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Slips of the Tongue in Cantonese - Lexical Blends and Substitutions

By

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Abstract

The aim of this study is to explore the nature of our mental lexicon through naturalistic slips of the tongue made by native Cantonese speakers. Tongue slips can be categorized into several types, but only two of them are examined in this study, including lexical blends and substitutions. Although we cannot go into one’s mind, we can always get the evidence from the utterances. The examples of slips were mainly collected from ordinary conversation. Such unintentional speech performance provides enlightening insights into the mechanisms of language or more precisely, the processes of speech production. By studying those speech errors, we can learn as much about our mental lexicon. The ultimate purpose of this study is to answer the following questions: How are words stored and retrieved in the mind? To what extent are they connected by semantic associations?
1. Introduction

To err is human. Our spontaneous speech contains often times pauses, repetitions, corrections and misarticulations. Speech errors however are not undesirable as they can serve as linguistic evidence which gives us insights into the nature of human language and language use. As Fromkin (1971) stated, “historically, speech errors have been a source of humor as well as of serious study” (p. 27). After countless laughter, what interests me is the implication of slips to our mental lexicon. In this study, Cantonese speech errors are used as a window into the intricate mental processes involved in speech production. Be specific, two types of slips including lexical blends and substitutions are focused.
2. Literature Review

2.1  A Historical Overview

As early as the end of nineteenth century, linguists (Hermann, 1886; Delbrück, 1887) have already been interested in the study of speech errors (as cited in Fromkin, 1980, p. 1). Meringer (1895, 1908), who was the pioneer of verbal slip studies, published an extensive collection of 8,800 speech, reading and writing errors in German. He also gave a classification of the errors which took place in spontaneous speech (as cited in Fromkin, 1973, p. 13). Soon after Meringer, in his classical work entitled *Psychopathology of Everyday Life*, Freud (1901) adopted a quite different approach to speech errors, giving a psychoanalytical account of slips of the tongue by his theory of unconscious. Though controversial, Freud’s account did lay the foundation for subsequent research, such as Wells (1951) and Hockett (1967). Studies in mid-twentieth century tended to ignore the Freudian notion and put their focus on linguistic factors. Boomer and Laver (1968) argued “the mechanics of slips can be studied linguistically without reference to their motivation” (p. 122). Most researchers have in fact followed this assumption. According to Ellis (1980), “this attitude may have been influenced by a desire to establish the study of speech errors as a distinct field of psycholinguistic enquiry, independent from psychopathology” (p. 123).
Since Meringer, there has been a growing interest in the study of speech errors. Researchers started to compile their own corpora by collecting natural and spontaneous data. The majority (e.g. Cohen & Nooteboom, 1969; Fromkin, 1980; Berg, 1987; Arnaud, 1994) are in the form of pen-and-paper while some, such as Boomer & Laver (1968), are tape-recorded (as cited in Poulisse, 1999, p. 6). Though naturalistic error data can be detected from spontaneous speech, one noticeable problem of such approach is the perceptual bias that occurs during the data-collection process (Stemberger, 1992). Researches may pay more attention to a certain type of slips while missing the others. In addition to corpus-based method, other researchers (e.g. MacKay, 1971) suggested to collect speech-error data experimentally. Baars (1992) discussed a dozen competing-plans techniques for inducing slips from speech. Competition between alternative output plans is created with some time pressure through those elicitation methods (e.g. tongue twisters and ordinal conflict techniques). However, Meyer (1992) argued that by using such techniques “some of the normal planning processes might be omitted or altered and that the articulation might be more difficult than in spontaneous speech” (p. 197). Actually, both naturalistic and experimentally induced error data have their own pros and cons. By providing a comprehensive comparison between the two, Stemberger (1992) found that in most cases, the two research methods have generated the same results and it seems good to have a combination approach since “such dual studies have the advantage of reinforcing conclusions” (p. 210).
As mentioned above, there is a sizable literature focusing on the speech errors from Western languages, especially English (e.g. Boomer & Laver, 1968; Fromkin, 1971, 1980). On the other hand, the study on Chinese speech errors started relatively late. It was not until about two decades ago that Zhang (1990) discussed the status and research value of verbal slips in speech production in her journal article. Another significant and influential publication in Chinese speech errors was done by Shen (1992). In his work entitled A Classification of Speech Errors, Shen collected over 700 naturalistic speech-error data and gave detailed analysis by classifying them into 8 categories in accordance with Chinese grammatical structure (as cited in Yang, 1997, p. 47). In addition to Zhang and Shen, Shao (1993) adopted a literary-based approach which is dramatically different from the mainstream studies. He analyzed tongue slips in terms of form and content. According to Shao’s classification, form of slips is divided into non-intended errors and intended errors while content of slips can be classified into three categories: i) irregularities, ii) semantic inappropriateness and iii) contextual inappropriateness. Apart from Chinese scholars, Western linguists also show their interest in the study of Chinese speech errors. Moser (1991) discussed slips of the tongue and pen in Chinese based on his own corpus consisting of around 150 errors. His classification of slips is quite similar to Fromkin’s (1971) analysis (see the next section for further discussion). Moser did, however, illustrate language-specific features in Chinese (i.e. tonal characteristics).

