

# Evaluation of the Matrix Language Hypothesis: Evidence from Chinese-English Code-switching Phenomena in Blogs

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## Abstract

*This paper investigates the morpho-syntactic features of bilingual discourse made in blog articles by Chinese students studying in English speaking countries. The identified grammatical patterns of adjective, nominal and verbal constituents with Chinese and English fused together are used to testify and evaluate the Matrix Language hypothesis, which remains the central tenet of Myers-Scotton's (1999a, 2002) linguistic explanations for code-switching phenomena. The analysis indicates that while English adjectives and nouns are well incorporated into the grammatical configuration set up by the matrix language of Chinese, English verbs show stronger resistance to the morpho-syntax of Chinese and have immense impacts on the grammatical construction of the bilingual discourse. It is therefore argued that the Matrix Language hypothesis does not always hold to account for bilingual discourse and even in classic code-switching, the matrix language is far from the sole source for the grammatical shaping while the embedded language jointly make important contributions.*

## Keywords

*Matrix Language hypothesis, code-switching, morpho-syntax, adjective, noun, verb*

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## 1. Introduction

Code-switching (hereafter CS) between Chinese and English has recently attracted an increasing amount of scholarship (e.g. Chen 2006; Gao 2006; You 2008; Yu 2004). Most of these studies adopt a socio-psychological approach to investigate the discursive strategies of English's incorporation into Chinese and their implications. For instance, following Myers-Scotton's (1993b) Markedness model, Chen (2006) analyzes the socio-pragmatic functions of English expressions in Chinese magazine advertisements in Taiwan. Yu (2004)

recommends the Adaptability Theory (Verschueren 1999) for CS analyses and attempts to explain from the perspective of pragmatics the influence of Linguistic reality, Social Conventions and Mental Motivations upon Chinese-English switches in natural conversations.

However, the linguistic property of Chinese-English CS phenomena is far less discussed although analytical models with considerable explanatory power are already available (e.g. Myers-Scotton 1993a, 2002, 2006). One exceptional research is undertaken by Guo (2006). Based on the corpora of 16 hours' spoken discourse made by college students in two Chinese universities, Guo (2006) illuminates the morpho-syntactic characteristics of CS data and highlights the dominant role of Chinese in the grammatical constraints on English.

The present study further examines the grammatical features of 'classic CS'<sup>1</sup> (Myers-Scotton 2006: 242) made by competent Chinese-English bilinguals to explore two interrelated issues. The first task is to classify the morpho-syntactic patterns which characterize the Chinese-English CS within the projection of complementizer (hereafter CP) (Myers-Scotton and Jake 1995). Secondly, the identified grammatical patterns will be used to testify and evaluate the Matrix Language hypothesis, the central tenet of Myers-Scotton's (1993a, 2002) linguistic accounts of CS.

## 2. Theoretical backgrounds

### 2.1 Code-switching

While the definition of CS is not without controversy (Winford 2003: 141), this project is only interested in the alternate use of Chinese and English within the unit of CP. We agree with Myers-Scotton (2002: 55) that different languages are in real contact when put in the same single CP. Also, for the purpose of testifying the Matrix Language hypothesis, it is appropriate to adopt the same analytical unit as Myers-Scotton (1993a, 2002).

### 2.2 The Matrix Language Frame model

Myers-Scotton (1993a) presents a critique of earlier studies on linguistic constraints on CS, which either lack particular theoretical motivations or depend too much on the existing syntactic models. Drawing on psycholinguistic research and observations of speech errors as well as aphasic production by monolinguals, Myers-Scotton (1993a) proposes the Matrix Language Frame model (hereafter MLF) as a production-based approach to CS. Different from previous linguistic models which are merely descriptive or too close to the surface, the MLF model is credited with its explanatory power for 'how language is accessed and retrieved before it takes the final form' (Myers-Scotton 1993a: 45). This framework consists of four hypotheses as follows:

- The Matrix Language hypothesis
- The blocking hypothesis

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<sup>1</sup> Following Myers-Scotton (2006: 242), classic code-switching is made by speakers who must be proficient enough in the language structuring the clause so as to follow the well-formedness constraints of that language and may also be proficient in the other language although a high degree of proficiency is not very critical.

- The EL island trigger hypothesis
- The EL implicational hierarchy hypothesis

### **2.3 Myers-Scotton's latest linguistic models for language contact**

Despite constant denial of relevance of any counterexamples raised by other researchers (Myers-Scotton 2002: 87), Myers-Scotton and Jake (2001:9) admit that the MLF model cannot account for some problematic CS data such as double morphology and bare forms although it does not disallow them. Partly in order to make up MLF's explanatory deficiency, Myers-Scotton and Jake (2001) develop the 4-M model and the Abstract Level model, both of which add precision to the MFL model and have wider applications. For example, the 4-M model (Myers-Scotton 2002: 92) suggests an explanation for the occurrence of double morphology and only allow early system morphemes to be doubled in classic CS. More significantly, Myers-Scotton (2002.:85) claims that these two newly developed models offer indirect evidence about the mechanisms of language production and procession and thus can be used to explore other language contact phenomena in addition to classic CS.

