An Optimality Analysis of Malay Loanwords in Japanese

Analisis Optimaliti Kata Pinjaman Bahasa Melayu dalam Bahasa Jepun

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ABSTRACT

This study aimed to examine and explain the phonology of Malay loanwords in Japanese using Optimality Theory. The analysis was based on secondary data extracted from the Senyum magazine published in Malaysia that utilises Japanese language in its writing. The relevant data which was selected manually, was then analysed and explained using a constraints-based approach of Optimality Theory. This article focuses on vowel lengthening and epenthesis repair strategies that occur during the borrowing process from Malay to Japanese. The vowel lengthening repair strategy followed by vowel epenthesis are evoked from the syllable structure of Japanese, particularly the coda condition. The word that ends with /CVC/ (Consonant+ar/or/ur) will be changed to /CV:CV/ (Consonant+ aːɾɯ/ oːɾɯ/ ɯːɾɯ). This kind of loanword adaptation process will undergo vowel lengthening and the coda consonant will resyllabified as an onset of the following syllable. This study has suggested a set of markedness and faithfulness constraints that are hierarchically ranked in the grammar. The interaction between the constraints has successfully been accounted for the phonology of loanword adaptation in Japanese. The increase in the number of Japanese in Malaysia since the implementation of Malaysia My Second Home programme has led to a wider exposure of Malay words to the Japanese. Therefore, this research will not only benefit linguists, it will also enhance the Malaysian society's understanding of Japanese pronunciation as it differs from the Malay phonology. It will help to eliminate the confusion that may occur during conversation between Japanese and Malays and vice versa.

Keywords: Japanese phonology, optimality theory, Malay phonology, loanword, coda condition

ABSTRAK

Kajian ini bertujuan menghuraikan dan menjelaskan fenomena perubahan fonologi yang berlaku dalam kata pinjaman bahasa Melayu yang diserap masuk ke dalam bahasa Jepun menggunakan kerangka Teori Optimaliti. Sumber kajian ini merupakan data sekunder dari majalah Senyum yang diterbitkan di Malaysia dalam bahasa Jepun. Data yang relevan telah dipilih secara manual dan kemudian dianalisis dan diterangkan berdasarkan pendekatan kekangan dalam teori Optimaliti. Kertas kerja ini memfokuskan mengenai fenomena pemanjangan vokal dan penyisipan yang berlaku semasa proses peminjaman kata bahasa Melayu ke dalam Bahasa Jepun akibat daripada kekangan struktur suku kata khususnya syarat koda. Kata yang diakhiri dengan struktur suku kata /KVK/ (Konsonan+ar/or/ur) akan berubah menjadi / KV:KV/ (Konsonan+ aːɾɯ/ oːɾɯ/ ɯːɾɯ). Strategi perubahan fonologi ini melibatkan pemanjangan vokal dan konsonan yang berada di posisi koda pula melalui penyukuan semula dengan menjadi onset serta diikuti dengan penyisipan vokal. Kajian ini telah mencadangkan susunan set kekangan kebertandaan dan kesetiaan bagi setiap kes yang dibincangkan. Interaksi antara kekangan-kekangan ini berjaya menangani dan menjelaskan fenomena perubahan fonologi yang berlaku secara teoretis. Peningkatan jumlah masyarakat Jepun di Malaysia sejak program Malaysia My Second Home dilancarkan telah menjadikan orang Jepun lebih terdedah kepada perkataan dalam bahasa Melayu. Oleh yang demikian, kajian ini bukan sahaja memberi manfaat kepada ahli linguistik, tetapi juga kepada masyarakat Malaysia untuk memahami sebutan bahasa Jepun yang didapati berbeza daripada fonologi bahasa Melayu, dan ini dapat mengelakkan daripada berlakunya kekeliruan semasa berkomunikasi diantara orang Melayu dan orang Jepun dan sebaliknya.

Kata kunci: Fonologi bahasa Jepun; teori optimaliti; fonologi bahasa Melayu; kata pinjaman; syarat koda

INTRODUCTION

The information expansion of Malaysian society's culture to the Japanese people has encouraged the borrowing of Malay language (ML) words into the Japanese language (JL). This can be seen in several writings of discourse published in Malaysia in JL such as Durian Navi and Senyum. This phenomenon is in line with the argument put forth by Weinreich (1979), Campbell (2004) and also Asmah (2008) on the tendency to borrow foreign words that happens due to the lack of vocabulary in the dictionary of the speakers themselves. JL is a language that uses the syllabic system to spell words and indirectly the phonological system that is in the foreign language is also changed and adapted according to the JL phonology.