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1 沈家煊 1992. 口误类例 《中国语文》4, 306-316
2 先置、滞后、互换、颠倒、替代、混合、归并、增减
in his paper. Since the early 1990s, passion for studying Chinese speech errors has been continuously increasing. Quite a number of studies from mainland China can be found in the past few decades, including Chen (2002) and Xu (2011).

2.2 Definition

A slip of the tongue, according to its classic definition, is “an involuntary deviation in performance from the speaker’s current phonological, grammatical or lexical intention” (Boomer & Laver, 1968, p. 123). Dell (1986) further defined a slip as “an unintended, nonhabitual deviation from a speech plan” (p. 284). Moreover, Zhang (1990) also gave a similar definition but adding the non-pathological feature of slips (p. 29). According to the above definitions, a brief summary of slips of the tongue can be drawn. Firstly, a slip is unintentional which means the actual utterance is different from the intended speech plan. Secondly, the non-habitual deviation suggests that a slip is a problem of performance rather than a lack of competence. Whenever slips are detected, speakers should be able to correct them since the intended utterance in the speech plan is well-formed. Thirdly, slips can occur at different linguistic levels like phonology, morphology, syntax and semantics while size of units varies from segments (e.g. a phone) to higher level constituents (e.g. a phrase).

3 “口误是正常人在言语行为中偶然不自主地偏离想要使用的语音、语义或语法形式的失误现象”
2.3 General Classification

There are in fact many different criteria in classifying speech errors, various categorizations have been proposed by linguists (e.g. Boomer & Laver, 1968; Fry, 1969) over the past few decades. Based on a number of studies (Fromkin, 1971; Garrett, 1975; Shattuck-Hufnagel, 1979), a common classification of slips can be summarized (as cited in Carroll, 2008, p. 194).

There are eight major types of speech errors including shifts, exchanges, anticipations, perseverations, additions, deletions, substitutions and blends (examples are given in Appendix I). Each type of slips serves as linguistic evidence providing information about how different levels of speech production work. As Fry (1969) stated, “there are a number of stages between thinking of something to say and making the speech muscles work and errors can originate at all of these stages” (p. 158). Besides, in the study of Chinese speech errors (Moser, 1991; Shen, 1992; Chen, 2002), similar classification\(^4\) can also be found, this may suggest the universality of slips of the tongue in speech production. In addition to the eight-type classification, it is possible to further differentiate between contextual (syntagmatic) and non-contextual (paradigmatic) speech errors (Berg, 2009). If a source can be detected from the linguistic context, such kind of slips is regarded as contextual (e.g. anticipations and perseverations); if no source can be found in the present context, it is regarded as non-contextual slips (e.g. lexical substitutions).

\(^4\) 先置(anticipation)、滞后(perseveration)、互换(exchange)、颠倒(shift)、替代(substitution)、混合(blends)、归并(haploglory)、增减(addition/deletion)
3. Methodology

Method of Data Collection

The aim of this study is to investigate the unobservable mental processes of speech production through slips of the tongue. Naturalistic error data in spontaneous speech were used in this study. Method of data collection was in the form of pen-and-paper; all slips were jotted down right after hearing them. About 40 Cantonese speech errors made by native speakers (see Appendix II) were collected in the past two months (Feb-Mar 2012). The 60% majority were provided by my friends who reported any slips that they made or heard while the rest of the data were primarily collected by myself. Both the source and the context of utterances were recorded in most cases. For those speech errors which I detected, whenever possible, the speaker was questioned about the intended utterance that he or she had wanted to produce.