### **2.4 The Matrix Language hypothesis**

In spite of the diversity of the above mentioned hypotheses and models, one constant theme is the Matrix Language hypothesis (Myers-Scotton 1993a:83), whose two principles are stated as follows:

- The morpheme Order Principle: in Matrix Language + Embedded Language constituents consisting of singly occurring Embedded Language lexemes and any Number of Matrix Language morphemes, surface morpheme order (reflecting surface Syntactic relations) will be that of the Matrix Language.
- The System Morpheme Principle: in Matrix Language + Embedded Language constituents, all system Morphemes which have grammatical relations external to their head constituent (i.e. which participate in the sentence's thematic role grid) will come from the Matrix language.

It is noteworthy that both the two principles embody and are derived from the 'two major underpinnings' of the MFL model (Myers-Scotton 1993a: 69): the Matrix Language (hereafter ML) – Embedded Language (hereafter EL) opposition and the content-system morpheme opposition. Moreover, in the 4M model and the Abstract Level model (Myers-Scotton 2002: 59), the two principles are even stipulated as the sole criterion to identify the ML in classic CS. In fact, compared with the MLF model, only the ML hypothesis remains unchanged in the 4M model and the Abstract Level model while the rest three hypotheses (Myers-Scotton 1993a: chapter 5) have been subsumed. The stability of the two principles across different models highlights the significance of the ML hypothesis, which, as emphasized by Myers-Scotton (2006: 244), is open to being falsified. Accordingly, it is not only necessary but also important to focus on the ML hypothesis in the present study, examination of which might even be used to testify and evaluate the plausibility of Myers-Scotton's (1993a, 2002, 2006) major linguistic models

## **3. Methodology**

### 3.1 Data collection

The analytical data were collected from the *Jinghua* ('best articles') section of a blog website named *Liuxuesheng* ('Chinese Students Studying Abroad'), which is retrievable at [http://q.blog.sina.com.cn/lxsbkq/article\\_best/lighttype=all&page=2](http://q.blog.sina.com.cn/lxsbkq/article_best/lighttype=all&page=2). There are 79 blog articles in this section (collected by March 20, 2007) while 37 of them contain intra- CP English-Chinese CS. In order to make sure that the writers are proficient users of English, we excluded articles with Chinese-English CS written by students living in EFL (English as a foreign language) countries such as Japan and Korea. The final data bank consists of 34 articles with intra-CP CS phenomena. 28 of these articles were written by students living in countries where English is the mother tongue (USA, UK, Canada, Australia) while the rest six were contributed by those living in ESL (English as a second language) such as Ireland, Holland and Denmark.

Following Myers-Scotton (2006: 242), these collected data should be identified as classic CS. Judging from these articles' contents, all the selected blog contributors were born in China and acquired Chinese as their mother tongue. So there would be no problem for them to produce well-formed monolingual utterances in Chinese. On the other hand, they were all accepted by international universities as undergraduate or postgraduate students. Since these tertiary institutions usually have English language proficiency requirements for international students, it is thus assumed that these bloggers are also competent users of English.

Selection of blog articles can serve a range of research purposes at the same time. Firstly, the present study attempts to systematically examine the grammatical patterns of blog language, which is characteristic of both written and spoken discourse (Huang 2005) as a newly emerging mode but still remains under-explored. In addition, the serious controversy over the difference between CS and borrowing is resolved in the present study because the established English loanwords have shifted their orthographic systems from letters to characters in blog articles and therefore can be easily distinguished from CS. For example, *Valentine* in (9) is written as '瓦伦太' in Chinese as a loanword. As for the distinction between 'nonce borrowing' and CS (Poplack 2000[1980]), we follow Myers-Scotton's (2002:154) suggestion that grammatical congruence checking should occur not only for single EL elements but also for EL islands, thereby including both of them in the databank.

### 3.2 Data analysis

Due to the relatively small data corpus, a quantitative analysis might not convincingly reveal the distribution patterns of different grammatical elements in the Chinese-English CS phenomena. Instead, the present study focuses on the morpho-syntactic patterns of the bilingual data within the same CP before evaluating the plausibility of the ML hypothesis.

The first problem for the current linguistic analysis is to decide which language is the ML. Importantly, the criteria in the original MFL model (Myers-Scotton 1993a: 66-74) have been replaced by the two principles under the ML hypothesis to identify the ML (Myers-Scotton 2002: 59). However, a direct adoption of the two principles in the current study as the sole criterion runs the risk of making a circular argument, for we attempt to testify and evaluate the ML hypothesis. As suggested by Nortier (1990, cited in Winford 2003: 142) the identification of ML must be based on over one criterion including 'the language of the first words of the utterance, the syntax of the sentence, and the frequency of constituents from

each language'. Following these criteria, Chinese should be considered the ML in our data while English is the EL.

Despite no thorough quantitative analysis, even a casual observation of the collected data indicates that English as the EL mainly contributes to adjective, nominal and verbal expressions. Also noteworthy is that this research is primarily concerned with grammar in real contact, so the morpho-syntactic patterns of the ML + EL constituents of nominal, verbal and adjective elements are highlighted in the following examination.