The process of borrowing that involves this phonological adaptation is called language interference (interference phenomena) (Weinreich 1979). This language interference happens because the phonological, lexical and grammatical system of the target language is different from the source language. Paradis, LaChariete and Lebel (1995) on the other hand calls it as a repair strategy while Shinora (2004) classifies this process as loan adaptation. The term used for this loan process has various terminologies. Linguistic researchers use various approaches to explain how this borrowing process occurs.

According to LaCharité and Paradis (2005), there are two strategies used by recipients in modification of the donor language, namely phonetic strategy and phonological strategy. In contrast, opinions like those of Peperkamp and Dupoux (2003), suggest that the borrowing process happens at the speech level as a result of the borrowers' perception when listening to the native speakers speech. JL has complex and unique accents that sometimes influence the borrowing process from the foreign language (Kawahara 2015). Results of the study conducted by Dupoux et al. (1999) show that Japanese people have the auditory perception of /ebzo/ as [e.bu.zo] and he suggests that CODA constraints in JL is caused by the borrowers' perception. Nevertheless, the study carried out by Smith (2006) on loanwords in JL dismisses Peperkamp and Dupoux's (2003) claims by asserting that not all JL loanwords undergo the process of borrowing through the borrowers' auditory perception alone.

The various studies on JL loanwords show that this topic is one of the key research in understanding JL phonology. Some of the studies on JL phonology have also contributed to the development of phonological world like the ones done by Ito (1990) as well as Ito and Mester (1993) in expanding studies on coda conditions.

JAPANESE LANGUAGE PHONOLOGY

Three types of orthographies are used to represent pronunciation in JL which are known as Hiragana, Katakana and Kanji in modern writing. The expansion of English language (EL) influence on Japan has also increased the percentage of alphabet usage in various discourse in this land of the rising sun. Nevertheless, this expansion of alphabet or romaji usage is seen as an addition and not a replacement of the existing JL orthography.

JL has 46 basic sounds that are built into syllables except for the vowels (a, e, i, o, u) and the pronunciation of N [ん-Hiragana /ン- Katakana] which is present in coda and considered as a syllable that stands on its own. There are five vowel pronunciations in JL which are [a], [i], [ɯ], [e] and [o]. The vowel [ɯ] is pronounced without rolling the tongue, for example the word [suka] 'happy', while the vowel [e] is pronounced like [enak] 'delicious' in ML. The vowels [i] in [ikan] 'fish' and [a] in [anak] 'child' are pronounced similar to the pronunciation in ML. The distribution of vowel position in the JL is represented in Figure 1, as described by Vance (2008).

FIGURE 1. JL vowel position (Vance 2008: 54)

Another 25 pronunciations in JL use the diacritic symbol (") which is written tilted to the left, namely the Daku-on pronunciation and the symbol (°) which is the Handaku-on pronunciation to make a distinction between voiceless and voiced consonants. See the example of the pronunciation of the voiceless consonant /ha/ [はHiragana/ ハ- Katakana] into a voiced consonant /ba/ [ば Hiragana/ バ- Katakana] by using the diacritic symbol ("). The use of the symbol (°) produces the pronunciation /pa/ [ぱHiragana/ パ- Katakana]. The semi-vowels /yaや, yuゆ, yoよ/ are used to produce palatal glide such as /hya, hyu, hyo/ [ひ ゃ、ひゅ、ひょ-Hiragana/ ヒャ、ヒュ、ヒョ- Katakana] and are called You-on. Hatsu-on refers to the segment N that has various pronunciations such as /n/, /m/ and /ŋ/, depending on the sound of the consonants succeeding it that influences the realisation of the pronunciation of this segment N. The use of the symbol /tsu/ which is written in a small form, (つ- Hiragana/ツ- Katakana) is also used to represent a geminate. This symbol is called Soku-on and examples of its usage are like /kekkon/ (けっこん) – 'married' and /sakka/ (サッカー) – 'soccer/ football'. This symbol will duplicate the pronunciation of the previous consonant. Only the /p,t,s,k/ consonants are involved in this gemination process and they become a glottal stop word finally, such as /pikaʔ/ (ピカッ) which carries the meaning 'bright flicker of light within a short period'.

