

# Phonetic Prediction of Thai-Accented Hong Kong Cantonese

## 1. Vowels

Standard Thai has at least nine monophthongs and three noticeable diphthongs, which can be found in the figure below:

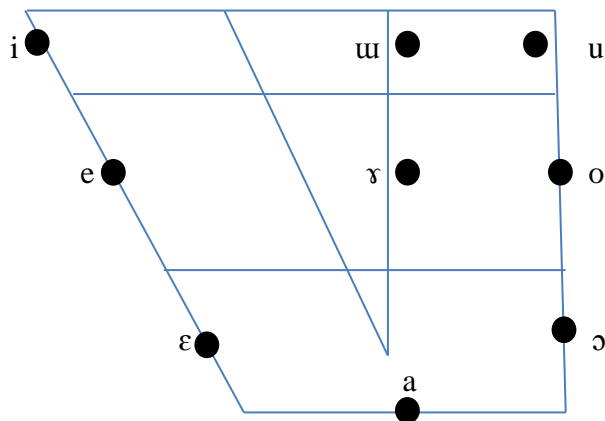


Figure 1: Monophthongs

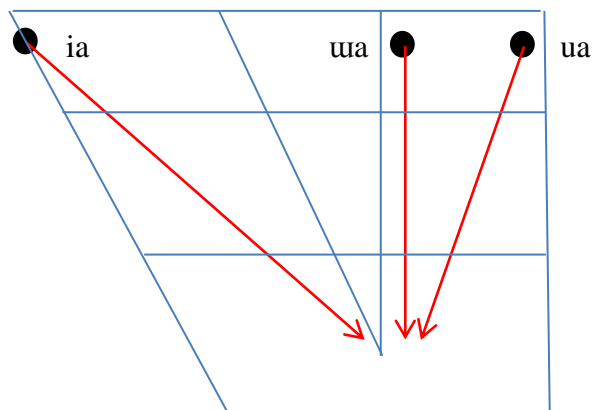
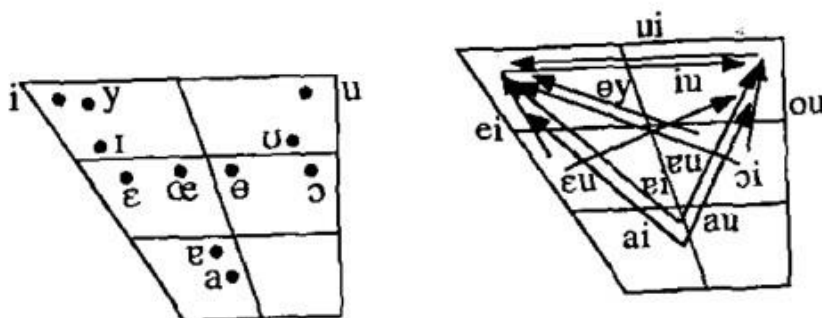


Figure 2: Diphthongs

The reasons why the claim is “at least nine monophthongs” in Standard Thai is

that whether to consider the long variants of those nine monophthongs shown above to be distinct phonemes. M. R. K'alaya Tingsabadh and Arthur S. Abramson believe that “the differences [between short and long counterparts of monophthongs] are too subtle to place with confidence in the vowel quadrilateral” (Tingsabadh & Abramson, 1993). In other words, compared with the other vowel qualities, though the length of a monophthong is a noticing feature that defines a distinct monophthong, it is not a good idea to include the length in the vowel chart due to its subtlety. As for the diphthongs, though there are only three diphthongs shown in the figure above, “(1) [iu, eu, ɛ:u, au, a:u, iau] and (2) [ai, a:i, ɔi, ɔ:i, ui, ɤ:i, uai, uai] are analyzed as [w] and [j] respectively” (Tingsabadh & Abramson, 1993), making a total number of eighteen diphthongs.

According to Eric Zee, there are eleven vowels in Cantonese, including /i/, /y/, /ɛ/, /ɪ/, /œ/, /ɐ/, /a/, /ə/, /u/, /ʊ/ and /ɔ/ (Zee, 1999). Here are the vowel charts provided by him.



