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THE BEGINNING OF MERGING OF THE TONAL CATEGORIES B2 AND C1 IN HONG KONG CANTONESE'

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ABSTRACT

It has traditionally been accepted that there are nine tonal categories in contemporary Cantonese. However, there has been a recent tendency of the merging of tonal categories C1 and B2 in Hong Kong Cantonese, such as pronouncing the morpheme "試" meaning examination in tone B2 or pronouncing the morpheme "試" in tone C1. In fact, this phenomenon was first discussed in the book by Siew-Yue Killingley "A New Look at Cantonese Tones: Five or Six?" published in 1985. Flynn has also briefly mentioned this in the domain of Hong Kong Cantonese. In Killingley's work, she constructed a five-toneme system of Malayan Cantonese (Killingley 1985, 24) with three pieces of supporting evidence. In addition, she would like to extend this study to Hong Kong and mainland Cantonese. However, the examples given by Killingley are not consistent with the situation in contemporary Hong Kong even if consistent in Malayan Cantonese. Rather, it would be more reasonable to say that there is a tendency for the merging and it is at the very beginning stage only in Hong Kong. In summary, some tokens change from B2(C1) to C1(B2) permanently; some can be pronounced as either and some have undergone tonal splitting to represent different meanings. The main reasons behind the alternation are: (1) as a result of sentence intonation; (2) as a means of differentiating meaning; (3) as a result of ambiguity; or (4) as a result of phonetic difficulty and similarity.

In this article, the arguments given by Killingley are reviewed and a survey of this recent change in Hong Kong Cantonese was conducted. Finally, the reasons behind this phenomenon are discussed in detail.

SUBJECT KEYWORDS
Phonetics, Tonal merging, Hong Kong Cantonese, the Yue dialect, Sound change
0. A NOTE ON THE SYMBOLS USED

For the examples in the Cantonese dialect, narrow phonetic transcription using the International Phonetic Alphabets issued by the International Phonetic Association in 1996 are used in the paper, followed by Chinese characters when necessary. For the sake of convenience, the tonal categories (as described in Chinese Dialect Character Pronunciation List 漢語方音字彙, page 30) used in this paper are denoted by the numbers 1 to 9 as shown in the following table, unless otherwise specified:

<table>
<thead>
<tr>
<th>Tonal Category</th>
<th>Tonal Contour</th>
<th>Tonal Value</th>
<th>Tonal Letter</th>
<th>Tonal Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Level</td>
<td>High falling [HF]</td>
<td>553</td>
<td>˧</td>
<td>1</td>
</tr>
<tr>
<td>Lower Level</td>
<td>High level [HL]</td>
<td>55</td>
<td>˥</td>
<td>2</td>
</tr>
<tr>
<td>Rising</td>
<td>High rising [HR]</td>
<td>35</td>
<td>˧</td>
<td>3</td>
</tr>
<tr>
<td>Departing</td>
<td>High-mid level [HML]</td>
<td>33</td>
<td>˨˩˦</td>
<td>4</td>
</tr>
<tr>
<td>Upper Entering</td>
<td>High level [HL]</td>
<td>5</td>
<td>˥</td>
<td>7</td>
</tr>
<tr>
<td>Lower Entering</td>
<td>High-mid level [HML]</td>
<td>33</td>
<td>˨˩˦</td>
<td>8</td>
</tr>
<tr>
<td>Level</td>
<td>Low level [LL]</td>
<td>11</td>
<td>˩</td>
<td>9</td>
</tr>
<tr>
<td>Rising</td>
<td>Low falling [LF]</td>
<td>21</td>
<td>˨˩</td>
<td>4</td>
</tr>
<tr>
<td>Departing</td>
<td>Low-mid level [LML]</td>
<td>22</td>
<td>˨˩</td>
<td>5</td>
</tr>
<tr>
<td>Entering</td>
<td>Low-mid level [LML]</td>
<td>2/22</td>
<td>˨˩</td>
<td>9</td>
</tr>
</tbody>
</table>

1. INTRODUCTION

It has traditionally been accepted that there are nine tonal categories in Cantonese. However, there has been a recent tendency of the merging of the tonal categories C1 and B2 in Hong Kong Cantonese (HKC, henceforth), such as pronouncing the morpheme “試” meaning examination in tone B2 or pronouncing the morpheme “試” in tone C1. In fact, this phenomenon was first discussed in the book by Siew-Yue Killingley “A New Look at Cantonese Tones: Five or Six?” published in 1985. In addition, Flynn has also briefly mentioned this in the domain of Hong Kong Cantonese in her paper presented in the First International Conference in the Yue Dialect.

In this article, the arguments given by Killingley are reviewed and a survey about this recent change in Hong Kong Cantonese was conducted. Finally, the reasons behind this phenomenon are discussed in detail.

