

English Speakers and the Asymmetrical Matrix-Embedded Null Subjects in L2 Chinese*

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This study looks at the interpretation of null subjects in L2 Chinese by adult L1 English speakers and sets out to explain the divergence between non-native speakers and native speakers in relation to parameter-resetting in SLA within the framework of Principles and Parameters. Findings in the current study, based on a preference test of null subject-related Chinese properties, show that second language speakers' use of null arguments increases with proficiency. They also suggest that L2 Chinese learners, advanced speakers included, have difficulty with the acquisition of null embedded subjects more so than with null matrix subjects. The results support the claim made by Tsimpli and Roussou (1991) and Smith and Tsimpli (1995) that parameter values associated with functional categories are inaccessible to L2 learners after the critical period. It is argued that the "topichood" being a generalised property may have contributed to the L2 divergence found in the study.

Key words: null subjects, asymmetry, parameters, critical period

1. Introduction

Clauses in all languages are assumed to have subjects. Nevertheless, languages vary in whether subjects have to appear overtly, or whether they may be null under certain circumstances. English is a non-null subject language, which means that an argument or an expletive pronoun has to fill the Specifier (subject) position in tensed clauses, as in (1):

- (1) a. Mary went to school.
b. It is likely to be raining.

Mary and the expletive *it* are overtly realized in (1a) and (1b). Sentences such as (2), where the Specifier of the Inflectional Phrase is null, are ungrammatical in English:

- (2) a. *went to school.
b. *is likely to be raining.

whereas in Chinese, the argument in subject position can either be phonetically realized or be null, as in (3):

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- (3) a. Lisi lai le.
 Lisi come ASP
 ‘Lisi has come.’
 b. lai le.
 come ASP
 ‘has/have come.’

Sentences (3a) and (3b) are grammatical sentences in Chinese. What distinguishes (3b) from (3a) is that the subject in (3a) is *Lisi*, whereas in (3b) Chinese equivalents of *I, we, you, they, he, or she* can all be the argument.

Such an optionality in the realization of subjects also applies to the embedded clause in Chinese, as can be seen in (4):

- (4) a. Lisi shuo ta bu xihuan Zhangsan.
 Lisi say he no like Zhangsan
 ‘Lisi says that he doesn’t like Zhangsan.’
 b. Lisi_i shuo \emptyset_i bu xihuan Zhangsan.
 [Lisi_i say [\emptyset_i no like Zhangsan]]
 ‘*Lisi says that doesn’t like Zhangsan.’

In (4a), subjects, namely *Lisi* and *ta* ‘he’ in the matrix and embedded clauses are overtly realized. In (4b), the embedded subject is null but the sentence is still grammatical for the reason that *Lisi* in the matrix clause acts as its antecedent.

The examples of functional category-determined variation, i.e. null versus non-null subjects, between Chinese and English displayed in (1) to (4) can be captured within the *Principles and Parameters Theory of Universal Grammar* (UG). Human languages have essentially the same design features, but vary in ways determined by properties of functional categories (Chomsky 1995). Standard accounts (e.g. Jaeggli and Safir 1989) suggest that English does not allow subjects to drop because it has person and number agreement inflections, which are not sufficiently differentiated to license and identify null subjects. By contrast, languages like Chinese (hence Chinese-type languages) and languages like Greek and Spanish (hence Spanish-type languages) allow subjects to drop because the former have no inflections at all, whereas the latter have rich agreement features—this follows from the *Morphological Uniformity Hypothesis* (Jaeggli and Safir 1989). In the case of tense inflections, while UG requires that Infl be marked for +/-tense, languages vary in how much further specification they give to the +tense feature. In Chinese there is no +/-past specification, verbs are simply distinguished by whether they occur in finite or

non-finite clauses (Li 1990), but +tense may optionally sub-divide into +past/-past as in English.

This study sets out to explore the explanatory value of the principles and parameters version of UG (Chomsky 1981, 1986, 1991) in understanding the nature of Second Language (L2) syntactic knowledge. A growing body of work since the early 1980s has considered L2 development and ultimate success from this perspective (see White 1989, Ritchie and Bhatia 1996, and Mitchell and Myles 1998 for representative overviews). The focus of the present study is on some interesting divergences found in the way that speakers of L1 English establish in L2 Chinese that null embedded subjects are impossible in most contexts. The issue that syntactic or non-syntactic aspects contributing to adult L2 learners' failure in establishing full native-like representations for null subjects has a theoretical interest in the current debate between second language researchers about the availability of UG in adult Second Language Acquisition (SLA).

In the literature of second language acquisition, many researchers agree that adult L2 learners are less likely to arrive at the same kind of knowledge of the target language as native speakers, even though those learners have had a long and varied experience with L2 input. Many studies, for example, Birdsong (1992), Sorace (1993) and Johnson and Newport (1989, 1991), have provided evidence to support the claim that adult L2 learners are less successful in acquiring native-like knowledge of the target language.

Studies like these provide evidence that L2 learners who are older at first consistent exposure to the target language are unlikely to achieve native-like competence. But a much-debated question is whether knowledge of syntax plays a role in determining such divergence.¹ Assuming that the development of syntactic knowledge in native language acquisition is determined by the availability of UG,² the question reduces to one of asking whether UG is available in adult L2 acquisition.