#### 4. Linguistic analysis of the morpho-syntactic configuration of ML + EL constituents

##### 4.1 Patterns of adjective expressions

###### 4.1.1 Chinese intensifier + English Adjective

When English adjectives are embedded in Chinese, they tend to be modified by Chinese intensifiers. In (1) and (2), for example, the Chinese adverbs 很 ('very') and 非常 ('very, unusually') are used to denote a high degree of the following English adjectives *formal* and *competitive* respectively.

- 1) 很 严肃 很 formal 的 那种 祈祷。  
Hen yansu hen formal -de na zhong qidao  
very serious very formal Particle that type pray.  
'That is a very serious and formal pray.'
- 2) 欧美 的 investment bank 非常 competitive.  
Ou mei -de investment bank feichang competitive.  
Europe America Particle investment bank very competitive.  
'Job offers by European or American investment banks are very competitive.'

###### 4.1.2 English adjective + Chinese particle *-de*

According to English grammar, attributive adjectives should appear directly before the head of a noun phrase (Quirk et al. 1972: 247). But it is very interesting to see from the first example that in ML + EL nominal phrases, the Chinese particle *-de* is inserted between the English adjective *formal* and its Chinese head noun 那种祈祷. This kind of structure follows the syntactic pattern of Chinese noun phrases within which *-de* can function as a nominalizer to help the preceding adjective construct a relative clause to modify the head noun (Charles Li and Thompson 1981:118).

###### 4.1.3 Loss of copula verbs

In English, the copula is obligatory when adjectives serve the role of subject complements. However, as can be observed in (2), the *Be* verb is omitted in front of the ML + EL adjective constituent 非常 competitive, which functions independently as a predicative complement.

###### 4.1.4 English adjectives as predicative complements

As noted by Quirk et al. (1972: 247), English only allows adjectives to work either as subject complements (e.g. John is tall.) or object complements (e.g. We found it easy to do.). In contrast, adjectives are allowed in Chinese to serve the role of predicative complements (Chao 1968: 355-356). It is important to see that in mixed constituents, English adjectives can function as predicative complements.

- 3) 大叔 笑 得 好 high.  
 Dashu xiao -de hao high.  
 uncle laugh Particle very high.  
 ‘The uncle laughs very ecstatically.’

In (3), the English adjective *high* modified by a Chinese intensifier 好 (‘very’) constitutes a predicative complement for the preceding Chinese main verb 笑 (‘laugh’). It is evident that such a pattern follows the grammar of ML rather than that of EL. When translated into English, the predicative complement 好 *high* will be replaced by an adverbial phrase such as ‘very ecstatically’.

#### 4.1.5 Reduplication

It is well acknowledged that reduplication is not available as a morphological resource in English. However, when embedded in Chinese, English adjectives can be reduplicated and realize special functions and meanings following the ML’s grammar.

- 4) 打 电话 也 可以, 5~10 分钟, chop chop 可以 结束。  
 Da dianhua ye keyi, 5~10 fenzhong chop chop keyi jieshu  
 make telephone also okay, 5 to 10 minutes, chop chop may finish.  
 ‘We can also give you a 5-to-10-minute call and the interview will be finished very soon.’

According to Chao (1968: 207-210), the repetition of *chop* (‘quick’) is an example of vivid reduplication, which adds liveliness to the adjective. Moreover, two other linguistic features of this reduplication also deserve our attention. Firstly, the adjective constituent *chop chop* is placed in front of the main verb 结束 (‘finish’) and pre-modify it as an adverbial phrase. Such a pattern is only grammatically legitimate in Chinese but not in English. In addition to vividness, the reduplication of *chop* seems to intensify the degree of quickness and thus *chop chop* implies ‘very quickly’. The intensified quantification may stem from the EL element’s pre-verbal position in (4). As Zhu (1982: 27) points out, when placed in adverbial or complement positions, the quantification of reduplicated adjectives will be increased. Interestingly, the adjective phrase *chop chop*, which was introduced to English through loan translation (Romine 1995: 97) by Chinese Pidgin English speakers, has been accepted by the target language community as a formula meaning ‘hurry up’ (Fang 2005).

#### 4.1.6 Discussion of the grammatical patterns of EL adjective elements

The above morpho-syntactic patterns of English adjective expressions seem to verify the feasibility of the ML hypothesis and confirm that Chinese provides the morpho-syntactic frame for the ML + EL constituents. First of all, no English late outsider system morphemes are found in the above adjective phrases and thus the System Morpheme principle is

observed. Furthermore, all the English adjectives in the mixed constituents follow the Morpheme Order principle. The EL adjective *high* in (3), which occurs after the main verb as a predicative complement, is particularly characteristic of the syntactic order of Chinese rather than English. Likewise, the unique pre-verbal position of *chop chop* in (4) further confirms that EL adjective forms follow the morpheme order of the ML.

It is important to note that the intensifiers in (1) and (2) belong to early system morphemes while the particle *-de* is a kind of late bridge system morpheme. Both these two kinds of system morphemes coming from Chinese provide empirical evidence to support the Uniform Structure principle (hereafter USP) of the 4-M model (Myers-Scotton, 2002:120) that early and bridge late system morphemes from the ML are the unmarked choice. The USP can also account for the loss of copula in (2). Since Chinese provides a uniform abstract structure where adjectives are able to function independently as predicative complements, the English copula verb is therefore constrained from appearing in the final ML + EL constituents.