2. KILLINGLEY’S WORK

It is traditionally accepted that there are nine tonal categories in Cantonese. This six-tonal system is now unquestioningly followed by most writers on Cantonese. However, in Killingley’s work compiled in 1985, she doubted the validity of this traditional system:

I do not deny that some syllable types exhibit a six-way tonal contrast. What I am suggesting in this essay is that these contrasts could be phonetic rather than phonological, for instance: that they might be marginally phonological in a literary but not in a colloquial spoken register; and that we should look again at the practice of setting up tonemes using a mixture of free and bound morphemes, characters, and syllables from very different registers. (Killingley 1985: 1)

What she mainly suggested is that the low rising tone, as a phonetic tone but not phonological tone, could be an allo-tone of one (or more) of the other tones in Malayan Cantonese, where the most probable one is the mid-level tone. She also argues that the problem of the low rising tone and its distributional relationships to the high rising, mid-level and low level tones, are too complex to be solved by a simple rule stating complementary distribution. In addition, she would also like to extend this discovery to Hong Kong and mainland Cantonese.

The tonal system of Malayan Cantonese is constructed based on her own survey in Malaya as a native speaker. She also added that there are no differences between the tonal systems used in her own accent and used by the older generation, but differences arise in some other ways. (Killingley 1985: 6)

In her construction, she mapped out all the possible combinations of consonants and vowels of the unchecked syllables in her own idiolect without appealing to the written language at all in arriving at monosyllabic words. In other words, only unchecked syllables of free morphemes are used; those of bound morphemes are generally rejected. For instance, the bound morpheme [fən5] 恨 ‘angry’ does not occur alone in the spoken language but only in compounds like [fən5 tən3] 恨怒 ‘angry’ and [fən5 nou6] (also [fən2 nou6] in Malayan Cantonese) 恨怒 ‘wrath; angry’ et cetera. Such forms which are not given as monosyllabic words as free morphemes in colloquial dictionaries like Huang (1970) are also rejected. The
five-toneme system of Malayan Cantonese constructed by her (Killingley 1985, 24) is
given here:

<table>
<thead>
<tr>
<th>Example</th>
<th>Meaning</th>
<th>Description / Common Allo-tones</th>
<th>Corresponding Tone in Traditional System</th>
</tr>
</thead>
<tbody>
<tr>
<td>/fēm/</td>
<td>to divide</td>
<td>HL 1 [HF]</td>
<td>1,7</td>
</tr>
<tr>
<td>/fēm/</td>
<td>powder</td>
<td>HR 2</td>
<td>2</td>
</tr>
<tr>
<td>/fēm/</td>
<td>to sleep</td>
<td>HML 3 [LR]</td>
<td>3,8</td>
</tr>
<tr>
<td>/fēm/</td>
<td>a share</td>
<td>LML 4</td>
<td>6,9</td>
</tr>
<tr>
<td>/fēm/</td>
<td>tomb</td>
<td>LL 5 [LF]</td>
<td>4</td>
</tr>
</tbody>
</table>

In the above table, the abbreviations ‘LL’, ‘LML’, ‘HML’ and ‘LF’ used here
corresponds to the ‘VLL’, ‘LL’, ‘ML’ and ‘VLF’ respectively in her work.

With the construction of this system, she gave three pieces of supporting evidence:

1. The number of meaningful free forms with pitch contrast of the same
syllable;
2. The number of syllable tokens containing an LR tone with six tonal
distinctions; and
3. The unexplained confusion in tonal identification involving native
speakers/listeners;

which will be discussed in detail below in section 2.1.

2.1. Killingley’s “evidences”

In this subsection, the supporting evidence given by Killingley to support her
five-toneme system of Malayan is discussed in detail.

1. The number of meaningful free forms with pitch contrast of the same
syllable

In 1984 and 1985, Killingley tested the phonological status of her five phono-
nological tones with different subjects. The subjects included a native speaker
of Malayan Cantonese and a few native speakers of HKC following post-graduate
courses in education or intensive English at the University of Newcastle upon Tyne
in the United Kingdom. English was used as the major medium of communication, ex-
cept one subject using HKC.

The result shows that the subjects were able to produce six distinct tones for
the testing syllables representing different morphemes. However, none of them were

able to produce more than five tonal contrasts for any syllable representing different
independent words in colloquial speech. For instance:

<table>
<thead>
<tr>
<th>Tone</th>
<th>Meaning</th>
<th>Morpheme?</th>
<th>Word?</th>
</tr>
</thead>
<tbody>
<tr>
<td>[fī]</td>
<td>Silk; poetry</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[fī]</td>
<td>Excreta</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[fī]</td>
<td>To try</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[fī]</td>
<td>Affair</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[fī]</td>
<td>Period; time</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>[fī]</td>
<td>City</td>
<td>✓</td>
<td>x</td>
</tr>
</tbody>
</table>

In the above examples, all of the syllables with different tones are morphemes
in Cantonese. However, tone 5 of the syllable [fī] is not an independent word, as it
cannot be used freely. It is always used as part of a word such as [fīn] [fī] 城市 ‘city’ and [kai] [fī] 街市 ‘market’.