Data Analysis

For the data analysis, speech errors are classified into groups based on the eight-type classification discussed in the previous section, sub-categories may be needed for further distinction. The interest of this study is in the implication of two specific types of slips (lexical blends and substitutions) to our mental lexicon; speech production models proposed by Western scholars (e.g. Levelt et al, 1999; Dell, 1986) will be used to account for the occurrence of such slips in Cantonese speech production process.
4. Results

In total, 35 speech errors were collected and they were classified into blends, substitutions, exchanges, anticipations and perseverations. Substitutions are the largest type (42.9%) while blends are the second largest (28.6%). All slips are presented and discussed in this section, and the context of utterances will be given whenever possible.

4.1 Blends

Among the ten speech-error data collected in this category, eight of them are lexical blends and the remaining two are phrasal blends (four-character idioms). They can be divided into two sub-types: i) semantically related errors and ii) formally related errors. The former one is more likely to occur as a number of studies (Nootboomm, 1969; Fromkin, 1971; Garrett, 1980a) found that lexical blends usually are made up of two words with similar semantic features (as cited in Poulisse, 1999, p. 22). In examples (1a-c), the two original words are synonyms which belong to the same word class, while (1d-f) are bilingual blends involving direct translation between the two targets.

1. (a) 電腦枱支燈管壞咗（燈/光管）
   (b) 我想食糖品（糖水/甜品）
   (c) 大家爆生啦（爆肚/執生）
   (d) 菲律 bin（菲律賓/Philippine）
   (e) 我聽日同班 friend 去 BBQ 燒（BBQ/燒嘅食）
Though 雞蛋仔 and 格仔餅 are not synonyms, example (1g) illustrates another lexical relation. These two words are semantically related in a sense that both of them are hyponyms of street food typically found in Hong Kong. Hence, they are co-hyponyms having a horizontal relationship in this taxonomy with other kinds of street food.

For the second sub-type of blends which includes formal similarity, they do not involve any relationship of meaning but are phonetically and grammatically similar (Wells, 1951). In the example (2.1a), 灰太郎 and 喜多郎 both have three syllables and are in the same word class: proper noun. The phrasal blends given in examples (2.1b-c) also demonstrate the same situation. The two original phrases are both idioms consisting of four syllables.

2.1 (a) 喜羊羊與灰多郎（灰太郎/喜多郎）
(b) 一文不拔（一毛不拔/一文不值）
(c) 狼虎為奸（狼狽為奸/狼虎之年）

Apart from the number of syllables, another noticeable phonetic similarity between the two target utterances is that both of them have the same sound in the same position. Example (2.2a) indicates that both 灰太郎 and 喜多郎 contain the same sound [lɔŋ] in the last syllable.
Similar case is found in 狼狽為奸 and 狼虎之年 as shown in (2.2c). In example (2.2b), not only the same sounds, [jɛtɿ] and [pɛtɿ], can be detected in the first and third syllables, but also the tones for all corresponding syllables are exactly the same. Note that Cantonese is a monosyllabic tone language, there is only one syllable in one word and every single syllable in each monosyllabic word is associated with a tone (Bauer & Benedict, 1997).

2.2

(a) 灰太郎 fuiɿ tʰaiɿ lɔŋɿ
    喜多郎 heiɿ tɿl lɔŋɿ

(b) 一毛不拔 jɛtɿ mʊnɿ pɛtɿ pɛtɿ
    一文不值 jɛtɿ mɛnɿ pɛtɿ tsɪkɿ

(c) 狼狽為奸 lɔŋɿ puiɿ wɛiɿ kanɿ
    狼虎之年 lɔŋɿ fɯɿ tsiɿ nɪnɿ

Furthermore, it is surprising that all those sounds discussed above remain the same in their blends, as in 灰多狼 [fuiɿ tɿl lɔŋɿ], 一文不拔 [jɛtɿ mɛnɿ pɛtɿ pɛtɿ] and 狼虎為奸 [lɔŋɿ fɯɿ wɛiɿ kənɿ]. This supports Wells’ (1951) “third law” of speech errors which states that “if the two original words contain the same sound in the same position, a blend of them will contain that sound in that position” (p.86).
4.2 Substitutions

In total, fourteen speech-error data were collected in this category and they can be divided into three sub-types: i) phonologically related substitutions, ii) semantically related substitutions and iii) mixed substitutions which are formally and semantically similar.