Intensive research has been done on the acquisition of overt English subjects by speakers of other languages (see White 1986, 1989, Phinney 1987, Tsimpli and Roussou 1991, Yuan 1997, Roebuck et al. 1999, Wakabayashi 2002, and Kong 2005 for discussion). The acquisition of Chinese null arguments by speakers of obligatory argument languages, nevertheless, has received very little attention. Polio (1995) investigated the use of zero pronouns in Chinese by speakers of Japanese and English.

¹ There are other properties of language, apart from syntax, determining a learner's linguistic competence, e.g. phonology, morphology, and certain aspects of semantics. But in the current study we deal with syntax only.

² Chomsky (1986) argues that not all knowledge of language has to be acquired; in fact, some of it is already "built in". That is to say, the acquisition of L1 grammar is effortless and mainly uniform among children because it is guided by some kind of innate structure, specifically linguistic in nature, usually called Universal Grammar (UG).

Another study examining L2 Chinese acquisition has been Yuan's (1998) investigation of the interpretation of the Chinese reflexive *ziji* by L1 English and L1 Japanese speakers. Zero subjects were not the focus of the study. Rather, the study was intended to examine whether learners would transfer features of their L1 and whether UG was involved in the acquisition of reflexive *ziji* in Chinese. Even less research has been done on the acquisition of null matrix and embedded subjects in L2 Chinese. In a recent study, Kong (2005) investigates the extent to which Chinese speakers of L2 English differentiate the obligatory matrix and embedded subjects in the target language and finds that while Chinese speakers have less trouble unlearning null matrix subjects, they have more trouble unlearning null embedded subjects. This interesting observation significantly undermines a claim made by Yuan (1997) which suggests that when learning pronouns in English, Chinese speakers realize that Infl in English carries features which trigger them to unlearn null subjects. But they continue to allow null objects for the reason that there is a lack of positive evidence in relation to functional category features. If the recognition of S-V agreement features were the triggering factor for Chinese speakers to unlearn subjects, it would be difficult to explain why learners in Kong (2005) performed significantly better in unlearning null matrix subjects than null embedded subjects. Rather than taking Yuan's approach, Kong (2005) speculates that "topichood" may be a generalized property in Chinese and what appears to look like parameter resetting is in fact a mapping of L2 data into L1 setting; no parameter re-setting has taken place. The current study is intended to fill a gap in the research area where there is lack of major studies looking at the interpretation of L2 Chinese null matrix and embedded subjects. Two research questions are of interest in this study:

- a. Will divergence be an issue in the interpretation of null subjects in L2 Chinese? If yes, to what extent do L2 learners diverge from Chinese speakers in the acquisition of null subjects?
- b. Which hypothesis, the *full access* to UG or the *partial access* to UG, is a better candidate in accounting for the divergence?

The shape of this article takes the following approach. In Section 2, we present two competing theories of Second Language Acquisition. In Section 3, we review a "topichood" account put forward by Kong (2005) and we discuss the extent to which the proposed account may have in explaining learners' grammar development in this study. In Sections 4 and 5, we present the study and its results, which will then be followed by a discussion session in Section 6.

2. Two theories of L2 acquisition

2.1 Partial access to UG accounts

A position that has been taken in explaining non-native and native grammar divergence is that adult L2 learners have only partial access to UG. Two versions of this view are on offer: (a) principles of UG are still available and constrain grammar building, but learners have trouble resetting UG related parameters; (b) adult L2 learners can have access to principles and parameters of UG, but are unable to reset some of the features of functional categories.

The first version of partial access makes the assumption that the L2 learner can make use of grammatical options, which exist neither in the L1 grammar nor in the L2 target grammar, through the availability of UG principles. Studies of Tsimpli and Roussou (1991), and Smith and Tsimpli (1995) are in favor of this position. Following Borer (1983) and Chomsky (1988), they assume that lexical-item associated parameters are independent from UG principles. Such items, functional categories in particular, form an independent component of UG, the UG lexicon, which is subject to maturation under the sanction of the critical period hypothesis. In SLA, it is predicted that the functional module is no longer accessible to the adult L2 learner as parametric-bound functional categories cannot be reset beyond the critical period, rendering non-native and native grammar divergence.

To illustrate, Tsimpli and Roussou argue that Greek speakers' seeming acquisition of obligatory overt subjects and disallowing of verb-subject order in English is not because they have reset the *pro-drop parameter*. Instead, English pronouns were interpreted as agreement markers, which are not present on the verb to license null subjects, rendering verb-subject order impossible. At the same time, Greek speakers acquired referential pronouns in English before expletive pronouns, suggesting the involvement of invariant properties of UG.

Another version of the partial access to UG account is captured in Hawkins and Chan (1997) in assuming parametrically varied functional categories are subject to maturation. The *failed functional features* hypothesis proposed by Hawkins and Chan (1997) is a modification of Tsimpli and Roussou (1991), and Smith and Tsimpli (1995) in proposing that beyond a critical-period, certain language-varied features of functional categories such as complementizer, agreement, and determiner are unavailable to L2 learners.