2. The number of syllable tokens containing an LR tone with six tonal distinctions

Killingley found that out of the 443 permitted unchecked syllable tokens
listed in Hashimoto-Yue (1972), only 18 syllables are recorded as showing six mini-
mal distinctions. For Cowles’s work, out of the 134 syllable tokens containing an LR
tone, 29 are recorded with six distinctions. The remaining contains five or fewer tonal
distinctions by morpheme. The following lists the frequency of non-occurrence:

<table>
<thead>
<tr>
<th>Tonal Contour</th>
<th>Tonal Number</th>
<th>Number of Syllable Tokens Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>HR</td>
<td>2</td>
<td>67</td>
</tr>
<tr>
<td>ML</td>
<td>3</td>
<td>56</td>
</tr>
<tr>
<td>LL</td>
<td>6</td>
<td>55</td>
</tr>
<tr>
<td>VLL</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>HL</td>
<td>1</td>
<td>19</td>
</tr>
</tbody>
</table>

Therefore, she argues that when there is no ambiguity of meaning, the LR
tone can take on the phonetic pitches and contours of any of the above tones.

Furthermore, she argues that ML(tone 3) and LR(tone 5) are not phonologi-
cally distinct in HKC, as either the entries with ML(tone 3) and/or those with
LR(tone 5) are given by Cowles (1965) as non-colloquial forms and/or bound forms.
In addition, she also found that Cowles (1965) often cited the LR tone as a variant
of his LL tone in words of more than one syllable, so this would suggest that sometimes
the LR and LL tones are not phonologically distinct. Furthermore, the examples of
syllables with the LR tone are listed as either "technical" or "botanical" in Cowles's work and thus in restricted usage. Therefore, she suspected the phonological status of the LR tone.

(3) The unexplained confusion in tonal identification involving native speakers/listeners;

Vance (1976: 376, 379) reports that in the experiments with test pairs jumbled up with other words, there were certain cases of confusion in tonal identification in which he could not explain:

...it must be noted that the many instances where a low rising tone was identified as mid-high are almost certainly due to the fact that the word [ji33] 'try' is often pronounced [fi13] since it occurs with a low rising tone in many compounds. In fact, all the subjects remarked that [fi33] 'try' and [fi13] 'city' were the most difficult to tell apart of all the test words, and there is no apparent explanation for this in acoustic terms.

Therefore, Killingley argues that the two phonetic tones belong to one toneme essentially. However, the above three pieces of supporting evidence are not sufficient to show that there are only five tonemes in HKC even if in Malayan Cantonese. The above three phenomena can actually be explained in terms of phonetics, phonology and historical phonology. Therefore, they are de facto not strong supporting evidences in relation to the problem being explored. The explanations are given in section 2.2 as follows.

2.2. An Explanation on her "evidences"

In this subsection, her "supporting evidences" are explained in terms of phonetics, phonology and historical phonology.

(1) The number of meaningful free forms with pitch contrast of the same syllable

Killingley's experiment shows that no subjects can articulate more than five tonal contrasts for any syllable representing different words. In other words, there are no any mono-syllables in Cantonese exerting six tonal contrast representing different free morphemes.

(i) "Meaningful free forms"

In deriving the phonological system of a language, all the morphemes must be considered, irrespective of whether it is free or bound, can be freely used as a word or can only be used as part of a word. If bound morphemes are not considered when setting up the phonological system of a language, the phonological system set up would possibly, if not probably, fail to be an integrated one.

(ii) The number of "pitch contrasts"

In addition, the number of pitch contrasts for the same syllable has no implication. Consider the syllable [pʰin³] in English. Should we replace the vowel [i] of the phoneme /i/ with every possible vowel phoneme to obtain all the minimal pairs in English so as to accept that all the vowel phonemes are independent phonological phonemes? All linguistics would certainly not vote for this. Therefore, as long as the six tones are in contrast and not in complementary distribution, the six tones are phonological tones.

(2) The number of syllable tokens containing an LR tone with six tonal distinctions

(i) Number of syllable tokens

Killingley found out that only 29 out of 443 permitted syllable-tokens exert six minimal distinctions in Cowles (1965). Again, number should not be taken as an important criterion for judging whether the LR tone is a toneme, or not. Consider in French, the approximant [j] and the vowel [i]. In many cases they are in free variation. However, there are still a few minimal pairs where they are in contrast such as in [abe] abeille 'bee' versus [abei] abbaye 'monastery'. Although there are only a few minimal pairs, the phones [j] and [i] are still needed to be accepted as two phonemes rather than one. Therefore, we should not judge whether a tone is a toneme solely based on the number of tokens.

