

Syllable Structure in Thai and English

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Abstract

Phonologically, there are an area of difference between the L1 Thai and L2 English which permits both a greater number of clusters. This paper aims to explore the similarities and differences in syllable structures in Thai and English in terms of phonetics and phonotactics. According to Lado's (1957) Contrastive Analysis Hypothesis (CAH), differences between the L1 and L2 should be taken into consideration to account for L2 learners' learning difficulties. Instead of learning novel L2 variants, native speakers of Thai possibly transfer the L1 sounds when learning L2 English. Understanding the varieties of syllable structures in the two languages might then aid Thai students to learn English and English teachers to teach English more effectively and successfully.

Keyword: L1 Thai, L2 English, SLA, CAH

Introduction

The relationship between the mother tongue or first language (L1) and the second language (L2) has been the focus of many studies within the field of research into second language acquisition (SLA) over the years. Much of the discussion has focused on transfer phenomena. When the same individual acquires two or more different languages, it is said to be the case that their L1 will influence the process of acquiring a second language. Many L2 learners, both students and adults, face serious difficulties in learning English as a second language, and especially its phonological features (Winkel *et al.*, 2006). In Thailand, the possible causes of such phonological errors include limited vocabulary, inadequate phonetic knowledge, insufficient instruction in pronunciation, the teacher's educational background and teaching style, and substitution with their L1 due to the learners' mistaken replacement of the target sound with an incorrect one (Wei and Zhou, 2002). This is thus the case that the differences in the two languages seem to play an important role in L2 phonological acquisition. For Lado's (1957) Contrastive Analysis Hypothesis (CAH), differences between the native language (NL) and target language (TL) are crucial to account for L2 learners' learning difficulties. According to the transfer account or Lado's (1957) CAH, it should be predicted that some types of English syllable structures which are not permitted in Thai can also cause difficulties for L2 learners of English. That is to say, the similarities in sound systems between the NL and TL are prone to facilitate L2 learners to produce native-like mastery. As a result, much work in SLA has focused on interlanguage phonology to provide evidence that the transfer effect plays a crucial role in acquisition. Selinker's (1972) Interlanguage Theory (IL) indicated that L1 transfer is important for the learners who go through many different stages

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in acquiring from their L1 to the L2. This is due to many factors including transfer, according to IL, and L2 learners create their own language systems comprising not only of features of the NL or TL, but also many others which are either included in or even excluded from the NL and TL. It is likely that such L2 learners can reach a stage of ‘fossilization’ that prevents them from making further progress towards becoming more target-like, and it is the case that transfer from L1 can lead to fossilized errors. In addition, Korsuwan’s (2001) study of the assimilation of English loanwords by Thai speakers revealed that pronunciation problems resulted from a lack of background knowledge in the TL’s phonetic inventories together with the speakers’ behaviour in sharing both Thai and English phonological patterns. Bowman (2000) conducted a contrastive analysis of English and Thai and its practical application for teaching English pronunciation. This illustrates how language teachers can become more aware of the mother tongue of their foreign language learners and how this can be helpful in seeing and addressing the difficulties they have in learning English. In addition, Kanokpermpoon (2007) examined the similarities and differences between Thai and English consonants, indicating some problems Thai students have with English pronunciation. His findings revealed that consonants not existing in Thai are more difficult for the Thai speakers. To tackle the problem of sounds which are nonexistent in Thai, Thai students are likely to substitute Thai sounds for the English sounds. As a result, it is predicted, based on the CAH, that inauthentic utterances of L2 learners are influenced by negative transfer from their L1. L2 learners will have difficulty in learning sounds which are prohibited in their native language.

The markedness effect is alternative to Lado’s (1957) CAH which predicts the ‘directionality of difficulty’ (Eckman 1987 : 55). Eckman (1987) originated Markedness Differential Hypothesis (MDH) suggesting that while the Lado’s (1957) CAH explains only where learning difficulties take place, the MDH also indicates: 1) the relative instead of equal degree of difficulty, 2) where differences between the L1 and L2 will result in learning difficulty, and 3) the reason why specific features are acquired before other structures. The degree of difficulty in second language acquisition can be predicted by virtue of the markedness of differences between the L1 and L2, as summarized by Eckman (1977 : 321):

1) Those areas of the target language which differ from the native language and are more marked than the native language will be difficult.

2) The relative degree of difficulty of the areas of the target language which are more marked than the native language will correspond to the relative degree of markedness.