JAPANESE LOANWORDS

The expansion of globalisation in the development of Japan to a certain extent has affected this country. This has enabled elements of foreign culture to enter Japan and its influence can be seen in the society, the socioculture and none other than the JL system itself which is also affected by this wave of globalisation. Most of the foreign words are loaned and absorbed into the JL through the JL phonological process which is unique and distinctive. Since the JL consists of a syllabic system to spell its words, the phonological system that is in the foreign language will also be changed and adapted according to the JL phonology.

Loanwords which are called *gairaigo* by the Japanese have loanwords from several foreign countries such as [a.ru.bai.to] (*albeit*) which is part-time work in the German language or /pafe/ (*parfait*) which is a type of dessert in the French language. Nevertheless, the existing Japanese

language phonological system cannot represent complex pronunciations such as /vi/, /fa/, /tsa/ and many others. In order to address this issue, special pronunciations called '*tokushu-on* (特殊音)' are introduced to facilitate borrowing of foreign words. Description of this special pronunciation that can help represent this *gairaigo* is explained in detail in the website *Monbukagakusho* (Ministry of Sport, Education, Culture, Science and Technology Japan) (Monbukagakusho 2016).

Phonological representation of loanwords in JL uses Katakana orthography to differentiate it from the original JL words and the words borrowed from the Chinese language. Pronunciation of these loanwords is also known as Katakana pronunciation (Shudong, Higgins & Shima 2005). There are foreign words which have been loaned fully or completely without changing the meaning; however, there are also words of which its meaning is changed even though the lexical being adopted is the same as that in the foreign language.

(i)	JL	Meaning	English Language	Meaning
	sarariman	white-collar worker	*salaried man	none

The use of the lexical combination above is non-existent in the foreign word that is borrowed which is from EL. However, this word is used widely in the Japanese society which has the meaning of a worker (male) who works by earning wage or income which is salary based in a company or corporation.

In contrast, the borrowing of the lexical '*chocolate*' in EL to JL does not change the meaning of the lexical; only its phonology undergoes adaptation.

(ii)	JL	Meaning	English Language	Meaning
	chokoreeto	chocolate	*chocolate*	chocolate

Through the phenomenon shown above, we can clarify that this borrowing of foreign words into JL involves a variety of ways. JL phonology causes the pronunciation of the words to be different from the original. There is a debate among linguists who dispute this adaptation of lexical form which sometimes stray far from its original language and makes the Japanese use the foreign language in the wrong way. The emergence of *gairaigo* also created problems for the Japanese in pronouncing

and using the lexical in the right way while learning the EL (Shudong, Higgins & Shima 2005). The process of constructing these loanwords should be carried out carefully because the Japanese will borrow this foreign language and change it into JL in various ways and most of them will be shortened from the original language. For example, the word 'helicopter' will be used as '*heri*' which is shortened from the JL pronunciation '*herikoputaa*' after borrowing.

LITERATURE REVIEW

JL has received a lot of influence from the outside and is not exempted from undergoing the process of borrowing. JL borrowing is more predisposed to discussion on data taken from the EL (Ito 1990; Kubozono 2006). Various studies, from the listing of the phenomenon through descriptive analysis up to theoretical analysis via the use of optimality theory to explain JL loanwords have been carried out.

According to Smith (2006), JL often performs vowel epenthesis in the repair process of its loanwords, while the words in JL that experience morphological change tend to undergo deletion during the repair process (deletion repair) in forming words. Smith (2006) uses different sequence of constraint in tableau for these two cases where the deletion constraints will be in the lower hierarchy in the formation of words in JL. In contrast, the words borrowed from the foreign language will have deletion constraints (MAX-IO) at the higher hierarchy and the vowel epenthesis (DEP-IO) will be at the lower hierarchy. Smith (2006) did not suggest sequence of constraints for vowel selection, but merely explained that JL often epenthesise the vowel /u/ to avoid coda condition and consonants clusters. Cases that involve consonants /t/ and /d/ on the other hand, will often be epenthesised with the vowel /o/ and this violates the DEP-IO constraint. The sequence of vowel constraints to explain why the vowel is chosen to be epenthesised was not stated.

Kubozono (2006) studied a lot about the gemination process in JL loanwords. His research findings suggested that prosodic words, number of mora and accent combination have caused gemination phenomenon. He used these three constraints in his tableau. However, most of Smith (2006) and Kubozono (2006) as well as other JL loanword phonologists' arguments focused only on EL data. Data using the same source language does not necessarily go through the same process for other source languages. The influence of the source language can affect the borrowing process in JL. Different languages exhibit different phenomena in formation of JL loanwords. These multitude of cases can uncover even more of the JL phonetic characteristic which is motivated by universal grammar (Shinohara 2004).