(ii) From the perspective of historical phonology: origin of the LR tone

Furthermore, the small number of tokens of the LR tone can be adequately explained by historical phonology. The tonal categories of higher and lower registers in Cantonese were developed from the tonal splitting in Late Middle Chinese. The syllables with tonal categories in lower register today in Cantonese, and in most of the Chinese dialects were developed from those with voiced initial constants in Middle Chinese (MC, henceforward) while those in higher register were
developed from those with MC voiceless initial constants.

However, as late as in Late Tang dynasty, there was a tendency for the tokens with voiced obstruent initials in T2 to merge with T3 until eventually they became T3 in northern dialects, especially Mandarin. This period was indeed the period where the Yue dialect became mature and recognised as an independent dialect such that the influence by the Northern dialects has been reduced since then. Therefore, this phenomenon affects the Yue dialect only to a certain extent. In other words, some have undergone merging with T3 and developed as in tone 6, while others have not but have developed as in tone 5 at present in Cantonese. In general, the indigenous colloquial forms of pronunciation in Cantonese bypassed the T2-merge while the literary forms — either borrowed from the Northern dialects, especially Mandarin, or developed within Cantonese under the influence of the northern dialects — have undergone T2-merge completely (Chen 1984). Since most of the tokens with MC obstruent initials in T2, which would have developed to tone 5 if the T2-merge had not occurred, moved to T3 and thus developed into tone 6 eventually in modern Cantonese, the number of syllable tokens with the LR tone in modern Cantonese is seen to be very small.

(iii) From the perspective of historical phonology: restriction of the LR tone

Killingley also found that only 18 syllables show six minimal distinctions. This again can be explained with historical phonology. As mentioned previously, only tokens with MC voiced initials developed into the tonal categories of lower register, while those with MC voiceless initials developed into those of higher register. Hence, for the syllables with initials in which the voiceless counterpart do not exist in modern Cantonese, the tonal categories in higher register of that syllable are always absent except for those of non-Chinese etymological origin or syllables having undergone tone sandhi. For instance, for the syllable [mm] with initial [m], as the voiceless counterpart [ŋ̩] does not exist in modern Cantonese, the tokens in higher register are absent in general, except a few having undergone tone sandhi such as [mmn] 'mosquito' and [mmn] 'to clean the bottom' and non-Chinese origin such as [mmnl] 'on the verge' (Hashimoto-Yue 1972: 213 and Li et alii 1995: 179). However, for the syllable [min], all tokens in the three higher registers are absent.

In addition, for some MC voiced initial consonants, each of them developed to different consonants under different phonetic environments after becom-

ing voiceless in modern Cantonese (Chen 1984). In general, syllables with MC voiced obstruent became aspirated in tone 4 (T1B) and tone 5 (T2B) while they became unaspirated in tone 6 (T3B) and tone 9 (T4B). Therefore, syllables with initials originated from MC voiced obstruents usually do not show six minimal distinctions.

Under the strict conditions mentioned above, the possible remaining syllables showing six minimal distinctions are syllables with either a voiceless continuant or zero-initial. In Cantonese, the only voiceless continuant initials are [f̩], [s̩] and [h̩]. The following lists the syllables showing six minimal distinctions recorded in Hashimoto-Yue (1972), found by Killingley (1985):

[mm], [m̩], [f̩], [s̩], [h̩], [m̩], [s̩], [h̩], [m̩], [s̩], [h̩], [m̩], [s̩], [h̩]

For aforementioned 18 syllables, all of them either begin with a voiceless continuant initial or without any initial except [mm], which has been explained previously. This justifies the prediction from historical phonology. This also clearly explains the reason behind the small number of syllables showing six minimal distinctions.

(iv) Taking the LR tone as an allophone of any of the remaining five tonemes

If the LR tone can really be taken as an allophone of any of the remaining five tonemes, this would be similar to the distribution of the entering tones to the remaining three tonal categories in Mandarin. However, Killingley did not find any sets of rules from either the structure or the phonological environment of the syllable predicting the tonal redistribution. In addition, this also lacks historical or sociolinguistic explanation as to why this tone was redistributed into other tones. On the other hand, if we say the LR tone became the neutral tone, just like the one in Mandarin, it could also not be self-explained, in view of the fact that it is impossible to find all the tokens in one tonal category historically inherited, being all function words or semantically "relatively unimportant" morphemes which eventually leads to the formation of the neutral tone, like the one in Mandarin.