However, Carol K. S. To, Pamela S. P. Cheung and Sharynne McLeod argue that “/ɪ ɐ ʊ/ are allophones of /i œ u/, respectively,” which was claimed by Cheung H-n in

his work as well (Cheung H-n, 1972). Though more direct evidence and proofs are needed to make this argument more plausible, for the purpose of this paper, there will be eight monophthongs and three allophones instead of eleven monophthongs.

Based on the inventories of monophthongs, it is clear to see that [i ɛ a u ɔ] exist in both Standard Thai and Hong Kong Cantonese. However, since /a/ in Standard Thai tends to be lower and more towards back than /a/ in Hong Kong Cantonese, the difference in pronunciation will be noticeable. Also, /u/ in Standard Thai is farther back than /u/ in Cantonese, resulting in the difference in pronunciation. In addition, /ɛ/ in Standard Thai may be lower and more approaching forward, compared with /ɛ/ in Hong Kong Cantonese; whereas /ɔ/ in Standard Thai seems to be lower and further back than /ɔ/ in Hong Kong Cantonese.

It can also be seen that the list [y œ ɐ] is not produced in Standard Thai. Perhaps Thai speakers will use [u : ] to replace /y/ in Hong Kong Cantonese, as both [u : ] and /y/ are tense vowel, and [u : ] is perhaps the nearest vowel to /y/ (based on the judgment of the vowel chart that /u/ in Thai tends to be a central vowel instead of back vowel). Thus, word ‘book’ /syɪ/ in Hong Kong Cantonese may be pronounced as [su:ɪ] by native Thai speakers. In addition, Thai speakers may use [ɔ] as a replacement for /œ/ in Hong Kong Cantonese, as [ɔ] is a rounded vowel in Thai. Hence, Thai speakers may pronounce the word ‘boot’ /hœɪ/ as [hɔɪ]. Finally, Thai speakers tend to substitute /ɐ/ in Hong Kong Cantonese with /a/, as they are both central vowel, though /ɐ/ is slightly higher than /a/. According to this analysis, the word ‘wet’ /sɐp/ may be mispronounced as [sap] by Thai speakers.

For diphthongs, since it is likely that Thai speakers will use [a] to replace /ɐ/ in Hong Kong Cantonese, diphthong /ɛi/ will be replaced by /ai/. Thus, it is difficult for Thai speakers to tell ‘to waste’ /sai/ apart from ‘west’ /sɛi/ as they will be recognized and pronounced as [sai]. An interesting fact is that though /o/ and /u/ are in the vowel inventories of Standard Thai, diphthong /ou/ doesn’t occur in Standard Thai. Perhaps Thai speakers will use [o] to replace /ou/ in Hong Kong Cantonese, resulting in the losing of [u] sound. Or it is also possible that Thai speakers use [au] as a replacement for /ou/ in Hong Kong Cantonese to pervert the existence of diphthong, which will lead to the mispronunciation of word ‘beard’ /sou/ as [sau] and the difficulty of differentiating ‘basket’ /sau/ with ‘beard’ /sou/.

## 2. Consonants

According to Tingsabath and Abramson (1993), there are 21 consonants in Standard Thai. A noticeable feature of Standard Thai is the three-way voicing / aspiration contrast in bilabial oral stops /p<sup>h</sup> b/ and alveolar oral stops /t<sup>h</sup> d/ (Harris 2001). It is also worth noticing that aspiration itself is contrastive in voiceless velar stops /k<sup>h</sup>/ and voiceless post – alveolar affricates /tʃ<sup>h</sup>/.