Shinohara (2004) has shown good examples through the use of data in the French language. The different pronunciation of [n] in French and EL has changed the borrowing system which all this while is known in the EL borrowing process only. The pronunciation of [n] that is borrowed from EL is taken into consideration as moraic nasal while in the French language it is considered as nasal lengthening that is followed by [n:ɯ] vowel epenthesis when the Japanese takes in these words into its language. This would definitely have an impact on the sequence of constraints in the optimality tableau of the JL loanwords. Research on JL loanwords besides the EL such as the study by Shinohara (2000; 2004) has contributed a lot towards international research on phonology. However, there are only a few studies such as these and they are rarely carried out by JL phonologists, especially on JL loanwords which are adapted from languages of the archipelago.

RESEARCH METHODOLOGY

This qualitative research began with literature review that used secondary data, namely orthographic data from magazines written in JL. JL writing is phonemic where its pronunciation is the same as the phonetic symbol when uttered (Shibatani 1990). This study will use data from the Senyum magazine as a secondary source in the research. This magazine is published in Malaysia by the Gerbang Fuji Sdn. Bhd. Company and has an editorial board that is helmed by Japanese. This discourse is written in the JL by the authors and contributors of the articles are Japanese citizens living in Malaysia. All the volumes of the Senyum magazine which are used in this study have been collected through literature review at the office of the Gerbang Fuji Sdn. Bhd. Company in order to obtain volumes that are not in the possession of the researcher.

Senyum magazine is issued on the 5th of each month starting from August of 2009. The research method used manual data collection of JL loanwords through examination of Senyum discourse of 56 volumes (Volume 1, July 2009 until Volume 56, May 2014). Each page in the Senyum magazine was examined one by one while carrying out data collection of JL loanwords which have been adapted from the ML. Identification of JL loanwords was through the use of orthography utilised in the writing of articles in the Senyum magazine. The JL writing system used the Katakana writing to represent words borrowed from the foreign language (Shibatani 1990). Data collected were then listed manually into Microsoft Excel.

After the data collection phase was completed, the data was then classified according to the phonological changes that occurred to the loanwords. Through this method, the borrowing process of the JL loanwords can be discussed in a more organised manner. One JL loanword could probably have one or more phenomena of phonological change. Similar words were classified into a few categories according to the phonological repair it underwent. This article focuses on the vowel lengthening and epenthesis adaptation phenomena that happen during borrowing process of the ML words which are loaned into the JL. The Optimality Theory (OT) Framework was then applied to analyse the data. Prince and Smolensky (1993; 2004) introduced the OT by stating that each language has constraints that violate the universal grammar. The phonetic output representation of each language is based on the sequence of constraints that exists within the language. The OT principle can be summarised into five main tenets (McCarthy & Prince 1994).

LIMITATIONS OF THE RESEARCH

This study used secondary data from one source only which is the Senyum magazine. Although there are several other magazines published in Malaysia in JL, this study used only the Senyum magazine as the main source because it has a lot more information on customs and culture as well as topics related to Malaysia compared to the other magazines.

Collected data was listed according to the phonological phenomena that occurred. Only data that underwent phonological change were selected and analysed theoretically using OT. This is because there are also words in ML that did not undergo any change of phonological process as a result of the ML and JL phonetic similarity. The absence of phonological change also occurs in the borrowing process of ML lexical into JL as a result of similarity of word formation in these two languages that use the syllabic system.

Another limitation of this study is in analysing data that consists of Proper Noun (PN) of people. This is because borrowing of pronunciation of Malay names into the JL pronunciation does not involve a fixed pattern and has many pronunciation variations. Therefore, data that consists of PNs of people were not taken into account in the data analysis process. This data examination requires time and more in-depth study in the future. Description of other phonological phenomena will be discussed in further research in the near future.

FINDINGS OF THE RESEARCH

Results of the study through the JL loanwords found in the Senyum magazine show that all the loanwords taken from the ML are grouped in the Noun class (N). This N consists of names of places, food, plants, and many others. A total of 370 ML loanwords that were absorbed into the JL pronunciation have been identified. This article focuses on cases of phonological change that involve vowel lengthening and epenthesis that occur during the process of borrowing into the JL. Analysis of the research data shows that the phonological change that occurs in the ML data did not involve the process of circumscription, but more of vowel lengthening in maintaining the syllabic condition, namely coda condition that is not permitted.