## 4.2 Patterns of nominal expressions

### 4.2.1 Loss of English articles

Different from Chinese, English develops a system of articles to indicate different types of references. However, when embedded in Chinese, English nominal phrases tend to lose their preceding determiners.

- 5) Party 结束后又去了酒吧。  
Party jieshu hou you qu-le jiuba  
party finish after too go PFV bar.  
'I went to the bar after the party was over.'
- 6) second course 是美国大西瓜。  
second course shi meiguo da xigua.  
second course Copula US big watermelon.  
'The second course is watermelons from USA.'

Judging from the context, both the two noun phrases *party* in (5) and *second course* in (6) embody specific references and thus should be understood as definite entities. But neither of them is preceded by the definite article *the*, which is required by the English grammar.

### 4.2.2 Loss of English plural markers

English head nouns in ML + EL constituents tend to appear in the base form though carrying a plural concept.

- 7) 一路上我已经看了几个toaster。  
Yi lu shang wo yijing kan-le ji ge toaster.  
one way on 1S already look PFV several CL toaster.  
'On the way I have checked several toasters.'
- 8) 但这里基本都是要动脑筋的作业,  
Dan zheli jiben dou shi yao dong naojin -de zuoye  
but here basically all Copular require use brain Particle assignment,

很多 presentation.  
*henduo* presentation.  
 many presentation.

‘But almost all the assignments here require that you think a lot about the subjects and there are many presentations.’

In (7) and (8), *toaster* and *presentation* are count nouns while their respective Chinese quantifiers 几个 (‘several’) and 很多 (‘many’) also express concepts of plurality. Following the grammar of English, the two nouns should appear in plural forms as *toasters* and *presentations*. However, both of them lose the plural markers *-s* when incorporated into the mixed constituents.

#### 4.2.3 English noun + Chinese plural marker

Apart from the loss of the plural marker *-s*, English head nouns in ML + EL constituents also express the concept of plurality through their combination with the Chinese plural suffix 们.

- 9) 还有 11天 便是 圣瓦伦太节 了。 呵呵,  
 Hai you 11tian bian shi shengwaluntai jie -le. hehe,  
 also have 11 day then Copular Valentine’ Day Particle. Interjections,  
 couple 们, 准备 好 礼物 哦。  
 couple-men zhunbei hao liwu e.  
 couple PL, prepare well gift Particle.  
 ‘Valentine’s Day is coming in 11 days. Couples should prepare gifts.’

Different from (7) and (8), the plural marker for the English head noun is maintained in (9), but realized in the ML of Chinese rather than in English.

#### 4.2.4 Chinese quantifier + English noun

- 10) 所以会 有 很多 project opportunity.  
 Suoyi hui you henduo project opportunity  
 so will have many project opportunity.  
 ‘So there will be many project opportunities.’
- 11) 这门 课程 不光 是 学习 地理, 还有 各种 issue.  
 Zhe men kecheng bu guang shi xuexi dili, hai you ge zhong issue.  
 This CL module not only Copular learn geography, also have all kind issue.  
 ‘You can learn not only geography but also all kinds of issues from this module.’

English nouns also tend to be pre-modified by Chinese quantifiers in the bilingual discourse. As seen from (8), (10) and (11), the quantifiers 很多 (‘many’) and 各种 (‘all kinds of’) are used to quantify the following English head nouns.

#### 4.2.5 Chinese classifier + English noun

In Modern Chinese, numbers cannot modify head nouns directly without the insertion of a



classifier between them (Charles Li and Thompson 1981: 104). Such a syntactic rule also takes effect in the nominal ML + EL constituents.

- 12) 基本上, 你 是 要 写 四 篇 essay.  
Jibenshang, ni shi yao xie si pian essay.  
Basically, 2S Copular require write four CL essay.  
'Basically, you are required to write four essays.'
- 13) 我 会 修 金 融 和 会 计 两 个 major.  
Wo hui xiu jinrong he kuaiji liang ge major.  
I will select finance and accounting two CL major.  
'I will select two majors: finance and accounting.'

Following the grammar of English, the count nouns *essay* and *major* can directly follow numbers. However, both of them are preceded by the Chinese classifier 篇 ('article') and 个 ('item') in (12) and (13) respectively, which evidently follows the syntactic arrangement of Chinese.

#### 4.2.6 Chinese particle *-de* + English noun

When the concept of possession is required to be expressed between two English nouns, the Chinese particle *-de* is selected as the case marker.

- 14) 我 email 了 一 些 hospital 的 nursing sector.  
Wo email-le yixie hospital -de nursing sector  
1S email PFV some hospital Particle nursing sector.  
'I emailed some hospitals' nursing sectors.'
- 15) Jim 的 homestay 要 收 他 8 月 31 日 的 费 用 23 加 元。  
Jim-de homestay yao shou ta 8 yue 31 ri-de feiyong 23 jia yuan.  
Jim Particle homestay will receive 3sg August 31<sup>st</sup> Particle expense 23 Canada dollars.  
'Jim's landlord will charge him 23 Canada dollars for the rent of August 31<sup>st</sup>.'

