

## **Tonal assignment on English loanwords in Thai: A case study of assignment of Mid and High tone on <CVN> syllable structure**

Most scholars have widely suggested that loanword adaptation is a process involving both native phonology and perception (Kubozono, 2006; Peperkamp, Vendelin, & Nakamura, 2008). However, native phonology and perception seem to be inadequate to explain tonal assignment of English loanwords in Thai. Specifically, the words which contain different structure can be assigned tones differently. To illustrate, the mid tone (M) is assigned to words like “claim” /khle:m/ or “fan” /fɛ:n/ while, the high tone (H) is assigned to words like “camp” /kém/ or “tent” /tén/. In this case, Gandour (1979) and Kenstowicz and Suchato (2005) have proposed that the absent obstruents following the nasals in English loanwords, not the rhyme duration, trigger Thai native speakers to treat such syllable structure as a dead syllable whose default tone is H. Therefore, we conducted the experiment to test whether obstruents following nasal is the only factor that triggers tonal assignment.

This study used XAB paradigm where participants judged which of the 2 stimuli, stimuli A and B which are Thai pseudo words that contain H or M tones e.g. /tha:ŋ/, /thá:ŋ/, is more similar to stimuli X which are English pseudo words, e.g. /taŋ/, /taŋk/. Syllable structures for the stimuli are CVNas and CVNasObs, as used in Kenstowicz and Suchato's (2005) experiment. In addition, to investigate whether the duration of the rhyme also plays a role in tonal assignment, we added two more syllable structures, CVNas with an inserted final obstruent (CVNas+Obs) and CVNasObs with a removed final obstruent (CVNasObs-Obs). This was to change the syllable structure but maintain the duration of the rhyme. The assumption is that if the final obstruent is the only factor that triggers tonal assignment, the response for CVNas should patterns with CVNasObs-Obs and CVNasObs should pattern with CVNas+Obs since they have the same syllable structure. If the duration of rhyme also plays a roll, a different pattern of response is expected.

As shown in table 1, results confirmed Gandour (1979) and Kenstowicz and Suchato (2005), suggesting that the obstruent can trigger H. To illustrate, CVNas prefers M while CVNasObs prefers H ( $p > .05$ ). CVNas+Obs condition reveals that even a rhyme has the same duration as CVNas but if there is an obstruent, H is still assigned ( $p < .05$ ). This can also strongly support the claim that obstruents following nasals trigger H. However, CVNasObs-Obs condition also shows a tendency for H assignment ( $p > .05$ ). This reveals that if a rhyme is short as in CVNasObs, participants tend to assign H more than M. That is, the duration of rhyme tend to be another factor that should be taken into account.

From the result of the present study, it can be concluded that, not only the final obstruent, the duration of the rhyme also tend to be one of the factors that can trigger H tone. This implies that the assignment of H may be a function of phonetic characteristics of CVNasObs, since CVNas and CVNasObs differ in various aspects of phonetic parameters such as the duration of rhyme, the alignment of F0 movement. To investigate if those parameters affect tonal assignment on English loanwords in Thai, additional aspects should be further investigated.

## Table

Table 1: Response tendencies for each test condition

Syllable structure	M response ( $\bar{x}$ )	H response ( $\bar{x}$ )	p-value
CVNas	7.1	4.9	0.061
CVNasObs	3.0	9.0	0.000*
CVNas+Obs	4.0	8.0	0.002*
CVNasObs-Obs	4.9	7.1	0.116

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