(1) CODA CONDITION: "Consonant at the
     *C]σ   end of the syllable
                           is not permitted"

Ito (1986: 8)

Consonants which are not permitted are consonants that have place of articulation [+voiced, sonorant] (Ito & Mester 2013). JL loanwords consisting of the ML also use the coda condition in its borrowing process. Data analysis in this study shows that the repair strategies used by the Japanese to avoid coda condition is through vowel lengthening and vowel epenthesis. The former applies to the vowel

preceding the coda consonants and the latter applies following the coda consonant where the codas are syllabified as onset and the epenthesised vowel is /ɯ/. This /CVC/ syllabic structure will then be transformed into /CVVCV/. This indicates that the JL phonological system will retain the mora in the coda position and it is autosegmentally linked with the preceding vowel and surfaces as a long vowel. Subsequently, the stray consonants are syllabified as onset with an epenthetic voItel **/ɯ/.**

The borrowing process from the data of ML words into JL that underwent the vowel lengthening process as a result of this coda condition can be seen in Table 1[*1].

TABLE 1. Vowel Lengthening Phenomenon

ML Lexical	ML	JL	JL Lexical
bangsar	baŋsar	baŋ.sa:.**rɯ**	バンサール
kangsar	kaNsar	kaŋ.sa:.**rɯ**	カンサール
pasar	pasar	pa.sa:.**rɯ**	パサール
bandar	bandar	ban.da:.ɾɯ	バンダール
besar	bəsar	bu.sa:.**rɯ**	ブサール
bakar	bakar	ba.ka:.**rɯ**	バカール

Table 1 shows the pronunciation of the syllable-final /-Car/ (Consonant+ ar) of the ML words that are loaned into JL. The pronunciation of the /r/ consonant in ML is usually weakened in the syllable-final. If observed carefully, the coda position in the final syllable of the source language data will be replaced with vowels through the process of vowel lengthening.

The phonological phenomenon of vowel lengthening can be accounted for adequately by employing the framework of prosodic syllable theory. The observation made on this phenomenon shows that JL does not favour mora deletion and as far as possible wants to maintain it in the output. Further in-depth explanation can be made by using OT. The constraints that can be proposed in this case can be described as follows:

(2) MAX-IO[μ]: Mora deletion is prohibited

Ito's (1986) debate in her thesis writing argued that JL will avoid this stray condition by changing it to onset. This coda condition has also developed where the coda position is described in more detail in Ito and Mester (1993). According to their study, the coda condition can be explained by using the left-alignment constraint. This constraint demands that consonants having place of articulation features must occur in the left position of a syllable node. In other words, the consonants cannot occur on the right-side of the syllable, which is in the coda position (Zaharani 2004).

(3) CODA CONDITION: Left-ALIGNMENT
     (CPlace, σ)

When consonant /ɾ/ is aligned to the left as the onset position, the syllabic formation requiring at least one mora takes up the vowel /ɯ/ to occupy the position. As a result, vowel lengthening has formed on the second syllable from the end.

The observation carried out on the data of JL loanwords in this study shows that this situation does not only occur in ML words that have the syllable-final /Car/ (Consonant+ar) but also syllable-finals that consist of /Cor/ and /Cur/ which also underwent similar phonological adaptation strategy. The list of available data that involves the same phonological strategy is shown in Table 2.

TABLE 2. Vowel Lengthening Phenomenon

ML Lexical	ML	JL	JL Lexical
selangor	səlaŋgor	sə.ɾaŋ.go:.**rɯ**	セランゴール
johor	**dʒ**ohor	**dʒ**o.ho:.**rɯ**	ジョホール
pangkor	paŋkor	paŋ.ko:.ɾɯ	パンコール
lumpur	lumpur	**rum.pɯ:.rɯ**	ルンプール
tabur	Tabor	ta.bɯ:.**rɯ**	タブール

Figure 2 shows that the non-nasal coda consonant resyllabifies as an onset of the final syllable and the preceding vowel consequently undergoes vowel lengthening in order to avoid a vioalation of the coda condition. In the rule-based approach, this phonological phenomenon is derived by three different rules as illustrated in Figure 2. When the coda segment is parsed as an onset of the following syllable, it has to be prosodically disassociated with the mora because onset segment is moraless. The nucleus of the final syllable is filled by epenthetic vowel [ɯ] (2a), and the floating mora is autosegmentally linked to the preceding vowel (2b).