As observable from (14) and (15), although both the noun phrases functioning as the possessor and the possessed are from English, their associations are not realized through the EL genitive marker 's or *of* but through the Chinese particle *-de*.

#### 4.2.7 English noun + Chinese localizer

Also noteworthy is that in the mixed constituents, English nouns precede rather than follow Chinese localizers (Chao: 1968: 620) when expressing spatial positions.

- 16) Dam Square 上 一 个 巨 大 的 摩 天 轮 已 经 树 起。  
Dam Square shang, yi ge juda -de motianlun yijing shuqi  
Dam Square Localizer one CL giant Particle Ferris wheel already set up.  
'A giant Ferris wheel has been set up on Dam Square.'
- 17) 一 个 小 时 的 工 资 是 office 里 4 个 小 时 拿 的 钱。

Yi ge xiaoshi-de gongzi shi office li si ge xiaoshi na-de qian.  
 one CL hour Particle wage Copular office Localizer 4 CL hour earn Particle money.  
 ‘One hour’s wage is four times the rate of working in an office.’

In English, localizers are realized in the form of prepositions which occur before the noun phrases. For example, the equivalent English expressions to *Dam Square* 上 and *office* 里 ought to be ‘on Dame Square’ and ‘in an office’ respectively. However, in ML + EL constituents, the placement of English nouns obviously follows the syntactic order of Chinese when the localizers are realized in the form of postpositions.

#### 4.2.8 Double morphology

- 18) 如果 没有 认识的 人 refer 你去 那些 hospital or nursing home,  
 Ruguo mei you renshi-de ren refer ni qu na xie hospital or nursing home,  
 if NEG have know Particle people refer 2S go those hospital or nursing home,  
 clinics or labs...  
 clinics or labs...  
 ‘If no-one refers you to those hospitals, nursing homes, clinics or labs...’

In (18), the Chinese demonstrative pronoun 那些 (‘those’) demonstrates the concept of plurality (Charles Li and Thompson 1981: 11; Shi 2003: 41) while the English head nouns *clinics* and *labs* are also realized in plural forms with the marker *-s*. Thus the plurality of these English nouns is doubly marked in both Chinese and English. It is also interesting to see that among the four English head nouns in the coordinating conjunctions, only the last two realize plurality through double morphology while the first two lose their plural marker *-s* and their plurality is only expressed through the preceding Chinese demonstrative pronouns.

#### 4.2.9 Discussion of the grammatical patterns of nominal constituents

The morpho-syntactic patterns of the above mixed nominal expressions validate the ML hypothesis. In the first place, all the analyzed nominal ML + EL constituents follow the syntactic order of Chinese, thereby observing the Morpheme Order principle. The most obvious case is in Section 4.2.7 where English nouns are placed in front of Chinese localizers while the reversed order is typical in English. In addition, no late outsider system morphemes from English occur in the mixed noun phrases and thus the System Morpheme principle is maintained. The occurrence of the English plural Marker *-s* in (18) is not a counterexample because it belongs to early system morphemes, which rather than late outsider system morphemes can be doubled following the 4-M model (Myers-Scotton 2002)

Furthermore, as observed from Section 4.2.3 to Section 4.2.6, Chinese dominates both the early system morphemes (the plural marker, the quantifier and the classifier) and late bridge system morphemes (the particle *-de*) when English nouns are embedded. These patterns further empirically prove that in our data, Chinese is the source of ML, which provides the morpho-syntactic frame for ML + EL constituents where Chinese system morphemes can appear freely. In contrast, as the USP (Myers-Scotton 2002: 120) predicts, even English early system morphemes, which are not ruled out by the System Morpheme principle, can hardly appear in nominal ML + EL constituents. The strict constraints on EL system morphemes may partly account for the morpho-syntactic features reflected in

Section 4.2.1 and Section 4.2.2. Since both English articles and plural markers belong to system morphemes, the ML of Chinese will restrict their appearance and finally cause their loss in nominal mixed structures.

However, Chinese numbers can co-exist with English plural markers in our data, which poses a challenge to the morpho-syntactic requirements of Chinese.

- 19) 一个考试 就是 4个 小时, 大概 有 4个 essay type questions.  
Yi ge kaoshi jiu shi si ge xiaoshi, dagai you si ge essay type questions.  
one CL test Copular 4 CL hour, probably have 4 CL essay type questions.  
'A test lasts four fours with about four essay type questions.'

In (19), the maximum projection of the mixed nominal phrase contains a number 4, a Chinese classifier 个('item') and an English noun phrase in plural form *essay type questions*. The insertion of the classifier 个('item') between the number and the head noun follows the Chinese syntactic order. However, the co-occurrence of the number 4 and the English plural noun *questions* seems to conflict with the ML's well-formedness requirements since Chinese does not allow numbers to exist with plural markers together (Shi 2003: 45). In contrast, numbers' co-existence with plural markers is grammatically correct in English.