As manifested before, the underlying hypothesis is that the principles of UG are available in SLA. However, virtual, unspecified features associated with certain functional categories are unavailable beyond a critical-period. The example that

Hawkins and Chan use to illustrate this idea is Chinese speakers acquiring operator movement in English. When learning English restrictive relative clauses, adult L1 Chinese speakers (whose L1 does not involve *wh*-operator movement) developed a kind of grammatical knowledge which is different from that of native speakers. They acquired *wh*-pronouns which introduced relative clauses (e.g. *the man who is here, the book which he read*) but they bound null resumptive pronouns in the L2 grammar of these speakers, whereas in the grammars of native speakers they bind variables (traces) in argument positions. In other words, native speakers of English are restrictive to Subjacency violations but the L2 speakers in Hawkins and Chan's study were not. The reason for that is because the features which trigger movement in relative clauses are available only for a limited period in early life; L1 Chinese speakers in the study were all post-childhood learners of L2 English and failed to reset the parametric differences between English and Chinese restrictive relative clauses.

2.2 Full access to UG accounts

A second view is that adult L2 learners have full access to principles and parameters of UG, and are in theory able to develop native-like grammars like those of native speakers of the target language. When divergence occurs, it is seen as a lack of analyzable cues in the input, a difficulty in mapping syntactic representation onto overt morphology or a difficulty in accessing morphologically complex forms in the lexicon, and not for reasons associated with UG.

Based on a number of studies, Schwartz and Sprouse (1994, 1996) present a *Full Transfer/Full Access* (FT/FA) hypothesis. The hypothesis goes like this: learners tend to initially transfer grammatical properties of their L1 into the target language. Restructuring of the initial state grammar takes place when the input data from the L2 do not match the properties determined by their L1. According to Schwartz and Sprouse, L1 grammar constitutes the interlanguage (IL) grammar in the first place. It is said that second language learners initially transfer L1 properties but are able to restructure to L2 parameter settings because the restructuring to L2 grammatical properties is determined by operations constrained by UG. Divergence between native and non-native speakers occurs when L2 input may not be sufficient to allow learners to construct the right representation for the L2.

Another version of full access to UG is proposed by Lardiere (1998a, b) in manifesting that learners have full access to the syntactic options made available by UG, but have problems with morphology. Lardiere bases this claim on a study of an L1 Chinese speaker, Patty, who had resided in the USA for 18 years. Inflectional morphology caused Patty a lot of problems. As shown in her spontaneous production,

the number of times she marked past tense morphology on verbs was as low as 35%, while 3rd person singular agreement was less than 17%, which suggests that inflectional morphology was problematic for Patty.

However, there is evidence that a variety of syntactic phenomena were abstractly represented in her grammar. For example, Patty showed no variability in verb placement with respect to adverbs or negation, i.e. word orders like (5a) and (5b):

- (5) a. *Peter eats not apples.
b. *Peter eats seldom apples.

are never found in her data. At the same time, she consistently produced sentences like (5c) and (5d):

- (5) c. *I do not write in Chinese.* (as (4a) in Lardiere 1998b)
d. *I could not speak my own language either.* (as (4c) in Lardiere 1998b)

They indicate that Patty has fully acquired correct incidence of nominative case assignment, which is checked in I and is hence associated with a functional category, and has complete knowledge of the fact that English verbs do not raise.

Lardiere, therefore, argues that such a divergence between adult L2 learners and native speakers of the target language lies not in the functional categories but in the mapping from abstract categories to their particular surface morphological representations, or rather in making use of syntactic representations during language processing.

To conclude, two views concerning SLA have been discussed. Hawkins and Chan (1997), as well as Tsimpli and Roussou (1991) and Smith and Tsimpli (1995), assume that certain aspects of functional categories are subject to maturation, and therefore are unacquirable for post-childhood learners. Schwartz and Sprouse (1994, 1996) and Lardiere (1998a, b) are in favor of the claim that the structure of the L1 is crucial in SLA. In fact, learners tend to fully transfer the structure in the initial state. An immediate outcome of the debate between researchers has been whether there is a critical period affecting the possibility of acquiring L2 native-like grammatical competence. Both views assume that the principles of UG constrain the way that L2 speakers build mental grammars for the L2. The Full Transfer/Full Access hypothesis is in favor of maintaining that the presence of already established L1 features in older learners may hinder them from interpreting positive evidence from target language input for appropriate L2 settings. It implies that any changes which take place between childhood and adulthood are outside the domain of the critical period. On the

other hand, if older L2 learners either cannot reset parameters or have persistent difficulty accessing some subsets of parameters determined by the formal features of functional categories, the partial access to UG account might suggest that this component of the language faculty is subject to maturation.

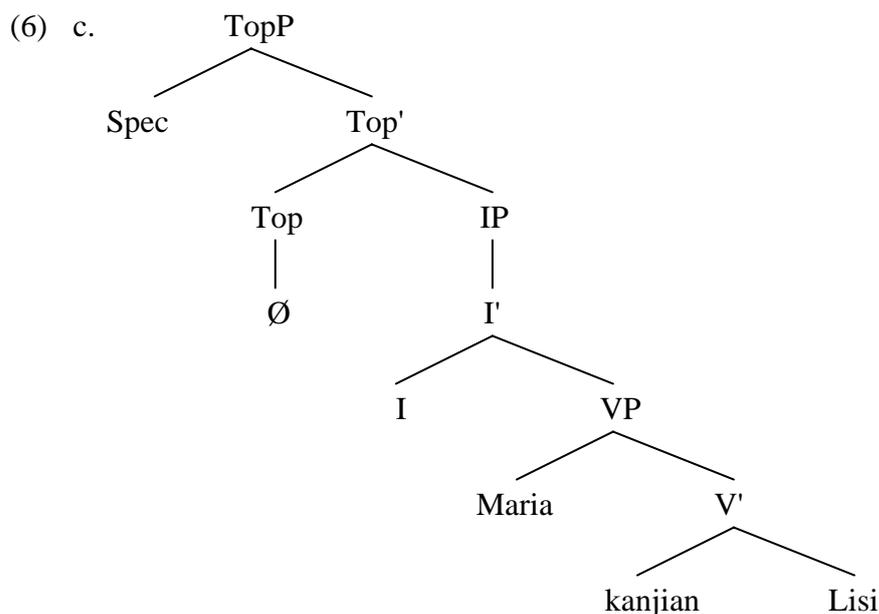
3. Kong (2005) on the acquisition of English subjects by speakers of Chinese language