In example (3a), the coda [n] of the syllable [sen1] is replaced by [m], changing the word to [sem1], while other segments being unchanged. These two nasals have some manner features in common, like [+nas, -lat]. Similarly, example (3b) presents a change of the onset from [t] in [tan1] to [p] in [pan1]. It is noticeable that both [t] and [p] are plosives sharing some manner and laryngeal features, i.e. [-son, -cont, -spr gl]. In (3c), only the nuclear vowel is affected in which the [i] of [tiŋ] is substituted by [u], both of them are [-ATR, -round].

3. (a) 贴身 tʰip˧ sen1  →  贴心 tʰip˧ sem1
    (b) 滑蛋牛肉饭 wat˨ tan˦  →  滑板牛肉饭 wat˨ pan˦
    (c) 你睇下個阿拉丁 lai˨ tiŋ˧  →  你睇下個阿拉登 lai˨ teŋ˧

For the second sub-category, it refers to those substitution errors that involve two semantically related words. In Examples (4a-c), the substituted words have some semantic similarity to the target words, they belong to co-hyponyms which are under the same hyponym (i.e. colours, family relationship and supermarket). Besides, the two words given in example (4d) are complementaries while another two pairs in (4e) and (4f) are converses and equipollent
antonyms respectively. For example (4g), 的士 and 司機 are collocation which regularly co-occur in a given context.

4. (a) 灰色 → 咖色
   (b) 你哋兩兄妹 → 你哋兩姊妹
   (c) 你有無惠康印花 → 你有無百佳印花
   (d) 我星期六工 → 我星期六放假
   (e) 老公仔女 → 老婆仔女
   (f) 開住冷氣唔會凍嘅 → 開住冷氣唔會熱嘑
   (g) 點解啲的士又加價 → 點解啲司機又加價

The last sub-type of errors is mixed substitutions involving formal and semantic similarity. In below examples (5a-e), the number of syllables is the same in all pairs and they contain the same sound in the same position (as highlighted in bold). Moreover, the two words are meaning-related as they share some similar semantic features. For example, 楊思琦 and 李司棋 are both [+female] and [+artist] while 開心樂園 and 冒險樂園 are both [+childish].

5. (a) 楊思琦未婚懷孕 jœŋ si¹ k³ei⁴ → 李司棋未婚懷孕 leî si¹ k³ei⁴
   (b) 睇唔睇愛情雨呀 si¹ tsʰiu¹ jy³ → 睇唔睇及時雨呀 k³ep¹ si¹ jy³
   (c) 你睇下湯唯幾靚 tʰɔŋ wɐ¹ i⁴ → 你睇下張惟幾靚 tsœŋ wɐ¹ i⁴
   (d) 查理斯都無得登上 k³ei¹ si¹ → 威爾斯都無得登基 wɐ¹ jɪ¹ si¹
   (e) 開心樂園餐 hɔi³ su³ la⁴ jyn¹ → 冒險樂園餐 mₒ¹ him¹ la⁴ jyn¹
4.3 Exchanges

Exchange errors take place when two segments in an utterance swap position, the size of units may vary from phones to words, or even phrases. As shown in examples (6a-d), the segments involved in the slips are in adjacent positions. Examples (6a-b) contain a within-word exchange of two nuclear vowels ([ei] and [ɔu] in [tei̯ tɔu̯] 地道; [ei] and [a] in [wɐi̯ wɐ] 偉華). In (6c), there is an exchange of syllables from two different words which are Chinese surnames, 羅 and 范. In addition, a word-word exchange between [ŋɔi̯ pʰɔi] 外婆 and [hʊŋ siu] 紅燒 is found in example (6d). Examples (6e-f) show one-syllable distance between the two target segments. In (6e), the first and third syllables swap position, changing the utterance to [mɔŋ saŋ tam] 毛生膽. Example (6f) is a between-word error, there is an exchange of the syllables [tai̯] and [hʊŋ] across the word boundary.