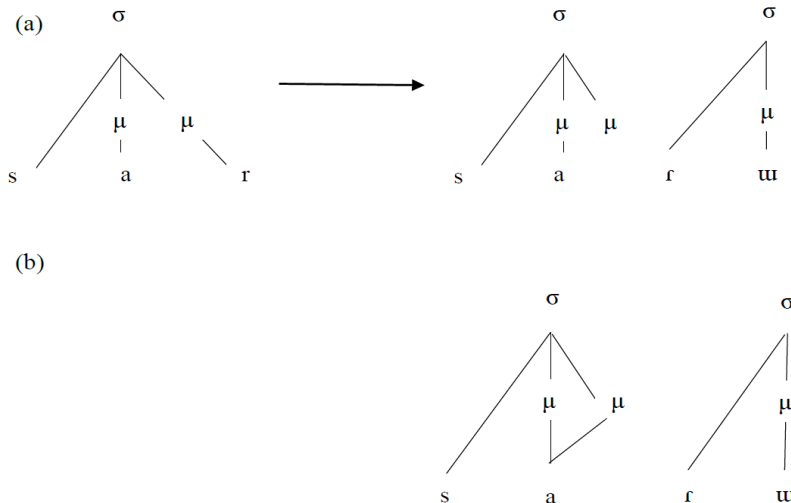Input: /saɾ/ → Output [saːɾɯ]

FIGURE 2. Structure of Syllable /saɾ/ → [saːɾɯ]

In the constraint-based approach, the process of selecting well-formed candidates to describe this phenomenon can be explained in a more organised manner through a tableau. In addition to the constraints mentioned previously, the MAX-IO and DEP-IO constraints will also be used to assist in the selection of optimal candidates in this study.

JL cannot delete a segment easily because this will have an effect on the structure of the JL syllables which are rigid. Segmental deletion is governed by MAX-IO constraint (McCarthy & Prince 1993). Meanwhile the process of epenthesis is controlled by DEP-IO constraint. The MAX-IO and DEP-IO constraints are formally defined in McCarthy and Prince (2004: 82) as follows:

(4)   MAX-IO: Deletion is prohibited

(5)   DEP-IO: Epenthesis is prohibited

TABLEAU 1. Borrowing of ML words that ends with /Caɾ/, /Coɾ/ and /Cuɾ/

/ baŋsaɾ/	*C]σ	MAX-IO	MAX-IO[μ]	DEP-IO
a. baŋ.saɾ	*!		*	
b. baŋ.saː		*!		
c. baŋ.sa		*	*!	
☞ d. baŋ.saː.**ɾɯ**				*

As shown in Tableau 1[*2], the failed candidate (a) is excluded earlier because it violates the higher ranked constraint of coda condition. Candidate (b) is also ruled out in the competition because it incurs a violation of MAX-IO constraint that does not allow phoneme deletion. On the other hand, candidate (c) violates the MAX-IO[μ] faithfulness constraint which requires the mora in the input is realised in the output. Finally, candidate (d) is pronounced as the victor because it only violates the lower ranked constraint as compared to the other candidates. The constraints interaction mentioned above can be summarised as follows:

(6) *C]σ>>MAX-IO>> MAX-IO[μ]>> DEP-IO

Although the hierarchical ranking in (6) predicts the correct optimal output, the DEP-IO constraint established in (5) is still unsatisfactory because any epenthetic vowels can emerge as the winner. In order to clarify this matter, the economic factor that is emphasised in OT (Zaharani 1994)

is also taken into account where only one of the plausible candidates will be selected to undergo optimality operation. These plausible candidates are [baŋ.sa:.ra], [baŋ.sa:.ri], [baŋ.sa:.re] and [baŋ.sa:.ro]. If one of these possible candidates is to be considered, such as [baŋ.sa:.ra], the evaluation fails to choose the optimal output, as illustrated in Tableau 2.