Admittedly, since *essay type questions* is an EL island (Myers-Scotton 2002: 140) rather than a single EL form, this example does not invalidate the Morpheme Order principle which only targets at singly occurring EL morphemes. However, the morpho-syntactic structure of the mixed constituent in (19) suggests that in bilingual nominal phrases, Chinese is far from the sole source for the grammatical frame of the whole constituents. On the contrary, both Chinese and English contribute to the morpho-syntactic configuration of the ML + EL groups.

### 4.3 Patterns of verbal expressions

#### 4.3.1 Loss of inflectional markers

As an inflectional language, English develops a variety of bound morphemes for verbs to mark semantic notions and grammatical categories such as number, tense or aspect. When embedded in Chinese, verbal elements, whether singly occurring or in form of islands, tend to lose their inflectional markers.

- 20) 争斗 的原因 是 他 jump the queue 这么 鸡毛蒜皮 的小事。  
Zhengdou-de yuanyin shi ta jump the queue zheme jimaosuanpi-de xiao shi.  
fight Particle reason Copular 3sg jump the queue such Idiom Particle small thing.  
'The reason for our fight is that he jumped the queue, which seems rather trivial.'
- 21) 今天 试了 几次, 都 被 decline 了。  
Jintian shi-le ji ci, dou bei decline-le.  
today try PFV several time, all PASS decline PFV.  
'I tried several times today, but was declined (by all the banks).'
- 22) 我 是 一个 很难 hold a conversation 的 人。  
Wo shi yi ge hen nan hold a conversation-de ren.  
1S Copula one CL very difficult hold a conversation Particle person.  
'I am difficult to hold a conversation with.'

In (20), the English verb *jump* loses the simple past tense marker *-ed* while *decline* in (21), which should have been realized in English as a past participle *declined* to express the passive voice, appears in the base form. Likewise, the verbal island *hold a conversation* is also deprived of the infinitive morpheme *to* in (22).

#### 4.3.2 Chinese modal verb + English lexical verb

When English lexical verbs occur in mixed constituents, their modality is realized in Chinese rather than in English.

- 23) 很少 有人 愿意 entertain 你。  
 Hen shao you ren yuanyi entertain ni.  
 very few have people will entertain 2S.  
 ‘Very few people will entertain you.’
- 24) 我们 要 survey 一些 采血 过程。  
 Wo-men yao survey yixie cai xue guocheng  
 1S PL will survey some pick blood process.  
 ‘We will survey some blood-picking processes.’

In (23), the volition of the verbal phrase is expressed through the Chinese modal verb 愿意 (‘will’) while the Chinese auxiliary 要 (‘will’) in (24) shows both futurity and modality in the mixed verbal phrase. Similarly, English verbs in mixed constituents can also express grammatical categories such as aspect through the combination with a Chinese morpheme. As may be noted in (21), the perfective aspect is not expressed through the English past participle *declined*, but through the Chinese aspect marker 了.

#### 4.3.3 English lexical verb + Chinese measure

Lexical verbs post-modified by measures are rather unique in Chinese. Interestingly, such a pattern also occurs in the verbal ML + EL phrases.

- 25) 首先 需要 show 一下 偶的 厨艺。  
 Shouxian xuyao show yixia wo-de chu yi.  
 Firstly need show Measure 1S Particle cooking skills.  
 ‘Firstly, I would like to show my cooking skills.’

The English main verb *show* is followed by the Chinese measure 一下, which expresses the number of times the modified action takes place (Chao 1968: 616). It is also important to note that the Chinese measure 一下 shows features of quantification and thus can be identified as a kind of early system morphemes.

#### 4.3.4 Shift of syntactic properties from EL to ML

When entering mixed constituents, singly occurring English lexical verbs may lose their syntactic properties characterized by the EL.

26) 一只 蜘蛛 已经 悄悄地 在我的背后, 当 我 转身 的时  
候,

Yi zhi zhizhu yijing qiaoqiao-de zai wo-de beihou, dang wo zhuanshen-de shihou  
one CL spider already quietly Particle at 1S -de back, when 1S turn around Particle  
time,

差点 和 它 kiss.

chadian he ta kiss.

almost with 3sg kiss.

'A spider stayed quietly behind me. When I turned around, I almost kissed it.'

In English, *kiss* is a transitive verb and able to assign the thematic role of Goal to its object. However, when singly imbedded in Chinese, this English verb becomes intransitive and the object 它 ('it') is preceded by a Chinese preposition 和 ('with'). Furthermore, in (26) the prepositional phrase 和它 ('with it') is placed in front of the main verb, which is characteristic of the syntactic order in Chinese rather than that of English.

#### 4.3.5 Discussion of the grammatical patterns of verbal constituents

The above linguistic patterns of English verbal phrases in ML + EL constituents can be adequately explained by the ML hypothesis. Both inflectional markers mentioned in Section 4.3.1 and modal verbs in Section 4.3.2 belong to late outsider system morphemes. As predicted by the System Morpheme principle that EL late outsider system morphemes will be explicitly excluded, English inflectional markers are consequently not allowed to appear from (20) to (22). Alternatively, the grammatical categories of tense, aspect and modality could be realized in the ML through Chinese late outsider system morphemes such as modal verbs in Section 4.3.2. The Chinese measure for English verbs in (25) belongs to early system morphemes, which again provides evidence for the USP that early system morphemes coming from the ML are the unmarked choice. Also, all the above examples observe the Morpheme Order principle. In (26), for instance, the singly occurring English verb *kiss* appears after a prepositional phrase, which obviously follows the syntactic order of Chinese rather than English. Indeed Chinese solely sets the grammatical frame for the mixed constituents in (26). Despite the phonetic form in English, the lexical verb *kiss* behaves the same as the intransitive Chinese verbal phrase 接吻 ('have a kiss') in terms of its morpho-syntactic properties.