(v) The phonologically indistinct phonetic tones

Again, bound and free morphemes should be taken into consideration when setting up the phonological system, irrespective of them being
non-colloquial forms or bound forms. Here below lists the factors showing that
the LR tone is a tone variant of other tones found in Cowles (1965) by Killingley
(p. 13):

i) HR and LR used as variants in the first syllables before LL and ML
ii) ML and LR used as variants in the first syllables before LR and LL
iii) HR, LL and LR used as variants in the syllables after LR and VLL
iv) VLL and LR used as variants in the first syllable of the first word (before
HL) and the second syllable of the second word (after HR)
v) HL and LR used as variants

For the description of the tonal contours given in the above factors, the
abbreviations ‘HL’, ‘HR’, ‘ML’, ‘VLL’, ‘LR’, ‘LL’ correspond to tones 1 to 6 re-
spectively. The following lists the examples given in Cowles while the parenthesis
() after a syllable encloses alternative tone for that syllable (1965):

<table>
<thead>
<tr>
<th>Factor</th>
<th>Example</th>
<th>Meaning</th>
<th>Contemporary Pronunciation in HKC</th>
<th>Alternation Consistent? / Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>i)</td>
<td>íciam(4) 1tsy to be embracing 鬲住 1cia</td>
<td>íciam</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>1jim(9) 1tsin endurance 耐性? 1jin</td>
<td>1jin</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>1fim(1) 1nsin to endure 耐耐 1jin</td>
<td>1jin</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>1fim(1) 1nou wrath 怒怒 1fim</td>
<td>1fim</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>1fim(1) 1nsi barley 麦米 1i</td>
<td>1i</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>1fim(9) 1shi to spoil an affair 訓示? 1fim</td>
<td>1fim</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>ii)</td>
<td>1jì jyn(9)(9) hospital 醫院 /</td>
<td>jì ~ jì</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>ljùn gì(9) to discuss 評議 1ji</td>
<td>1ji</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>ljùn hou with a knife 以刀 1i</td>
<td>1i</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td></td>
<td>li jùn(9) back of a chair 席屏 ljùn</td>
<td>ljùn</td>
<td></td>
<td>×</td>
</tr>
<tr>
<td>v)</td>
<td>1jìn(9) to throw down 扔 1jìn</td>
<td>1jìn</td>
<td></td>
<td>×</td>
</tr>
</tbody>
</table>

In the above examples, either the example is unidentifiable or the original
or alternative pronunciations given are not consistent with the pronunciation in
contemporary Hong Kong Cantonese, even if only in HKC in 1965 or in Malayan
Cantonese.

(3) The unexplained confusion in tonal identification involving native speak-
ers/listeners

Vance reported that confusion occurs in the pronunciations between the to-
kens [jì9] ‘try’ and [jì19] ‘city’. This is probably blamed on confusion in orthography.

THE BEGINNING OF MERGING OF THE TONAL CATEGORIES

In addition to ‘city’, the syllable [jì19] actually possesses another meaning:
‘examination’ in contemporary Hong Kong Cantonese. However, both [jì9] ‘try’ and
[jì19] ‘examination’ are written as the graph 休 in the written form. As a result, the
speakers are sometimes confused about which morpheme to be selected for the same
graph 休. This phenomenon will be explained in detail in the next section.

Therefore, there is insufficient evidence to show that tones ML (tone 3) and
LR (tone 5) are in free variation. They are de facto two phonologically distinct
tonemes.

3. THE REAL BEGINNING

As mentioned in the previous section, there is insufficient evidence to argue
that the tones ML (tone 3) and LR (tone 5) are in free variation. The examples given
by Killingley are not consistent with the situation in contemporary Hong Kong, even
if so in Malayan Cantonese. Rather, it would be more reasonable to say that there is
a tendency for the merging which is at the very beginning stage only in Hong Kong.

As mentioned in the introduction, this phenomenon has also been observed
and briefly discussed by Flynn (1993). In her paper, she briefly mentioned that a
number of people in Hong Kong pronounce the morphemes with tone B2 as C1 or
accept both pronunciations. This situation will be discussed and analysed in detail in
this section.

3.1. Tokens with Alternative Pronunciation

The following lists some tokens with alternative pronunciation with the stan-
dard one found in Wong (1941):

| Tokens | 使 洨 限 傘 傀 币 沐 金 以 請 試 請 請 請 請 |
|--------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Standard Pronunciation | fai1 | fan1 | k*ei1 | kvu1 | je1 | je1 | ji1 | st1 | p*og* |
| Alternative Pronunciation | fai1 | fan1 | k*ei1 | kvu1 | je1 | je1 | ji1 | st1 | p*og* |

| Tokens | 似 顧 喜 果 會 睦 酷 蒋 |
|--------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| Standard Pronunciation | tsz1 | t}s1 | t}sy3 | k}oy3 | wui5 | t}sm1 | wun1 | k*ei1 |
| Alternative Pronunciation | tsz1 | t}s1 | t}sy3 | k}oy3 | wui5 | t}sm1 | wun1 | k*ei1 |
In the above table, the numbers marked in superscript are the tonal categories but not tonal values. Obviously, the pronunciations of these tokens are alternated between tone 3 and tone 5. Here classifies the situation of the alternative pronunciations into different categories with examples in terms of the change:

1. $3 > 5$ - $6$
   Tones 5 and 6 are accepted as the common pronunciation while tone 3 is not:
   - 汩 as in 氾濫成災 $fan^3\tilde{5}-^4$
   - 散 as in 散賣毒品 $fan^3\tilde{5}-^4$
   - 謂 as in 謹諄 $p^3\beta\tilde{5}-^3 > p^3\beta\tilde{4}-^3 \sim p^4\beta^6$

2. $3 > 5$
   Tones 5 is accepted as the common pronunciation while tone 3 is not accepted:
   - 哭, 懷 as in 瑟懺, 慘懺 $k^3\tilde{3}-^5$
   - 蕞 as in 底藴, 蘊藴 $wm^3\tilde{5}$
   - 臭 as in 臭髓 $wm^3\tilde{5}$

3. $3 > 3 - 5$
   Both tones 3 and 5 are accepted as the common pronunciation:
   - 舍 as in 宿舍 $f^3\tilde{3}-^3$
   - 處 as in 警處 $tf^3\tilde{3}-^3$
   - 快 as in 快啲啦！ $f^3\tilde{3}-^3$
   - 肆 as in 食肆 $s^3\tilde{3}-^3$
   - 使 as in 天使, 使命 $s^3\tilde{3}-^3$
   - 僱 as in 僱建 $tsim^3\tilde{3}-^3$
   - 竪 as in 濟南 $ke^3\tilde{3}-^3$

4. $3 < 5$
   The pronunciation in tone 5 is derived from tone 3 for the same token to represent a different meaning:
   - 試 as in 試驗, 測試 $f^3$ (as a verb meaning “to test” usually)
   - 試 as in 考試, 口試, 入學試 $f^3$ (as a noun meaning “examination”)

5. $5 > 3$
   Tone 3 is acceptable as the only pronunciation:
   - 白 as in 大白腎, 石白 $k^3\nu^3$

6. $5 > 3 - 5$
   Both tones 3 and 5 are acceptable as the common pronunciation:
   - 社 as in 社會語言學, 會社 $f^3\tilde{5}-^3$
   - 以 as in 以為, 可以 $ji^3\tilde{5}-^3$
   - 議 as in 提議, 會議紀錄 $ji^3\tilde{5}-^3$ (more often in word final position)
   - 似 as in 似乎, 好似, 類似 $ts^3\tilde{5}-^3$
   - 果 as in 果去邊？ $k^3\tilde{5}-^3$ (Cheung 2003)
   - 會 as in 會唔會？ $wu^3\tilde{5}-^3$
   - 署 as in 警署 $tf^3\tilde{5}-^3$

7. $5 < 3$
   Similar to item 4, the pronunciation in tone 3 is derived from tone 5 for the same token to represent a different meaning:
   - 興 as in 大興, 興仔, 國興 $k^3\nu^3$ (meaning “wife’s brother”)
   - 在 as in 在外, 外母 $k^3\nu^3$ (meaning “maternal uncle”)

In summary, some tokens change from 3(5) to 5(3) permanently; some can be pronounced as both and others have undergone tonal splitting to differentiate meanings. In fact, the above change of pronunciation is not solely due to phonetic reason, but also others such as sociolinguistic reason. The change of tone, in terms of the reason behind that is classified in the following section.

3.2. The Reasons behind the Alternation

In this subsection, the reasons behind the alternation are presented.

1. As a Result from Sentence Intonation

   The item “快” has two pronunciations. The standard one is in tone 3 while the alternative one is in tone 5. In normal sentences, such as in declarative sentences, this word is usually pronounced in tone 3 such as:

   樂跑得好快(fai3).  

   However, in order to speak with a stronger mood or in an emphasising tone in Cantonese, the sentence intonation is always in rising:

   喜，快嚟啦！ 

   Therefore, as the sentence intonation is dominating, the original mid-level
tone of the word the “快” is temporarily replaced with the rising intonation. As a result, the tone of the word “快” becomes low rising which is coincidentally similar to the tone 5 which is a low rising tone in Cantonese.

2. As a Means of Differentiating Meaning

In the previous section, in cases 4 and 7, the pronunciation of the morpheme is split as two to differentiate meanings.