TABLEAU 2. Borrowing of ML Words that Ends with /Car/, /Cor/ and /Cur/

/ baŋsar/		*C]σ	MAX-IO	MAX-IO[μ]	DEP-IO
	a. baŋ.saɾ	*!		*	
	b. baŋ.sa:		*!		
	c. baŋ.sa		*	*!	
☞	d. baŋ.sa:.**rɯ**				*
☞	e. baŋ.sa:.**ra**				*

Tableau 2 shows that candidates (d) and (e) are in a tie position where both are chosen as the winner. Hence, the constraint ranking established thus far is inadequate. Therefore, it needs to be revised. In order to account for the problem, we employ a markedness constraint of vowel features, as proposed by Shoji and Shoji (2014).

The hierarchically ranked constraint of vowels, proposed by Shoji and Shoji (2014) in accounting for the process of epenthesis in the JL can be used in selecting the correct epentethic vowel surfaces in the output. According to Shoji and Shoji (2014), vowels in JL are used widely in the process of adaptation EL lexical into JL. Vowels are used during the epenthetic process to prevent the coda condition besides coda that involves nasal (CVC).

Moreover, according to Shoji and Shoji (2014), the high vowel /u/ in the JL that has the pronunciation [ɯ], is used widely during the process of epenthesis. The use of vowels in the process of epenthesis when borrowing into the JL is explained in detail by Shoji and Shoji (2014) and a set of hierarchically ranked vowel constraints was proposed in their writing. This arrangement is proposed by Shoji and Shoji (2014) by using the arguments of earlier linguists on the characteristics of vowel features.

"According to Lehiste (1970), Carr (1999) and Blevins (1995), high vowels are less sonorous and shorter in duration than low vowels. Also, Lombardi (2002) states that front vowels are more marked than backed vowels, and Kager (1999) states that [-low, +back, -round] vowels are the most unmarked values for epenthetic vowels"

Shoji and Shoji (2014: 1)

Based on the arguments of previous scholars, Shoji and Shoji (2014) have proposed hierarchical ranking of vowel constraints for context-free cases that involved all types of vowels. According to them, some potential markedness constraints that can be used in evaluating the correct epenthetic vowel of JL loanwords are as follows:

(7) HIGH   : Vowel should be high
     *LOW   : Vowel should not be low
     BACK   : Vowel should be back
     *FRONT   : Vowel should not be front
     *ROUNDED : Vowel should not be rounded

Shoji and Shoji (2014: 1)

These constraints need to be ranked. The ranking of constraints suggested is based on a context-free default epenthetic vowel. This is because there are also cases where the process of vowel epenthesis in the JL changes according to the consonant features that are matched to it. The interaction of vowel constraints proposed by Shoji and Shoji (2014) can be refered in Tableau 3.

Shoji and Shoji's (2014) analysis in accounting for the issue of selecting the correct vowel for EL words that are absorbed into the JL can be used for other foreign language data. This study also uses the constraint ranking proposed by Shoji and Shoji (2014) to solve the problem of two outputs having the opportunity to be the optimal candidate simultaneously when ML words are absorbed into the JL (refer Tableau 3).

The hierarchically ranked constraints in Tableau 3 can be summarised as follows:

(8) *ROUNDED. *LOW>>*FRONT>>HIGH>>BACK

The constraint hierarchy in Tableau 3 by Shoji and Shoji (2014: 3) managed to unravel the questions about the selection of vowels that is the choice during the process of epenthesis when borrowing of foreign words are made into JL. This hierarchy can also be applied to explain the strategy of vowel lengthening followed by vowel epenthesis during adaptation of ML words into JL. Observation on the available data collected in the Senyum magazine shows that vowel epenthesis often involves the vowel /ɯ/ in JL pronunciation. The interaction can be seen in Tableau 4.

TABLEAU 3. Constraint Ranking of Vowel Epenthesis in the Context Free Condition

/CVC/	*ROUNDED	*LOW	*FRONT	HIGH	BACK
CVCa		*!		*	*
CVCi			*!		*
☞CVC**ɯ**					*
CVCe			*!	*	*
CVCo	*!			*	

Shoji and Shoji (2014: 3)

Tableau 3 illustrates that the constraint ranking established in (8) is able to account for the phenomenon of phonological adaptation involving vowel lengthening in the syllable-final /Car/, /Cur/ and /Cor/. The constraint set in this tableau also managed to select the optimal output of the epenthetic vowel. Candidate (d) is chosen as the winner because it only violates the lowest constraint in the hierarchy as compared to the other candidates. The failed candidate (e, f, g and h) are ruled out in the competition because they could not satisfy the higher constraints in the hierarchy compared to candidate (d). The non-compliance of other candidates in satisfying the constraint hierarchy enabled candidate (d) to be selected as the optimal output.