Following Yip (1995), Kong (2005) argues that Chinese is an obligatory topic language and topic-hood is a generalized property in Chinese. Yip notes that indefinite noun phrases cannot appear in sentence-initial positions in Chinese. So sentences like (6a) are ungrammatical:

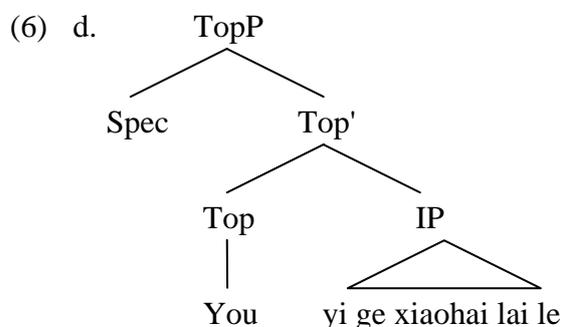
- (6) a. *Yi ge xiaohai lai le.
 one CL child come PFV
 ‘A child has come.’ (as (48) in Yip 1995:87)

To make the sentence grammatical, the topic position needs to be presented by an existential verb *you* ‘there be’. Hence a grammatical version of Yip’s sentence would be like (6b):

- (6) b. You yi ge xiaohai lai le.
 there.be one CL child come PFV
 ‘A child has come.’ (as (5b) in Kong 2005)



In (6c) either *Maria* or *Lisi* would have to move to the Specifier of TopP to satisfy the requirement for a topic. If the only available NP is an indefinite, as in (6a), and hence not a possible topic, the only way to rescue the sentence is to introduce an existential verb, possibly as a spell-out of the Top category, as in (6d):



Under this analysis, the *topic-prominent* nature of Chinese is a normal consequence of the syntax of Chinese—every sentence has a topic-comment structure, because every sentence is headed by an obligatory TopP (Kong 2005).

Contrary to Huang (1984) who assumes that Chinese, like all other natural languages, does not allow genuine zero object pronouns, as a result of *Generalized Control Rule* (GCR) and *Disjoint Reference* (DJR), Kong (2005) argues that null objects in Chinese may also be *pro*. Consider the following construction in Chinese:

(7) John and Peter met Lee on the street. (context) (as (4b) in Kong 2005)

a. John_i shuo [Lee bu renshi *e_i*].

John say Lee no know

‘*John_i said that Lee didn’t know *e_i*.’

(7a) is a well-formed structure in Chinese. According to Huang, neither *John* nor *Lee* in (7a) can act as the antecedent for the empty pronominal *e_i*, only the one mentioned in the previous discourse topic can. One problem arises: there are only two participants, *John* and *Lee*, in the discourse; it would be contradictory if on the one hand none of them can be the antecedent for the *e_i*, yet, on the other hand, they both constitute the discourse topic. In fact, *John*, not *Lee*, is the antecedent of the empty pronominal. Since *e_i* is not a reflexive but an empty pronominal, it cannot be bound by the nearest antecedent *Lee* in its clause. Therefore, its closest antecedent should be *John* instead.

Another piece of evidence in support of Kong for arguing that null objects in Chinese are *pro* comes from topic structures in English. As in (7b), Kong suggests

that the embedded object *him* can only be bound by *Bill* of the topic for the reason that *Bill* needs an interpretation and that neither *John* nor *Mary* can be the binder.

(7) b. As for $Bill_i$, John thinks that Mary likes him_i . (as (2b) in Kong 2005)

By implication, it is suggested that pronouns may be bound as long as they are free in their governing categories and that topics need to bind an argument position in the following sentence, as the English example shows. All these point to the direction that the GCR may not be a necessary component in the licensing of null objects in Chinese, which renders null objects in Chinese being *pro* possible (Rizzi 1986):

(7) c. [Top e_i [John thinks [that [Mary likes pro_i]]]]. (as (2c) in Kong 2005)

Pro has to refer to the *e* as in (7c).

While in subject position, Kong follows Huang (1984) in assuming that null embedded subjects in Chinese can refer either to the matrix subject or to someone else mentioned before. For example:

(8) a. John shuo *e* kanjian Bill.

John say see Bill

‘*John said that *e* saw Bill.’ (As (65d) in Huang 1984:553)

According to Huang, *e* is a pronoun in Chinese which should be free within its binding category as a rule of Binding Principle B (Haegeman 1994). It cannot be bound within its clause; instead it has to coindex either with *John* or someone in the discourse, resulting in the following structure:

(8) b. John shuo $pro_{i/j}$ kanjian Bill.

John say see Bill

‘*Johni said that [$pro_{i/j}$ saw Bill].’