In case 4, the standard pronunciation of the morpheme “試” (“to try”, “examination”) is in tone 3. Essentially, the meaning of “examination” is derived from the meaning “try” which was in turn derived from the original meaning “to use” (《說文·言部》: “試，用也。”), which is no longer used in contemporary Mandarin or Cantonese (Gu 2003: 404). In order to differentiate the meaning, another pronunciation in tone 5 for this morpheme is derived to represent the meaning “examination”, while the original tone remains unchanged to represent the meaning for “to try” usually.

Similarly, in case 7, the standard pronunciation of the morpheme “舅” (“wife’s brother”, “maternal uncle”) is in tone 5. The original meaning of this morpheme is “maternal uncle”. The extended meaning is “maternal father-in-law” (《說文·男部》: “母之兄弟為舅：妻之父為外舅。”), which is not used anymore in contemporary Mandarin or Cantonese. The meaning “maternal father-in-law” was then further extended (Gu 2003: 762), and is still in use now. In order to differentiate the meaning between the two, another pronunciation in tone 3 is derived to represent the original meaning “maternal uncle” while the original tone is used to represent the extended meaning “maternal brother-in-law”.

Therefore, it is clearly seen that the change of tone is a means of differentiating meaning.

3. As a Result of Ambiguity

As from the previous section, the pronunciation of “處” and “署” can be [f³j¹] or [f³:j¹]. In fact, the alternative pronunciation between the two is a result of the ambiguity in the name of the departments and agencies of the Government of Hong Kong SAR. Table 1 lists most of the departments and agencies using either item as a part of their name in the Government of Hong Kong SAR².

According to Chongbian Guoyu Cidian, the meaning of the morpheme “處” is “department of an institution” while that of “署” is “government’s office” or “department of government”. For the naming of the offices and bureaux of Hong Kong

<table>
<thead>
<tr>
<th>名</th>
<th>英名</th>
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<tr>
<td>土地審裁處</td>
<td>旅遊事務署</td>
</tr>
<tr>
<td>勞資審裁處</td>
<td>土木工程拓展署</td>
</tr>
<tr>
<td>小額錢債審裁處</td>
<td>工業貿易署</td>
</tr>
<tr>
<td>檢察文案審裁處</td>
<td>水務署</td>
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<tr>
<td>禁毒處</td>
<td>民政事務總署</td>
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<tr>
<td>禮賓處</td>
<td>地政總署</td>
</tr>
<tr>
<td>經濟分析及方便營商處</td>
<td>投資推廣署</td>
</tr>
<tr>
<td>保險業監理處</td>
<td>法律援助署</td>
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<tr>
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<td>社會福利署</td>
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<td>知識產權署</td>
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<td>政府物流服務署</td>
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<td>政府產業署</td>
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<td>房屋委員會及房屋署</td>
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<tr>
<td>公務及司法人員薪俸及津貼</td>
<td>香港郵政署</td>
</tr>
<tr>
<td>條件諮詢委員會聯合秘書處</td>
<td>民航署</td>
</tr>
<tr>
<td>航線</td>
<td>建築署</td>
</tr>
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<td>運輸署</td>
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<td>漁農自然護理署</td>
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<td>審計署</td>
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<td>機電工程署</td>
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<td>環境保護署</td>
<td>禎教署</td>
</tr>
<tr>
<td>個人資料私隱專員署</td>
<td>個人資料私隱專員署</td>
</tr>
</tbody>
</table>

Table 1 Names of Part of the Departments and Agencies of HKSAR Government
Government, “署” is usually used to name the bigger departments such as “漁農自然護理署” (Agriculture, Fisheries and Conservation Department) and “建築署” (Architectural Services Department) while “處” is usually used to name a department of an office such as “禁毒處” (Narcotics Division of the Security Bureau) and “禮賓處” (Protocol Division of the Chief Secretary for Administration’s Office); and some small departments such as “土地註冊處” (The Land Registry) and “公司註冊處” (The Company Registry). However, as “處” can also refer to a department of an institution, some big departments also name after “處” such as “入境事務處” (The Immigration Department) and “香港警務處” (Hong Kong Police Force).

Since the similar pronounced morphemes “處” and “署” can also refer to office, it is hard for the citizens to recall which department and office is named in which morpheme. As a result, people pronounce the suffix of the name of a governmental department in “處” and “署” interchangeably without regarding to the real name. Therefore, such an ambiguity occurs and thus leads to the ambiguity in pronunciation between these two tokens. If the two equivalent segmental-shaped morphemes are not only differ in tone but also in other features such as the initial consonant as in Mandarin: “處” [tʂʰʊŋ] and “署” [ʂʊ́], such ambiguity will probably not occur.

4. For Phonetic Reason

The low rising tone is probably a tone which is difficult to articulate. This can be seen in the pronunciation of Cantonese by non-native speakers. This is why, in the languages of the world, this tonal contour seldom exists, except in a few such as Cantonese and Thai. Therefore, in order to facilitate articulation, no wonder there is a tendency for those tokens being unstable and to change to a level tone instead.