The phenomenon of vowel lengthening in the ML data when absorbed into the JL involved a lot of the syllable-final /Car/, /Cur/ dan /Cor/. This phenomenon can be explained better through OT. This is because, not only can this vowel lengthening phenomenon be explained in more detail and in-depth. In fact, the vowel epenthesis process occuring after completion of the vowel lengthening process can also be described adequately. The constraint set that can produce the optimal output candidate in this case can be summarised as in (9).

(9) *C]σ>>MAX-IO>>MAX-IO[μ]>>*ROUNDED. LOW>>FRONT>>HIGH>>BACK

TABLEAU 4. Borrowing of ML Words Ending with /Car/, /Cor/ and /Cur/*[3]

/ baŋsar/	*C]σ	MAX-IO	MAX-IO[μ]	*ROUND-ED	*LOW	*FRONT	HIGH	BACK
a. baŋ.saɾ	*!		*					
b. baŋ.sa:		*!						
c. baŋ.sa		*	*!					
☞ d. baŋ.sa:.**rɯ**								*
e. baŋ.sa:.**ra**					*!		*	*
f. baŋ.sa:.**ri**						*!		*
g. baŋ.sa:.**re**						*!	*	*
h. baŋ.sa:.**ro**				*!			*	

CONCLUSION

The development of the Malay society's sociological information in the Japanese society has resulted in the clash of these two cultures (Siti Hamin et al. 2013), thus lexical borrowing of ML words had to be done. The phonological adaptation of JL in the loaned ML words is one of the fields of study that is not only important in the field of JL phonology but also in the field of ML phonology. According to the survey results done by Institute of Strategic and International Studies (ISIS) Malaysia, communication gap has been highlighted as the major problem in Japanese companies based in Malaysia (Kawatani & Ahmad Ikram 1996). Since the first Look East Policy was launched by Tun Dr. Mahathir Mohammed in 1982, there was a rapid growth of Japanese companies in Malaysia. For the Japanese working in Malaysia, the social communication is most likely revolved around Malaysian customs. However, the pronunciation of the Japanese people which is not the same as the pronunciation in ML when pronouncing ML words has made it quite difficult for the local communities in Malaysia to determine the meaning of the words uttered.

According to Siti Hamin et al. (2013), Japanese citizens who follow the Malaysia My Second Home (MM2H) programme also use ML in formal and informal situation such as ordering food, communicating with the taxi driver and asking for directions. Some of the ML words (for instance, name of a place and food) cannot be translated into English language and they have to pronounce it in ML. Communication breakdown between the Japanese and local society can occurr when their pronunciation is misunderstood and unrecognizable.

Nonetheless, studies like this can help to clarify the source of the phonological adaptation that occurs as well as the strategies that the Japanese use to pronounce the words borrowed from the ML so that effective communication can be achieved. Previous studies on the borrowing of English words into JL have been much debated and given attention among linguists. This research can provide new input into the field of phonology using data of ML words that are loaned into JL. The use of ML loanwords in the JL not only allows the discussion of the nature of the JL phonology in-depth, but indeed enables analysis of its borrowing process to be debated in more detail.

This article has discussed about the phonological phenomenon that occurred when ML words are loaned into JL, namely the vowel epenthesis and vowel lengthening repair strategies involving the syllable-final /CVC/ consisting of /Car/, /Cor/ and /Cur/. The vowel epenthesis is triggered by the coda condition where the coda consonants are resyllabified as an onset because the phonology of JL does not permit the /CVC/ syllable structure except for the nasal and glottal stop occur in the coda position. The JL phonological system chooses the vowel /ɯ/ as the epenthetic segment. The OT analysis is not only able to describe the vowel epenthesis repair strategy that occurred, in fact the vowel lengthening effect that takes place has also been successfully explained. It is hoped that the hierarchical ranking of constraints suggested in this study can be a guidance for other linguists as well as the local communities so that the ML words pronounced or uttered by native JL speakers are more easily understood.

NOTES

[1]   It must be noted that both forms [baŋ.sa:.ɾɯ] and [baŋ.sa:] exist in the available data. However, the former seems to be more prevalent as compared to the latter.

[2]   This tableau only discusses the process of vowel lengthening and vowel epenthesis of /sar/ → [sa:.ɾɯ]. The phonological adaptation process of consonant feature /r/ from the ML word to the consonant /ɾ/ in the JL will not be discussed because it is not important in the discussion.

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