6. (a) 地道 tei̯ tɔu̯ → 道地 tɔu̯ tei̯
(b) 偉華 wɐi̯ wɐ → 華偉 wɐ wɐi̯
(c) 羅范椒芬 lɔ fan̄ → 范羅椒芬 fan̄ lɔ
(d) 外婆红烧肉ŋɔi̯ pʰɔi siu̯ liu̯ → 紅烧外婆肉ŋɔi̯ pʰɔi siu̯ liu̯
(e) 毛生胆 tam̄ laŋ jip → 毛生膽 tam̄ laŋ jip
(f) 大棠红叶 tai̯ tʃi̯ liŋ jip → 紅棠大葉 hʊŋ jip tai̯ tʃi̯
**4.4 Anticipations & Perseverations**

Besides exchanges, another small group of contextual slips were collected. Examples (7a-c) are anticipations while (7d) is a perseveration. In example (7a), the labialized feature of \([\text{k}^{\text{w}}\text{ai}]\) 類 is anticipated, changing \([\text{k}a]\) 來 to \([\text{k}^{\text{w}}\text{a}]\) 瓜. There is another anticipation of syllable-initial consonant found in (7b). In example (7c), the nuclear vowel of \([\text{j}i\text{p}]\) 樹 to \([\text{s}]\) 是. Example (7d) is a perseveration where the mid vowel \([\text{e}]\) of \([\text{ts}^{\text{e}}\text{I]}\) 姐 is replaced by the high vowel \([\text{i}]\) of \([\text{s}i\text{l}]\) 師 in the second syllable.

7. (a) 無家可歸  ㄇㄠㄢ kɑ l ㄑ k^{w}ai l  →  無瓜可歸  ㄇㄠㄢ k^{w}a l hɔ l k^{w}ai l

(b) 鮮竹卷  sɪn  tsoʊl  →  千竹卷  tsʰɪn  tsoʊl

(c) 樹葉  sɪl  jip l  →  是葉  sɪ l jip l

(d) 何師姐拜拜  hɔ l sɪ l tsɛ l  →  何師子拜拜  hɔ l sɪ l tsɪ l
5. Discussion

As mentioned before, slips of the tongue can serve as a window into the intricate mental processes involved in speech production. Over the years, researchers have been collecting numerous speech-error data in search of regularities in slips. Lots of efforts have been made to give accounts of such patterns and different models of speech production were proposed, such as Baars’ (1980) Competing Plans Hypothesis and Stemberger’s (1985) Interactive Activation Model. In this section, the implication of lexical blends and substitutions to our mental lexicon will be discussed on the basis of two influential models of speech production: i) WEAVER++ (Levelt et al., 1999) and ii) Spreading Activation Model (Dell, 1986).

5.1 WEAVER++ (Levelt et al., 1999)

WEAVER++ (Word-form Encoding by Activation and VERification) is a psycholinguistic computational model of lexical access in speech production which was developed upon reaction time experiments (Roelofs, 2002). According to Levelt’s (1989) blueprint for the speaker, speech production consists of three main processing components, namely conceptualization, formulation and articulation. These major planning stages illustrate the extremely complex yet efficient speech production process, from conceiving the intended message to controlling muscles for articulation. Being derived from the above underlying assumptions, WEAVER++ involves six stages of speech processing as shown in Figure 5.1.
The model in Figure 5.1 includes a serial staged mental process, each stage of which generates an output representation which is needed for the next one. It is important to note that WEAVER++ suggests single direction feedforward activation spreading, whereas feedback spreading is not allowed. During conceptual preparation, a lexical concept is activated and such concept will spread its activation to the corresponding lemmas which lead to lexical selection. Lexical selection, as the core of the model developed by Roelofs (1992), refers to the retrieval of a lemma from the mental lexicon. A lemma is a mental representation which “links up a word’s meaning and syntactic properties” (Roelofs et al., 1998, p. 220).
Lemma retrieval involves activation spreading through the network, semantically related lemma nodes become activated and fall into competition in which the most highly activated one will get selected (Levelt, 1999). This high-speed process (around two to three words per second) is remarkably powerful, “errors of lexical selection occur in the one per one thousand range” (Levelt et al., 1999, p. 4). Once a lemma is selected, it will proceed to the articulatory program which involves a threefold word-form encoding: morphological, phonological and phonetic encoding. In morpho-phonological encoding, three types of information are activated from the target lemma, including “the word’s morphological makeup, its metrical shape, and its segmental makeup” (Levelt et al., 1999, p. 5).