The significance of Kong’s (2005) “topichood” and “null objects as *pro* in Chinese” assumption is that it accounts for a divergence observed in Kong (2005) where Chinese speakers of L2 English appeared to have more trouble unlearning null embedded subjects than unlearning null matrix subjects. In other words, learners in Kong (2005) allowed null embedded subjects but rarely null matrix subjects in their interlanguage. Kong speculates that learners transferred the “topichood” parameter setting of Chinese and made a small adjustment to the use of topic chains: as long as

one topic at the head of each sentence is overt so that the sentence is not headed by a verb, null embedded subjects are allowed in the learners' interlanguage. Consider (9):

- (9) a. Zhangsan zhengzai gen wo tanhua. (context) (as (16a) in Kong 2005)
Zhangsan be with me talk
'Zhangsan was having a conversation with me.'
- b. Lisi shuo ta bu gen renheren tanhua. (as (16b) in Kong 2005)
Lisi say he no with any.person talk
'Lisi said that he wouldn't have conversations with anyone.'

According to Kong, *ta* 'he' in (9b) is ambiguous and can refer either to *Lisi* or *Zhangsan*. In either case, it has an overt matrix topic in sentence-initial position, as in

- (10) a. Zhangsan_i was having an absorbing conversation with me.
b. [\emptyset _i] [Lisi_j] [\emptyset _j said that [\emptyset _i doesn't have absorbing conversations with other people]].
c. [Lisi_j] [\emptyset _j said that [\emptyset _j doesn't have conversations with other people]].

Both (10b) and (10c) satisfy the requirement of the L2 grammar for an overt topic, rendering null embedded subjects possible. If the "topichood as a generalized property of Chinese language" assumption of Kong is substantial, it might provide a tentative explanation to the observation that the current study has made, which is on the discrepancy in interpreting null matrix and embedded subjects of L2 Chinese by speakers of English. We return to this part later.

4. The study

4.1 Informants

The study consisted of three experimental groups and one control group, which involved 78 English speakers learning L2 Chinese in a Chinese language center in Taiwan. The control group consisted of 10 native speakers of Chinese. All the English subjects for the study were studying Chinese for at least two hours a day in the language center. They were all above 18 and none of them had been exposed to Chinese while growing up. Their years of Chinese classroom exposure ranged from five months to ten years. Before starting their class in the center, all students were given a placement test deciding which class they should enroll in. The subjects for the study were chosen based on the centre class allocation and consisted of three levels:

elementary, intermediate, and advanced. Subjects from the control group were students, teachers and administrative staff from a university in Taiwan. The use of zero arguments is conventionally believed to be influenced by the surrounding discourse. Native speakers' participation has become an essential indicator directing the use of zero arguments. Table 1 displays the distribution of informants in the study.

Table 1. Informants involved in the study

Group	English 1 Group 1 = G1	English 2 Group 1 = G2	English 3 Group 1 = G3	Native Chinese Group 4 = G4
Proficiency Level	Elementary	Intermediate	Advanced	Native Control
Number of Informants	30	24	24	10

4.2 Task

This study is designed to include three syntactic items namely, “overt subjects in clauses with initial adverbs”, “overt subjects in adjunct clauses”, and “overt subjects in clauses with initial overt topics”. Four ungrammatical sentences were also added to serve as fillers. Recall that the study is designed to test the “topichood” account proposed by Kong (2005) in explaining learners’ grammatical development, the three syntactic items chosen are all topic-related. The three sentence types in addition to the fillers were presented in a random order in a preference test. Because the students are taught both in traditional Chinese characters and in Pinyin forms, the sentences were presented in both systems in a randomized fashion. Table 2 illustrates tokens of the three sentence types plus the fillers (see Appendix for the three sentence types).³ Because utterances produced in spontaneous tasks often vary from speaker to speaker, a standard analysis of the utterances is not practical. The current study is therefore concerned mainly with learners’ interpretations of overt subjects on the written task. Another advantage of using control tasks is that subjects are less likely to avoid certain syntactic aspects which they are not confident of.

Subjects’ performance was scored on a scale of either 1 or 0, where 1 is the score for a deletion of overt subject and 0 for leaving an overt subject undeleted whereas the same subject is deleted by native speakers. For example, in (11):

³ English translation of the Chinese equivalents and parts indicating syntactic categories, e.g. adverbs, topics, adjuncts, etc, are added for the reader only. Subjects were not presented with English translation.

- (11) *Zai Xiaowang wancheng zuopin hou, ta zong shuo ta yao pao hu nong cha.*
 ‘After Xiaowang has finished his work, he always says he will make himself a pot of strong tea.’ (as sentence (1) in “adjuncts” in the Appendix)

there are 2 tokens of overt subjects, namely *Xiaowang* and *ta*, referring to the same antecedent in a sentence (a native speaker of Chinese deletes the second pronoun but leaves the first one unchanged): if an informant deletes the second overt subject, he/she will get 1; if, however, the property concerned is not deleted, 0 is given to the informant.⁴ Mean scores for each person on each structure on each sentence type were calculated and used as the dependent variable. See Tables 2 and 3 for numbers of test items contributing to this score for each sentence type in the test.

4.3 Procedure

The test was given separately to the experimental informants and the control group. The English speakers took the test in-class in the Chinese center. They were told that they were going to read some randomized sentences. Some of those sentences were grammatical and others ungrammatical. Special attention was to be paid to deleting all the subjects that could be omitted. Instructions were given prior to the test that neither discussion nor answer-checking was allowed during the test. Informants were given a time limit of two hours but all of them finished the task in less than 90 minutes. The control subjects took the test at the university and all finished it within 30 minutes.