3) Those areas of the target language which are different from the native language, but are not more marked than the native language will not be difficult.

For Eckman (1987)’s MDH, a less marked structure is less difficult to learn than a more marked feature. In this way, L2 learners might acquire the less marked variants before the more marked structures.

The next section considers the differences between English and Thai phonology.

English and Thai Phonology

English is learned as a second language in Thailand, where both vowel and consonant patterns are completely different in these two languages. Thai, the national language of Thailand, is a tone language whose syllables are composed of four components: initial consonant, nucleus, optional final consonant, and tone. Although there are 44 Thai letters, they are represented by only 21 consonant phonemes. Basically, Thai words are monosyllabic, while most compounds and polysyllabic words are loanwords, especially from Pali and Sankrit used in politic, royal, and religious contexts (Phootirat, 2012 : 8).

1. English and Thai Consonants

As can be seen in Table 1, the distinction of aspiration and unaspiration plays a vital role in the Thai consonant system. While aspirated and unaspirated pattern are allophonic in English, they are distinct phonemes in Thai such as /t^ha:/ ‘to paint’ and /ta:/ ‘eye’. The present paper is designed to be relevant to the phonetic analysis. A summary of syllable-initial and syllable-final consonants is illustrated below.

1.1 Stops

English allows three pairs of voiceless and voiced stops: /p, t, k/ and /b, d, g/ occurring in the initial and final positions. The present paper also includes a glottal stop /ʔ/ according to Harris (2001).

1)	<i>pin</i> /p ^h In/	<i>mop</i> /m ^h Dp/
	<i>tin</i> /t ^h In/	<i>mat</i> /mæt/
	<i>kin</i> /k ^h In/	<i>back</i> /bæk/
	<i>bin</i> /bIn/	<i>mob</i> /m ^h Db/
	<i>din</i> /dIn/	<i>mad</i> /mæd/
	<i>gin</i> /dʒIn/	<i>fog</i> /f ^h og/
	<i>uh-uh</i> /'ʔʌ,ʔʌ/	

In the initial or medial position, /p, t, k/ will be aspirated but unaspirated when following a syllable initial /s/ e.g. ‘spy’. Syllable-finally, they can be either released or unreleased.

Thai permits nine voiceless stop phonemes, including four aspirated stops /p^h, t^h, k^h, c^h/, four unaspirated phonemes /p, t, k, c/, and one glottal stop /ʔ/ together with two voiced stops /b, d/. Only the voiceless oral stops /p, t, k, ʔ/ are phonologically permitted in the syllable coda position.

2)	/p ^h ā:/ ‘to take’	/pā:/ ‘to throw’	/láp/ ‘secret’
	/t ^h ā:/ ‘to paint’	/tā:/ ‘eye’	/lát/ ‘to cut across’
	/k ^h ā:/ ‘to stick’	/kā:/ ‘crow’	/lák/ ‘to steal’
	/c ^h ā:/ ‘tea’	/cà:/ ‘sergeant’	
	/ā:/ ‘uncle, aunt’	/lā:/ ‘bye’	

/bàː/ 'shoulder'

/dàː/ 'to scold'

Interestingly, the sounds symbolised by /p^h/, /t^h/, and /k^h/ in Thai are almost identical to /p/, /t/, and /k/ respectively in English. The three-way voicing/aspiration contrast occurs in the bilabial /p^h, p, b/ and alveolar oral stops /t^h, t, d/, while aspiration contrasts the voiceless velar /k^h, k/ (Harris, 2001: 4). Although the phones /p^h, p/, /t^h, t/, and /k^h, k/ are certain allophonic variants of /p, t, k/ respectively in English, these three pairs of aspirated and unaspirated stops are completely separate phonemes because Thai aspiration is phonemically significant. All of them can occur in the same environment acting as an onset. To put it simply, the Thai aspirated phonemes /p^h, t^h, k^h/ are rather the counterparts of the English stops /p, t, k/ in the onset position. In light of the voiced stops /b, d/, they are similarly permitted as syllable onsets in both English and Thai but are never allowed to occur in the position of coda in Thai. It is obvious that, in Thai, the characteristics of syllable-initial consonants are different from the syllable-final consonants simply because /p, t, k/ in the final position of a syllable are not released. However, Thai voiceless stops /c/ does not have equivalents in English, whose voiced stop /g/ is also not allowable in Thai.