Despite the sizable linguistic patterns to support Myers-Scotton's (1993a, 2002) linguistic models for CS phenomena, our data of verbal expressions also have counterexamples which conflict with the ML hypothesis. For instance, different from *kiss* in (26), whose syntactic properties observe the ML of Chinese, the following singly occurring verbs maintain English syntactic features in the mixed constituents:

27) 我 email 了 一些 hospital 的 nursing sector.

Wo emai-le yixie hospital-de nursing sector.

1S email PFV some hospital Particle nursing sector.

'I emailed some hospitals' nursing sectors.'

28) 我 call 了 一些 nursing homes.

Wo call-le yixie nursing homes.

1S call PFV some nursing homes.

‘I called some nursing homes.’

In (27) and (28), both the English verbs are combined with the Chinese perfective aspect marker 了, which belongs to late outsider system morphemes. According to the System Morpheme principle, Chinese is the ML of the mixed verbal phrases. Thus it is predictable that Chinese rather than English should provide the morpho-syntactic frame for the two EL verbs *email* and *call*. On the contrary, both the two verbs in (27) and (28) show syntactic properties framed by English. Put concretely, they are directly followed by a nominal phrase, which indicates that the two verbs are transitive and able to assign the thematic role of Goal. However, such syntactic properties are characteristic of English rather than of Chinese. The Chinese verbal counterparts to *email* and *call* are intransitive the verbal phrases of 发送电子邮件 (‘send emails’) and 打电话 (‘make a telephone call’) respectively, which are intransitive and require a co-verb 给 (Charles Li and Thompson 1981: 375) before the object. Having not satisfied syntactic requirements made by Chinese, the mixed verbal phrases in both (27) and (28) seem to violate the Morpheme Order principle although observing the System Morpheme principle.

Furthermore, the syntactic properties of EL insertions in the above two examples also pose a serious challenge to the Abstract Level model (Myers-Scotton 2002: 18-19). As claimed by Myers-Scotton (2002: 140), in the process of classic CS production, EL islands should be well-formed at all three levels of abstract grammatical structure whereas singly-occurring EL forms are only activated at the lexical-conceptual level. However, in (27) and (28), both the two single-form verbs are characterized by their EL syntactic properties, which clearly indicates that *email* and *call* are activated not only at the lexical-conceptual level but also at the predicate-argument level when incorporated into Chinese.

Similar to adjective expressions (see Section 4.1.5), English verbs can also be reduplicated in CS constituents, which further challenges the ML hypothesis.

29) 没事 过来 度个假, shopping shopping 也挺好。

Mei shi guo lai du ge jia, shopping shopping ye ting hao

NEG thing come spend CL vacation, shopping shopping also fairly good.

‘It is fairly good to come back to spend the vacation or do some shopping when you are free.’

In the context, *shopping shopping* implies ‘a little bit’ as well as particular emotions. Such implications, however, are likely to result from two different morphological sources. On one hand, volitional verbs in Chinese can be reduplicated to signal the delimitative aspect (Charles Li and Thompson 1981: 29). Thus the morphological process of the ML may contribute to the tentativeness in the EL constituents *shopping shopping*. On the other hand, the progressive aspect indicated by the EL inflectional marker *-ing* can also account for the tentativeness. As Quirk et al. (1972: 93) point out, the progressive aspect in English has other concomitant meanings and overtones such as limited duration, vividness of description and emotional coloring, all of which are relevant to explain the semantic features of the EL constituent in (29).

It is quite possible that the two morphological resources from the ML and the EL jointly contribute to the tentativeness and emotional coloring of *shopping shopping*, thereby constituting a double morphology, which, however, raises a serious problem for the 4-M model. A basic hypothesis of the 4-M model is that different morphemes are activated at different levels. According to Myers-Scotton (2002: 91-93), both content morphemes and

early system morphemes are conceptually activated at the lemma level. Since they become salient at the same time, then a mistiming or doubling is likely to occur. Such a hypothesis might adequately explain the double morphology of plural markers in CS, which belong to early system morphemes. But it evidently fails to account for the case in (29) because aspect markers are late outsider system morphemes and thus cannot be activated until the level of the Formulator, which is later than content morphemes. It therefore follows that there should be no chance for mistiming or doubling. Moreover, the grammatical category of aspect in the above mixed constituent, whether considered delimitative or progressive, is realized through late outsider system morphemes from the EL of English, thereby violating the System Morpheme principle.

Another noteworthy group of ML + EL constituents in our data is the combination between a Chinese lexical verb and an English inflectional marker *-ing*.