Derailments in lemma retrieval may result in speech errors, such as blends and substitutions. Lexical blends involve semantically related words might occur when two lemmas are retrieved simultaneously (Levlt, 1989; Roelofs, 1992; Levelt et al., 1999). The erroneous selection of two lemmas is due to conceptual intrusion in which two or more concepts are activated (Levlt, 1989). The WEAVER++ model can be used to account for those Cantonese word blends presented in section 4.1. Taking (1b) as an example, 糖水 and 甜品 are near-synonyms of the same syntactic category. Their corresponding lemmas are activated to an equal level which leads to “the parallel encoding of two word forms instead of one” (Levlt, et al., 1999, p.35). These two lemmas compete with each other for the same syntactic
slot and become blended at the phonological stage which results in the lexical blend, 糖品 (Levelt, 1989). In the case of bilingual blends, they may imply that both L1 and L2 lemmas can be activated simultaneously.

Same as lexical blends, semantic substitutions are also caused by derailments in lemma retrieval but in a different nature. Word substitutions involving antonyms or other types of semantic opposites, or co-hyponyms may reflect associative relations. The occurrence of semantic substitutions is due to associative intrusion in which a lemma directly activates its close associate (Levelt, 1989). Taking (4e) in section 4.2 as an example, 老公 and 老婆 are converses and when the lexical concept HUSBAND activates its corresponding lemma 老公, such lemma mistakenly activates its close associate, 老婆. This close associate interferes with the target lemma and gets early availability. One obvious cause, according to Morton’s (1969, 1979) logogen theory, could be the high-frequency word 老婆 with lower thresholds substitutes for the low-frequency word 老公 (as cited in Levelt, 1989, p. 219). In addition, the occurrence of mixed errors (formally and semantically related) is attributed to the monitoring effect in WEAVER++. However, a more comprehensive account can be found in Dell’s model as presented in the following section.
5.2 Spreading Activation Model (Dell, 1986)

Dell’s (1986) spreading activation model was primarily designed to account for slips of the tongue. In this model, lexical access consists of two distinct steps: lemma access and phonological access. Unlike WEAVER++, Dell’s model allows bi-directional connections (top-down and bottom-up), activations among nodes in different levels are highly interactive. Figure 5.2 shows a lexical network of three layers: semantics, words and phonemes. During word retrieval, the target as well as its semantic neighbours get activated and this activation spreads to their corresponding lemmas and further to their phonemes. In the case of bottom-up connections, lemmas get feedback from phonemes and the lemma nodes of phonological neighbours of the target will also be activated. Mixed substitution errors can be explained as the result of the “joint effects of semantic and phonological similarity” (Dell et al., 1997, p. 807).

Figure 5.2 Two-step interactive activation model (Dell et al., 2004, p. 70)
Taking a detailed look at one of the Cantonese examples in (5a), which 李司棋 substitutes for 楊思琦. During lexical access, thinking about 楊思琦 will activate its semantic neighbours, such as 李泳豪 and 李司棋, which will lead to the activation of their corresponding lemmas and phonemes. In turn, the lemma node of 李司棋 gets further activation by feedback from the active phonemes /s/, /k/, /i/ and /ei/. These joint effects of semantic, [+female] and [+artist], and phonological similarity, [si kʰei], give 李司棋 “a much better chance of occurring as an error than a purely semantic or purely formal neighbour” (Dell et al., 1997, p. 807).
6. Conclusion

The aim of this study is to explore the nature of our mental lexicon through naturalistic slips of the tongue. 35 Cantonese speech-error data presented in this paper were classified into five types, including blends, substitutions, exchanges, anticipations and preservations. These speech errors provide enlightening insights into the mysterious processes of speech production. An analysis of two specific types of slips (lexical blends and substitutions) was given on the basis of two influential speech production models: Levelt and colleagues’ WEAVER++ and Dell’s spreading activation model. Three main implications of lexical blends and substitutions to our mental lexicon can be drawn: i) connections between lexical concepts and linguistic forms are achieved via lemmas, ii) meaning related lemmas are closely associated with each other and iii) information flow in the mental lexicon might be bi-directional. In addition, we have seen that Cantonese and English speech errors are similar in terms of formation and potential motivation, which suggest the universality of slips of the tongue in speech production. Further cross-linguistic studies on speech errors are necessary to check the validity of this claim as well as those existing speech production models.
7. References