Table 2. Tokens of overt subjects and fillers (incorrect word order items) in the preference test⁵

Preference Test	OIniAdv MSub	OIniAdv ESub	OAdjun MSub	OAdjun ESub	OTop MSub	OTop ESub	Fillers
Tokens	6	6	7	5	6	4	4

⁴ One *Concentric* reviewer has rightfully pointed out that the sample sentence “*Zai Xiaowang wancheng zuopin hou, ta zong shuo ta yao pao hu nong cha*” remains grammatical whether both pronouns are overt or the second pronoun is deleted; thus the scoring system may be complicated. Nevertheless, the task involved is a preference test and native speakers’ judgment should be an observable indicator.

⁵ Tokens: the total number of overt subjects in each sentence type; e.g. there are in total 6 counts of overt matrix subjects in clauses with initial adverbs in the sentence type concerned.

Key: OIniAdv MSub = Overt Matrix Subjects in Clauses with Initial Adverbs
 OIniAdv ESub = Overt Embedded Subjects in Clauses with Initial Adverbs
 OAdjun MSub = Overt Matrix Subjects in Adjunct Clauses
 OAdjun ESub = Overt Embedded Subjects in Adjunct Clauses
 OTop MSub = Overt Matrix Subjects in Clauses with Initial Overt Topics
 OTop ESub = Overt Embedded Subjects in Clauses with Initial Overt Topics
 Fillers = Ungrammatical Items as Distracters

Table 3. Types of sentence structures and examples in the preference test

Types of Structures	Examples
<p>Overt Matrix Subjects in Clauses with Initial Adverbs</p>	<p>Xiaojuan weiren laoshi, jingchang ta bei ren pian Xiaojuan behave honest often she by people cheat le, ta ye bu zhidao. ASP she even no know 'Xiaojuan is very naïve. Often, she doesn't even know she has been deceived by others.'</p>
<p>Overt Embedded Subjects in Clauses with Initial Adverbs</p>	<p>Xiaoming yi you kong jiu qu kan dianying, Xiaoming once have time once go see movie zuotian ta cai kan le yi bu ta hen xihuan de yesterday he just saw ASP oneCL he very like ASSPAR⁶ guanyu yi wei zhuming huajia de dianying. about oneCL famous painter ASSPAR film 'Xiaoming likes to go to the cinema in his free time. Yesterday, he just saw a film he liked very much which was about the life of a famous painter.'</p>
<p>Overt Matrix Subjects in Clauses with Initial Overt Topics</p>	<p>Xiaoming guoqu xiguan chi gezhong butong de Xiaoming past used.to eat various different ASSPAR shiwu. Rou, ta jinlai bijiao shao chi. food meat he recently relatively less eat 'Xiaoming used to eat various types of foods. As far as meat is concerned, he seldom eats it now.'</p>
<p>Overt Embedded Subjects in Clauses with Initial Overt Topics</p>	<p>Xiaoming guoqu xiguan chi gezhong butong de Xiaoming past used.to eat various different ASSPAR shiwu. Wo xiang, rou, ta jinlai bijiao shao chi. food I think meat he recently relatively less eat 'Xiaoming used to eat various types of foods. As far as meat is concerned, I think he seldom eats it now.'</p>
<p>Overt Matrix Subjects in Adjunct Clauses</p>	<p>Zai Xiaowang wancheng zuopin hou, ta zong hui when Xiaowang finish work after he always will pao hu nong cha. brew pot strong tea 'After Xiaowang has finished his work, he will always make himself a pot of strong tea.'</p>
<p>Overt Embedded Subjects in Adjunct Clauses</p>	<p>Zai Xiaowang wancheng zuopin hou, ta zong shuo when Xiaowang finish work after he always say ta yao pao hu nong cha. he will brew pot strong tea 'After Xiaowang has finished his work, he always says he will make himself a pot of strong tea.'</p>
<p>Fillers (Ungrammatical Items as Distracters)</p>	<p>Sheme shihou Zhangsan cai hui huiqu ne? *Henjiu what time Zhangsan only will go.back Q long.time mei huijia ta le. no go.home he ASP 'When will Zhangsan go home again? *Long time he no go home.'</p>

⁶ ASSPAR: an associative particle

5. Results

Informants were scored individually for their performance in deleting overt subjects in the various contexts under investigation and mean group scores were then calculated. The Generalized Linear Model (GLM) procedure of the SPSS statistical program was carried out and ANOVAs were used. Two-way ANOVAs with one repeated measures factor were run through the three syntactic items. A one-way ANOVA was used for the filler items. Post hoc tests were used to establish when significant differences between the means for the levels within each factor were detected by the ANOVAs.

5.1 Overt matrix-embedded subjects in clauses with initial adverbs

A two-way ANOVA shows that there is a significant main effect due to Grammatical Function in the task, $F=15.586$, $p<.05$. Post hoc Scheffe tests show that there are significant differences on the combined means for overt matrix and embedded subjects between all groups in the sentence type tested (see Table 4 for the mean scores on deleting overt matrix and embedded subjects in clauses with initial adverbs by the informants). All experimental informants combined perform significantly better on deleting overt matrix subjects than overt embedded subjects in the sentence types tested.