1.2 Fricatives

Fricatives in English include four pairs which are either voiced /v, ð, z, ʒ/ or voiceless /f, θ, s, ʃ/, and a voiceless glottal /h/ without its voiced counterpart. All fricatives can occur word-initially and finally, with the exception of /h/ which is allowed only as an onset in English.

3)	<i>vat</i> /væt/	<i>glove</i> /gʌv/
	<i>fat</i> /fæt/	<i>golf</i> /ɡɒlf/
	<i>this</i> /ðɪs/	<i>with</i> /wɪð/
	<i>think</i> /θɪŋk/	<i>both</i> /bəʊθ/
	<i>zoo</i> /zuː/	<i>fuzz</i> /fʌz/
	<i>sat</i> /sæt/	<i>boss</i> /bɒs/
	<i>vision</i> /ˈvɪʒən/	<i>garage</i> /ˈɡærɑːʒ/
	<i>she</i> /ʃiː/	<i>crash</i> /kræʃ/
	<i>hat</i> /hæt/	

In Thai, three voiceless fricative phonemes /f, s, h/ are allowed in only the initial position.

4)	/fūː/ 'to rise'	/sūː/ 'to fight'	/hūː/ 'ear'
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In both English and Thai, the fricatives /f, s, h/ have similar distributions to occur syllable-initially. While the English /f, s/ can occur in the coda position, they are never permitted to act as the coda in Thai. On the other hand, neither the voiced /v, ð, z, ʒ/ nor voiceless /θ, ʃ/ are in use in the sound system of Thai.

1.3 Affricates

Phonemes /tʃ, dʒ/ can occur either syllable-initially or finally in English.

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|----|----------------------|--------------------|
| 5) | <i>choke</i> /tʃəʊk/ | <i>rich</i> /rɪtʃ/ |
| | <i>jar</i> /dʒɑːr/ | <i>edge</i> /edʒ/ |

Thai permits two affricates which can be aspirated /tʃʰ/ and unaspirated /tʃ/.

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|---------|-----------|---------|------------|
| /tʃʰon/ | ‘be poor’ | /tʃʰon/ | ‘to fight’ |
|---------|-----------|---------|------------|

1.4 Nasals

In English, only two nasal phonemes /m, n/ are allowed in both syllable-initial and final positions, while the phoneme /ŋ/ is preserved in either a medial position between vowels ‘singing’ as well as voiced and voiceless velar stops /k, g/ ‘linkage’ and ‘linger’ or in the final position.

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|----|-------------------|-------------------|
| 6) | <i>man</i> /mæn/ | <i>jam</i> /dʒæm/ |
| | <i>nap</i> /næp/ | <i>ban</i> /bæn/ |
| | <i>sing</i> /sɪŋ/ | |

Three nasal phonemes /m, n, ŋ/ can occur both syllable-initially and finally in Thai.

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|----|-------|--------------|-------|-------------|
| 7) | /māː/ | ‘to come’ | /lām/ | ‘trunk’ |
| | /nāː/ | ‘rice field’ | /lân/ | ‘be loudly’ |
| | /ŋāː/ | ‘sesame’ | /lāŋ/ | ‘box’ |

1.5 Liquids

Although the trill [r] or tap [ɾ] is also considered the main rhotic in some English accents, this paper focuses an attention on the major rhotic variant of an approximant [ɹ]. English allows two liquid phonemes, an approximant [ɹ] and a lateral [l] which can occur syllable-initially and finally.

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|----|-------------------|--------------------|
| 8) | <i>rock</i> /rɒk/ | <i>bar</i> /bɑːr/ |
| | <i>lock</i> /lɒk/ | <i>ball</i> /bɔːl/ |

Thai allows two liquid phonemes, either a trill [r] or a tap [ɾ] and a lateral /l/, in only the onset position because liquids are never permitted in a Thai coda. It should be noted here that the trill is used only in formal contexts, as it is regarded as more prestigious than the tap.

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|----|-------|----------|
| 9) | /rāː/ | ‘fungus’ |
| | /lāː/ | ‘donkey’ |

Interestingly, the articulation of Thai /r/ shows a fluctuation between a trill and a tap, whereas the English /ɹ/ is rather retroflex because of its stable articulation (Panlay, 1997: 40). Both /r/ and /l/ in these two languages can also co-exist with several other consonantal sounds to form consonant clusters that are crucial to meaning.