30) 新学期 又 开始 了, 换 马甲 老调重弹 *ing*, 大 家 都 要 努 力,

Xin xueqi you kaishi le, huan majia laodiaochongtan-*ing*, dajia dou yao nuli,  
new term again begin PFV Slang Idiom *ing*, everyone all need work  
hard,

努 力, 再 努 力。  
nuli, zai nuli.  
work hard, again work hard.

'The new term has started, and I will turn over a new leaf and am reminding everyone to work very hard.'

31) 事实 上, 去 之 前 我 也 象 很 多 人 一 样, 怕 被 拒 绝,  
Shishishang, qu zhi qian wo ye xiang he duo ren yiyang, pa bei jujue,  
in fact go before 1S also like many people same, fear PASS reject,  
害 怕 开 口, 跟 他 们 去 沟 通,  
haipa kaikou, gen ta-men qu goutong.  
fear open mouth with 3S PL go communicate,  
但 是, 还 是 硬 着 头 皮 去 了, 哈 哈, 笑 *ing*。  
danshi, haishi yingzhetoupi qu-le, haha, xiaoling.  
but, also Slang go PFV, Interjection laughing.

'In fact, like many other people, I was also afraid to be rejected when asking for a job offer and was afraid to communicate with the recruitment staff in English. However, I finally went to look for a part-time job though reluctantly. Now I am laughing.'

32) 最 近 碰 到 亲 友, 都 会 听 到 一 句 慰 问:  
Zuijin pengdao qinyou, dou hui tingdao yi ju weiwen:  
recently meet relative friend, all will hear one CL salute:  
打 工 辛 苦 吧, 注 意 身 体! 温 暖 *ing*。  
dagong xinku ba, zhuyi shenti! wennuan-*ing*.  
part-time job laborious Particle, pay attention to body! warm *ing*.

'Recently when I meet relatives or friends, I will always be greeted as 'It must be rather onerous to do part-time jobs. Take care'. I am feeling warm at it.'

All of the above mixed verbal phrases express an action in progress, which is realized through a Chinese verb plus the English progressive aspect marker *-ing*. These verbal combinations are quite special among our CS examples in terms of their morpho-syntactic features. Firstly, these mixed constituents make up relevant counterexamples to the free

morpheme constraint suggested by Poplack (2000[1980]: 227), who claims that a switch will never occur between a lexical stem and a bound morpheme. More significantly, since aspect markers belong to late outsider system morphemes, the existence of singly occurring English morphemes *-ing* in the above ML + EL verbal expressions evidently falsifies the System Morpheme principle, which explicitly disallows any late outsider system morphemes to appear from the EL.

## 5. Concluding remarks

As may be clear from the preceding discussion, the ML hypothesis is quite powerful to explain the grammatical properties of the Chinese-English CS phenomena in our databank while the Morpheme Order principle and the System Morpheme principle remain valid for most of the cases. The linguistic analysis indicates that Chinese is the ML and dominantly provides the morpho-syntactic frame for the mixed constituents.

On the other hand, English is the EL but its integration into the grammatical frame of the ML varies with different parts of speech. In our examples, English adjectives seem to be completely fused into the morpho-syntactic configuration of Chinese, so are the vast majority of English nouns. In fact, most of the English adjectives and nouns enter mixed constituents via the process of 'relexification' (Muysken 1981, cited in Winford 2003: 181) where their only information adopted from the EL is the phonological representation. In contrast, when embedded in Chinese, English verbs show much more robust resistance to the grammatical well-formedness required by the ML and even falsify the ML hypothesis.

In order to adequately explain the varied grammatical patterns in CS phenomena, Myers-Scotton (2002, 2006) keeps updating her linguistic models for bilingual discourse. However, as evident in our analysis of the nominal and verbal ML + EL constituents, counterexamples also occur to challenge her newly developed explanatory frameworks such as the 4-M model and the Abstract Level model.

While Myers-Scotton (2002: 66) has rightly pointed out that the ML does not have the exact same grammatical requirements for CS constituents and both the two participating languages contribute to the morpho-syntactic configuration of the composite CS, she insists that in the case of classic CS, all the constituents should be 'optimally' integrated into the morpho-syntax of the ML only except two types of 'aberrant' material ('bare forms' and EL islands). But our data show that many other types of 'aberrant' phenomena surface in classic CS such as the ML verb mixed with the EL aspect marker and thus the EL's contribution to the grammatical configuration of the bilingual expressions should not be under-estimated.

Limited by time and space, only a small number of data were collected for the present study so that the identified morpho-syntactic patterns in our analysis might not be sufficiently representative in Chinese-English classic CS. Moreover, this research selects electronic discourse for analysis, which is characteristic of both spoken and written language whereas Myers-Scotton (1993a, 2002) uses natural conversations as her sole data source. Although David Li (2003: 16) argues that both spoken and written language materials of CS share the same significant value if the study focuses on linguistic properties rather than social factors, further research is needed to investigate whether similar counterexamples exist in natural bilingual spoken discourse and their implications for the ML hypothesis.



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### Appendix

Abbreviations	Term
ADJ	adjective
CL	classifier
INFL	inflection
N	noun
NEG	negation
PFV	perfective aspect
PL	plural
V	verb
1S	first person pronoun
2S	second person pronoun
3sg	third person singular pronoun