These results suggest that more proficient speakers are likely to perform better in deleting overt subjects and that even though Group 3 (Advanced English speakers of L2 Chinese) informants have the highest scores among the experimental groups, they are significantly worse at deleting overt embedded subjects in clauses with initial adverbs when compared with Group 4 (the control group).

The development of deleting overt subjects in clauses with initial adverbs shows a gradual improvement in the experimental groups. Nevertheless, the improvement becomes dramatic when the native control group is drawn in for comparison. Table 4 indicates that there is a two-fold divergence in the development of learners' L2 Chinese. Firstly, in response to overt embedded subjects, there is a divergence between the advanced English speakers of L2 Chinese and the native control. Secondly, there is an asymmetry in learners' responses to overt subjects in matrix and embedded clauses. Learners appear to have more trouble deleting overt embedded subjects than overt matrix subjects.

Table 4. Mean scores on deleting overt matrix and embedded subjects in clauses with initial adverbs

	Group 1 (n=30)	Group 2 (n=24)	Group 3 (n=24)	All	Group4 (n=10)
OIniAdv MSub	.4318	.6249	.7171	.5913	.8243
OIniAdv ESub	.2104	.3333	.4948	.3462	.7938
All	.3211	.4790	.6061	.4747	.8091

5.2 Overt matrix-embedded subjects in adjunct clauses

A two-way ANOVA indicates that there is a significant main effect due to Grammatical Function as far as the syntactic items are concerned. All experimental informants combined perform significantly better on deleting overt matrix subjects than on overt embedded subjects in adjunct clauses. There are significant differences between the groups in the mean scores ($F=33.697, p<.05$). Post hoc Scheffe tests show that there are significant differences in performance on the means for the grammatical function combined between Groups. Group1 and Group 2 perform significantly worse than the other two groups. A divergence between advanced English speakers of L2 Chinese and native speakers of Chinese is apparent when responses to embedded subjects are compared.

Table 5. Mean scores on deleting overt matrix and embedded subjects in adjunct clauses

	Group 1 (n=30)	Group 2 (n=24)	Group 3 (n=24)	All	Group 4 (n=10)
OIniAdv MSub	.5000	.5909	.7312	.6101	.8478
OAdjun ESub	.2152	.3611	.5833	.3865	.8333
All	.3576	.4760	.6573	.4970	.8406

There is a clear difference in ability to delete overt matrix and embedded subjects in adjunct clauses. It appears that all the experimental subjects, advanced English speakers of L2 Chinese included, have more trouble deleting overt embedded subjects than overt matrix subjects in adjunct clauses. Such an asymmetry seems to be consistent with what has been observed in Table 4.

5.3 Overt matrix-embedded subjects in clauses with topic structure

A two-way ANOVA indicates that there is a significant main effect due to Grammatical Function in the task ($F=10.932$, $p<.05$). Post hoc Scheffe tests show that while there are significant differences between the native control and all other groups, development between experimental groups on the embedded subject item is gradual.

Table 6. Mean scores on deleting overt matrix and embedded subjects in clauses with topic structure

	Group 1 (n=30)	Group 2 (n=24)	Group 3 (n=24)	All	Group 4 (n=10)
O _{Top} M _{Sub}	.4138	.7518	.7691	.6539	.9083
O _{Top} E _{Sub}	.2114	.3403	.5909	.3809	.8209
All	.3126	.5461	.6800	.5129	.8646

Table 6 above clearly shows that the experimental groups are worse in deleting overt embedded subjects than overt matrix subjects in clauses with topic structure. A consistent difference is found even between advanced English speakers of L2 Chinese and the native speakers of Chinese.

5.4 Fillers (ill-formed sentences)

Results of one-way ANOVAs indicate that there are significant differences between groups in detecting grammatical errors on the task ($F=17.446$, $p <.05$). Post hoc Scheffe tests show that there are significant differences in performance on the means for the grammatical function between groups: Group 1 performs significantly worse than all other groups. Significant differences are also found between intermediate English speakers of L2 Chinese and the native control. The development for the advanced learners is gradual as no significant differences are found between advanced English speakers of Chinese and the native control.

Table 7. Mean scores on correcting ill-formed sentences in the task

	Group 1 (n=30)	Group 2 (n=24)	Group 3 (n=24)	All	Group 4 (n=10)
Fillers	.2612	.7041	.8765	.6139	.9030

Results of the study provide clear evidence that elementary learners of L2 Chinese diverge from native Chinese speakers in the recognition of overt subjects in L2 Chinese. There is also a strong indication that learners have more trouble deleting

overt embedded subjects than overt matrix subjects in all the syntactic items tested. In what follows, specific domains in which divergence occurs are to be discussed and accounts in explaining the divergence to be offered.

6. Discussion

6.1 Matrix subjects

As discussed in the previous section, all the experiment groups performed in a progressive yet divergent fashion in the interpretation of overt subjects in L2 Chinese including the most advanced group who, as expected, has the best performance among the experimental groups but is still significantly worse than the native speaker control group as far as embedded subjects are concerned. Nevertheless, such a divergence appears to be affected by the clauses that the subjects are in. In preferring null matrix subjects over overt matrix subjects, the development was gradual and the advanced experimental group was not statistically significantly different from the native control group.

Most experimental informants in the advanced group were aware of the redundancy of the matrix subject *ta* ‘she’ in the second clause in (12) (as sentence (5) in “clauses with initial adverbs” in Appendix) and deleted it as most of the native controls did:

- (12) Junjun_i haimei zuowan gongke, mingtian *ta*_i bu qushangxue.
 Junjun not.yet finish homework tomorrow she no go.to.school
 ‘Junjun hasn’t finished her homework. She will skip her class tomorrow.’