1.6 Glides

The two English semivowel phonemes /w, j/ are allowed in the syllable-initial as well as syllable-final position and also combined to create diphthongs.

- 10) *walk* /wɔːk/ *now* /naʊ/
yam /dʒæm/ *boy* /bɔɪ/

Similar to English, Thai also has two glides /w, j/ which are permitted to occur in word-initial and final positions.

- 11) /waːŋ/ 'to put' /jaːw/ 'be long'
/jaː/ 'medicine' /nɔːj/ 'be little'

2. English and Thai Phonotactics

English and Thai differ widely in their phonotactics on consonants and consonant clusters. These two languages allow different combinations of vowels and consonants to form a syllable. Thai has a simpler syllable shapes than that in English because the largest Thai syllable is /kràːp/ 'to prostrate' (Panlay, 1997 : 21), while the longest allowable syllable structure in English is 'strengths'. Like in English, the nucleus is the obligatory basis of the Thai syllable and almost all consonants can fill the syllable-initial and optional syllable-final consonant slots. Under certain circumstances, English allows syllabic nasals and liquids to function as syllable nuclei in an unstressed syllable at the end of a word such as a syllabic /ŋ/ in 'button' and /l/ in 'tunnel' because they are pronounced without a vowel between the /t/ and /n/ and /n/ and /l/ respectively.

2.1 Permissible Consonant Clusters

2.1.1 Word-initial Consonant Clusters

With regard to the allowable English syllable shape, its consonant clusters are permitted in the three positions of initial, medial, or final positions. English allows prevocalic consonant clusters of either two or three-consonant clusters. According to the restrictions of initial cluster, when the second cluster member in a two-consonant cluster is a liquid /l, r/ or a glide /j, w/, the first cluster consonant will be either a stop or fricative phoneme. If the first cluster member is /s/, the second member will be /p, t, k, f, l, m, n, w/. It is also the case in English that, orthographically, some words have one initial consonant, but they are pronounced as if they are a two-consonant cluster such as 'cute' and 'huge'. In these words, the /j/ is invisible preceding a vowel /uw/.

- 12) *cute* /k^hj^huw/ not /k^huw/

As with a three-consonant cluster, the first member will be /s/, with the second member being a voiceless stop /p, t, k/ and the third member being a liquid /l, r/ or a glide /j, w/.

For Thai, consonant clusters are allowed to occur only prevocalically and only single consonants are used in the coda position. As with constraints of initial cluster, the first cluster members are the voiceless stops /p, t, k, p^h, t^h, k^h/, and only the liquids /r, l/ and the semivowel /w/ are allowable in the second cluster position. However, /t, t^h/ will not precede /l/ and only /k, k^h/ are permitted to come before /w/.

All permissible consonant combinations occurring in the syllable-initial position which have English counterparts are given below in Table 2.

Table 1: Permissible Consonant Combinations in Syllable-Initial Position in English and Thai (Bowman, 2000: 49)

		p ^h	t ^h	k ^h
Thai	l	p ^h l		k ^h l
English		pl [p ^h l]		kl [k ^h l]
Thai	r	p ^h r	t ^h r	k ^h r
English		pr [p ^h r]	tr [t ^h r]	kr [k ^h r]
Thai	w			k ^h w
English				kw [k ^h w]

2.1.2 Word-final Consonant Clusters

While a single consonant is allowed as the coda in Thai, English has complex codas. In this sense, English has one, two, three, or a maximum of four consonants in post-vocalic position, as can be seen in example 13).

- 13) -C: feelown mid
 -CC: felt old milk
 -CCC: text sixth exempt
 -CCCC: texts sixths exempts

Based on the transfer approach, it should be predicted that Thai speakers have more difficulty in learning consonant clusters disallowed in L1 Thai.

3. Conclusion and discussion

As can be seen above, syllable structures in L1 Thai and L2 English differ widely. According to the transfer account or Lado's (1957) CAH, it should be predicted that features in English similarly occurring in the Thai language are easier for Thai speakers to learn relative to the novel sounds which are disallowed in Tha. That is to say, the similarities in sound systems between the L1 and L2 are prone to facilitate L2 learners to produce native-like mastery. In this sense, native speakers of Thai should take these differences into account when learning L2 English because the novel syllable structures might facilitate or hinder the ability of L2 acquisition. In addition, Thai teachers who teach English should realise and understand the differences between the two language in order to advance the capability of learning English among Thai students.

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