when determining the distribution of the nasalized vowels in the Sino-Japanese loanwords as long as the community was bilingual. Eventually the Sino-Japanese loanwords become common and frequent enough that there may have been a possibility for the maintaining of the contrast. But it was only the upper class that was bilingual; the rest of Japanese society was not, and therefore would not have been able to refer to the Chinese language itself. This resulted in the hyaku-yomi pronunciation, which dropped the nasality from the vowels that were not predictable from the environment, and which formed the foundation for the pronunciation of most of the Sino-Japanese loanwords in Modern Japanese.

Further evidence for the correlation between social setting and the retention of contrast in loanword phonology comes from the comparison of the way codas are borrowed from English with the way they are borrowed from Mandarin into modern Japanese. In the case of English, the full degree of contrast is retained, whereas in the case of Chinese, the contrast in codas is neutralized by borrowing them as the same phoneme. It is not surprising then to find that the social setting for English is ‘Distant but Institutional’, whereas Chinese is ‘Distant and Non-Bilingual’. The greater degree of bilingualism (the English teachers have at least some ability in English) allows for
greater exposure to the English language among the Japanese, and therefore a greater retention of contrast.

References