It is more interesting to see that the starting and ending of the low rising tone in Cantonese is actually the tonal contour of tone 4(11) and tone 3(33) respectively. Therefore, once we elongate the pronunciation of the tokens of this tone, the tonal contour will probably became 113 or 133. Although the differences between low tones are usually more clearly distinguished, higher tone is usually more clearly audible. Probably owing to this, the latter is selected instead of the former one. As time goes, the second part is more lengthened, the rising component lenifies and the level component dominates the whole contour. Therefore, some of the tokens gradually gain an alternative pronunciation of the tone-contour 33. Some even maintained this pronunciation and the original one fades such as “ㄖ”. As a result, the alternative pronunciations of those tokens emerge. However, this still needs investigation in experimental phonetics.

The main reasons behind the alternation are given above. In summary they are:

1. as a result of sentence intonation;
2. as a means of differentiating meaning;
3. as a result of ambiguity; or
4. as a result of phonetic difficulty and similarity.

4. CONCLUSIONS AND FUTURE WORK

In this paper, Killingley’s work was reviewed and her supporting evidences for the “five-toneme system” were stated. However, either her supporting evidences is insufficient to show that this system exists or this system does not apply in contemporary Hong Kong Cantonese.

Rather, the real merging is only a beginning in Hong Kong Cantonese. In Hong Kong Cantonese, some tokens in tone 3 and tone 5 possess an alternative pronunciation in the other tone. Some are in free variation while others even have only the pronunciation in the other tone. Then, in the future, will the tokens in both tones be totally flipped? It is quite impossible to happen. Although there are four cases where the pronunciation has reached the other end, the majority have an alternative pronunciation between the two tones. Since more and more tokens have free variation in pronunciation, eventually it is quite possible that most of them would possess the two readings. The speakers eventually do not know what the original or standard pronunciation is. The two categories will consequently be merged. It would be very difficult for those tokens to return to their original pronunciation if nobody makes an effort on it.

In this research, a survey of this recent change in Hong Kong Cantonese was conducted qualitatively with examples illustrated. Finally, the reasons behind this phenomenon are also discussed. As future work, experimental phonetics will be used to further investigate the phonetic factors involved. In addition, sociolinguistic investigation will also be conducted to quantitatively inspect the speech variation between speakers of different age-groups, social groups, genders, et cetera.

According to an undergoing research by Professor Eric Zee in the City University of Hong Kong, more and more young speakers studying in primary school
cannot distinguish between tone 2 and tone 5, \textit{id est} the high and low rising tones respectively. Therefore, it is possible if not probable that the tones 2, 3 and 5 will merge together to form a new tone in the future. However, the future needs to be waited.

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We hereby wish to thank Professor Samuel Cheung Hung-nin for putting this topic forward and discuss with me while a chat in January 2004. In addition, the valuable comments given by him, Professor Benjamin T’sou Ka-yin and Doctor Sean Zhu Xiaonong for revising this paper are also appreciated.

NOTES

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1 Malaya is in west Malaysia.
2 Extracted from the Hong Kong SAR Government Information Centre \langlehttp://www.info.gov.hk/orgindex.htm\rangle. For English translation, please refer to this web-page.

REFERENCES


KILLINGLEY, Siew-Yue. 1985. \textit{A New Look at Cantonese Tones: Five or Six?}. Newcastle upon Tyne.


香港粵語陽上陰去相混之始

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香港科技大學

傳統之粵語九聲圖廣為學者所接納，然而，近年之香港粵語中，
部份陽上及陰去的字之發音有相混之勢，如把“試”讀作陰上調及把“肚”
讀作陰去調，雖然只Killingley於一九八五年出版之“A New Look at
Cantonese Tones: Five or Six?”已首先談及此現象；此外，張肇聲亦於
第一屆國際粵方言研究會中論述其變化於香港之情況。

Killingley 於該書中馬來亞之廣州話建構了一個五調位系統，並提出
三項根據以支持他的觀點：

(一) 同音異調之單音詞的數目；
(二) 持六調對立之音節的數目及
(三) 某母語人士難以解釋之聲調混淆。

此外，她亦想把該發現套用於香港及大陸之廣州話。可是，Killingley
列舉之例子與當代香港之發音迥異，因此，該語言有開始相混之勢較
合理。簡而言之，有些字音永久地從陰去調（陰上）讀成陽上調（陰去）
或存二讀；或有時分合成一種。以下列出此交錯現象之主因：

一、 受語調之影響；
二、 作為辨義手段；
三、 受語義含糊影響；及
四、 語音相似性與發音難度。

本文評論 Killingley 提出之觀點，調查此現象於香港話之現況，成
因並展望未來之概況。

關鍵詞
廣州話語音學·聲調合併·香港粵語·粵方言·音變