Voiced nasal stops occur on bilabial /m/, alveolar /n/ and velar /ŋ/ (Diller 2008). All the fricatives in Standard Thai are voiceless. Trill and Lateral Approximant in Standard Thai are homorganic. Approximants in Standard Thai are palatal /j/ and velar /w/ and there are both voiced. Consonant chart is provided below:

|                        | Bilabial           | Labiodental | Alveolar           | Postalveolar       | Palatal | Velar            | Glottal |
|------------------------|--------------------|-------------|--------------------|--------------------|---------|------------------|---------|
| Plosive                | p p <sup>h</sup> b |             | t t <sup>h</sup> d |                    |         | k k <sup>h</sup> | ʔ       |
| Nasal                  | m                  |             | n                  |                    |         | ŋ                |         |
| Fricative              |                    | f           | s                  |                    |         |                  | h       |
| Affricate              |                    |             |                    | tʃ tʃ <sup>h</sup> |         |                  |         |
| Trill                  |                    |             | r                  |                    |         |                  |         |
| Approximant            |                    |             |                    |                    | j       | w                |         |
| Lateral<br>Approximant |                    |             | l                  |                    |         |                  |         |

Figure 3: Consonant Chart of Standard Thai, inventory information provided by Tingsabadh and Abramson (1993), re – drawn by Suiliang Ma.

|                        | Bilabial         | Labiodental | Dental           | Alveolar           | Post-alveolar | Palatal | Velar            | Labial-velar                   | Glottal |
|------------------------|------------------|-------------|------------------|--------------------|---------------|---------|------------------|--------------------------------|---------|
| Plosive                | p p <sup>h</sup> |             | t t <sup>h</sup> |                    |               |         | k k <sup>h</sup> | k <sup>w</sup> k <sup>wh</sup> |         |
| Nasal                  | m                |             | n                |                    |               |         | ŋ                |                                |         |
| Fricative              |                  | f           |                  | s                  |               |         |                  |                                | h       |
| Affricate              |                  |             |                  | tʃ tʃ <sup>h</sup> |               |         |                  |                                |         |
| Approximant            |                  |             |                  |                    |               | j       |                  | w                              |         |
| Lateral<br>Approximant |                  |             | l                |                    |               |         |                  |                                |         |

Figure 4: Consonant Chart of Hong Kong Cantonese, provided by Zee (1999), re –

drawn and re – organized by Suiliang Ma.

For plosive inventories of the two languages, it is noticeable that voiceless labial-velar plosives do not exist in Standard Thai at all. Thai speakers may replace voiceless labial-velar plosives by voiceless velar plosives, because the places of articulations of those phonemes are close. Thus, it will be very hard for Standard Thai speakers to distinguish and pronounce ‘to add’ [kaʔ] and ‘melon’ [kʷaʔ] as Thai speakers will probably to replace /kʷ/ in Hong Kong Cantonese with [k] by moving the tongue forward. Similarly, Thai speakers will likely replace /kʰ/ in Hong Kong Cantonese with /kʰ/, resulting in the difficulty of differentiating ‘to boast’ [kʰaʔ] with ‘truck’ [kʰaʔ]. Bilabial plosives, alveolar plosives and velar plosives are all presented in both Hong Kong Cantonese and Standard Thai, so Thai speakers should have no problem pronouncing those consonant phonemes.

For affricate inventories, since voiceless alveolar fricatives /tʃ tʃʰ/ do not present in Standard Thai, Thai speakers will substitute /tʃ/ with [tʃ] and /tʃʰ/ with [tʃʰ] by moving the tongue back a little bit. Hence, ‘to hold’ /tsaʔ/ will very likely to be pronounced as [tʃaʔ] and ‘fork’ [tʃʰaʔ] as [tʃʰaʔ], leading to foreign accents.

Another noticeable feature is that Standard Thai only allows /p,t,k,ʔ,m,n,ŋ,w,j/ occur at syllable – final position (Tingsabath & Abramson, 1993), whereas there is no such restriction for Hong Kong Cantonese. This will lead to the insertion of those phonemes mentioned above at syllable – final positions in the words that in Hong Kong Cantonese, which contain open syllables or closed syllables that don’t end with

any of /p,t,k,ʔ,m,n,ŋ,w,j/. For example, /fuɿ/ in Hong Kong Cantonese will be pronounced as [fuɿt] by Standard Thai speakers with the insertion of [t] at the end.