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## Appendix I

<table>
<thead>
<tr>
<th>Type</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shift</td>
<td>That’s so she’ll be ready in case she decide to hits it (decides to hit it).</td>
</tr>
<tr>
<td>Exchange</td>
<td>Fancy getting your model renosed (getting your nose remodeled).</td>
</tr>
<tr>
<td>Anticipation</td>
<td>Bake my bike (take my bike).</td>
</tr>
<tr>
<td>Perseveration</td>
<td>He pulled a pantrum (tantrum).</td>
</tr>
<tr>
<td>Addition</td>
<td>I didn’t explain this carefully enough (carefully enough).</td>
</tr>
<tr>
<td>Deletion</td>
<td>I’ll just get up and utter intelligibly (unintelligibly).</td>
</tr>
<tr>
<td>Substitution</td>
<td>At low speeds it’s too light (heavy).</td>
</tr>
<tr>
<td>Blend</td>
<td>That child is looking to be spaddled (spanked/paddled).</td>
</tr>
</tbody>
</table>

*Table 1*  Major Types of Slips (Carroll, 2008, p. 195)
Appendix II

Blends
1. 電腦枱支燈管壞咗（燈/光管）
2. 我想食糖品（糖水/甜品）
3. 大家爆生啦（爆肚/執生）
4. 菲律 bin（菲律賓/Philippine）
5. 我聽日同班 friend 去 BB 燒（BBQ/燒嘢食）
6. 呢個係 kim 菜包（kimchi/泡菜）
7. 唔該一個雞蛋餅（雞蛋仔/格仔餅）
8. 喜羊羊與灰多郎（灰太郎/喜多郎）
9. 一文不拔（一毛不拔/一文不值）
10. 狼虎為奸（狼狽為奸/狼虎之年）

Substitutions
1. 貼身 tʰipsenl → 貼心 tʰipseml
2. 滑蛋牛肉飯 wɑtɑtanl → 滑板牛肉飯 wɑtɑpɑn₁
3. 你睇下個阿拉丁 lɑitɪŋ → 你睇下個阿拉登 lɑitɐŋ
4. 灰色 → 啡色
5. 你叻兩兄妹 → 你叻兩姊弟
6. 你有無百佳印花 → 你有無百佳印花
7. 我星期六番工 → 我星期六放假
8. 老公仔女 → 老婆仔女
9. 開住冷氣咪會凍囉 → 開住冷氣咪會熱囉
10. 點解啲的士又加價 → 點解啲司機又加價
11. 楊思琦未婚懷孕 jœŋsilkʰeiʃil → 李司棋未婚懷孕 leidlkilkʰeiʃil
12. 睇唔睇愛情雨呀 sɪltʃιŋlʃiŋl → 睇唔睇及時雨呀 kʰepʃisilʃiŋl
13. 你睇下湯唯幾靚 tʰioŋlweɪnl → 你睇下張惟幾靚 tsœŋlwɪnl
14. 查理斯都無得登基 tʃʰiʃil → 威爾斯都無得登基 wɪlʃiŋl
15. 開心樂園餐 hɔilsemlloklʃiŋl → 冒險樂園餐 mʊlhimloklʃiŋl
Exchanges

1. 地道 teitoul → 道地 touleit
2. 偉華商場 weilwawl → 華偉商場 wawlweil
3. 羅范椒芬 lofanl → 范羅椒芬 fanllofl
4. 外婆紅燒肉 hoŋl siulsiuŋl → 紅燒外婆肉 houŋl siulsiuŋl
5. 膽生毛 tamlsamul → 毛生膽 moul saŋltaml
6. 大棠紅葉 taiɭŋl hoŋl jipl → 紅棠大葉 houŋl taiɭŋl jipl

Anticipations & Preservations

1. 無家可歸 maol kalhɔl kwlil → 無瓜可歸 maol kwlil hoŋkwlil
2. 新竹卷 sinltsokl → 千竹卷 tʃinltsokl
3. 樹葉 syljipl → 是葉 siļjipl
4. 何師姐拜拜 ɬsil tsiɭsəl → 何師子拜拜 ɬsil siɭsiɭsəl