A special case analysis for /w/ sound is needed here. According to the consonant chart provided by Tingsabadh and Abramson, /w/ in Standard Thai is classified as voiced velar approximant (Tingsabadh & Abramson, 1993). However, Zee believes that [w] in Hong Kong Cantonese should be classified as voiced labial – velar approximant (Zee, 1999), which means that [w] in Hong Kong Cantonese require the rounding of lips, and tongue moves slightly forward and retracted. Thus, for [w] phoneme produces by Thai speakers while learning Hong Kong Cantonese will be more towards the back with the loss of the rounding of lips as well.

Both Standard Thai and Hong Kong Cantonese have exactly same inventories of nasals and extremely similar inventories of fricatives and lateral approximants, so Thai speakers should have no trouble identifying and pronouncing those phonemes in Hong Kong Cantonese.

### **3. Suprasegmentals**

Both Standard Thai and Hong Kong Cantonese are tone languages. According to Tingsabadh and Abramson, there are five tones in Standard Thai, including high tone /*é*/, mid tone /*ē*/, low tone /*è*/, rising tone /*ě*/ and falling tone /*ê*/ (Tingsabadh & Abramson, 1993). Given this description and the symbol Tingsabadh and Abramson used, one would represent all the tones in Standard Thai as [55 tone, 33 tone, 11 tone,

15 tone and 51 tone] if Chao (1930) tone letters are involved. However, Peter Ladefoged describes the tones system in Thai as the following: high rising tone [45 tone], mid falling tone [32 tone], low falling tone [21 tone], low falling – rising tone [214 tone] and high falling tone [51 tone] (Ladefoged, 2001), arguing that every single tone in Thai is contour tone. It is subjective to believe in one and reject the other completely as no further explanations or proofs are given by both, the descriptions and terms used by Tingsabadh and Abramson will be used in later analysis as those descriptions and terms capture more general cases.

As for Hong Kong Cantonese, tones are even more complicated. According to Zee, there are six tones in Hong Kong Cantonese, including three level tones: high level tone (55 tone), mid level tone (33 tone), low – mid level tone (22 tone), and three contour tones: low-mid to low falling tone (21 tone), low – mid to high rising tone (24 tone) and low – mid to mid rising tone (23 tone) (Zee, 1999).

Hence, for level tones in Hong Kong Cantonese, Thai speakers will use their high tone [é], their mid tone [ē] and low tone [è] to replace /55 tone/, /33 tone/, /22 tone/ in Hong Kong Cantonese, respectively. For example, ‘color’ /sik<sup>55</sup>/ in Hong Kong Cantonese will be pronounced as [s k]; ‘to reveal’ /sit<sup>33</sup>/ will be pronounced as [sīt], and ‘to eat’ /sik<sup>22</sup>/ will be pronounced as [s k].

However, Thai speakers will perhaps experience difficulties in perceiving and recognizing contour tones [21 tone, 24 tone, 23 tone] in Hong Kong Cantonese. It is likely that Standard Thai speakers will replace /21 tone/ by falling tone in Standard Thai, so ‘time’ /si<sup>21</sup>/ in Hong Kong Cantonese will be pronounced as [siʔt] by Thai



speakers. Also, it is possible that instead of recognizing /21 tone/ as a contour tone, Thai speakers will perceive it as a low tone, due to its delicacy in the changes of pitches. Thus, in this case, ‘time’ /si<sup>21</sup>/ in Hong Kong Cantonese will be pronounced as [s ɿ]. Similarly, /23 tone/ can be perceived as either a rising tone or a mid level tone. Hence, ‘city’ /si<sup>23</sup>/ can be pronounced as either [si/ɿ] or [sɿt] by Thai speakers. As for /24 tone/ in Hong Kong Cantonese, since it tends to be more obvious in terms of the changes of pitches, it is most likely that Thai speakers will perceived /24 tone/ as a rising tone. As a consequence, ‘history’ /si<sup>24</sup>/ will be pronounced as [si/ɿ] by Thai speakers.

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