A similar observation emerges in (13): (as sentence (2) in “clauses with initial overt topics” in Appendix):

- (13) Haizimen_i hui xuanze sheme chi ne? Tang-a, *tamen*_i jinlai henshao he.
 kids will choose what eat PAR soup-PAR they recently seldom drink
 ‘What will the kids choose to eat? So far as soup is concerned, they seldom eat it now.’

The matrix subject *tamen* ‘they’ in the second clause was deleted from most of the advanced informants’ text. A third piece of evidence in support of the acquisition of null matrix subject comes from (14): (as sentence (1) in “sentences headed by an adjunct clause” in Appendix):

- (14) Zai Xiaowang_i wancheng zuopin hou, ta_i zong shuo ta_i yao pao hu
when Xiaowang finish work after he always says he will brew pot
nong cha.
strong tea
'After Xiaowang has finished his work, he always says he will make himself a
pot of strong tea.'

Again, *ta* 'he' in the matrix clause was dispreferred by most of the advanced informants.

6.2 Embedded subjects

What seems to be problematic is the position of the embedded subject which the native speakers tended to drop, while the experimental groups continued with the L1 English setting. Consider the following sentence with an overt embedded subject as an example (as sentence (1) in "clauses with initial adverbs" in Appendix):

- (15) Xiaoming_i yi you kong jiu qu kan dianying, zuotian ta_i cai
Xiaoming once have time once go see film yesterday he just
kan le yi bu ta hen xihuan de guanyu yi wei zhuming huajia
saw ASP one CL he very like ASSPAR about one CL famous painter
de dianying.
ASSPAR film
'Xiaoming likes to go to the cinema in his free time. Yesterday, he just saw a
film he liked very much which was about the life of a famous painter.'

Contrary to most native controls who were in favor of deleting the embedded subject *ta* from the second clause, the majority of the experimental informants, including the advanced learners, made no changes to the sentence. Similarly, in (16) (as sentence (4) in "clauses with initial adverbs" in Appendix):

- (16) Xiaozhang_i reali yundong, kan qilai ta_i jintian you qu paobu le.
Xiaozhang fond.of workout look like he today again go jogging ASP
'Xiaozhang takes exercise seriously. It looks like he has gone jogging again
today.'

only 3 informants in the intermediate group and 2 learners in the advanced group deleted the embedded subject *ta* 'he' from the embedded clause. Other examples

showing native nonnative discrepancy in null embedded subjects come from (17) (as sentence (3) in “clauses with initial overt topics” in Appendix) and (18) (as sentence (8) in “sentences headed by an adjunct clause” in Appendix):

- (17) Xiaoming_i guoqu xiguan chi gezhong butong de shiwu. Wo xiang,
 Xiaoming past used.to eat various different ASSPAR food I think
 rou, ta_i jinlai bijiao shao chi.
 meat he recently relatively less eat
 ‘Xiaoming used to eat various types of foods. As far as meat is concerned, I think he seldom eats it now.’
- (18) Zai women_i kanwan zhe bu dianying yihou, women_i keyi taolun
 when we finish.seeing this CL film after we can discuss
 yixia women_i dui zhe bu dianying de ganxiang.
 a.while we on this CL film ASSPAR opinions
 ‘After we have seen the film, we can exchange our opinions on it.’

In both sentences, the overt embedded subjects *ta* ‘he’ (in (17)) and *women* ‘we’ (as the embedded subject of the second clause in (18)) were preferred by most experimental informants, unlike the native speakers’ response.

6.3 Accounting for the development and divergence in English-Chinese inter-language grammars

The focus of this study has been on if there is a native nonnative divergence as well as on how to explain why second language learners might diverge from native speakers in the mental grammars they construct. The acquisition of null subjects in L2 Chinese by native speakers of English, a language which disallows null subjects, has been the specific empirical domain the study intends to explore. A number of theories about SLA which have been proposed offer the potential to explain divergence: (a) the partial availability of UG—while L2 learners’ grammars may develop under the constraints of principles of UG, some or all of the features of functional categories which determine differences between languages, and which are not already present in the L1, are inaccessible (Tsimplici and Roussou 1991, Hawkins and Chan 1997, and Beck 1998); (b) UG is fully available, but because of transfer of grammatical properties from the L1 into the L2 initial state, positive evidence from L2 input is insufficient to restructure some of the transferred properties (Schwartz and Sprouse 1996, Lardiere 1998a, b, and Prevost and White 2000). As discussed in Section 5, divergence seems to be an issue in the study. L1 English speakers of L2 Chinese,

including advanced learners, appear to have a strong preference for overt embedded subjects over overt matrix subjects. What is to be dealt with next is how to explain such a divergence. In other words, the question to be asked now is whether adult L2 learners fail to establish full native-like syntactic representations for Chinese, or whether it can be maintained that they do establish full representations, and that divergence is the effect of difficulties with non-syntactic aspects of L2 acquisition (like the unavailability of sufficient positive evidence in the L2 input to restructure transferred properties, as in the Full Transfer/Full Access account).

Let's consider first the FT/FA account. The FT/FA account assumes that UG is available in SLA and guides grammar-building. It would mean English speakers in the study start from an L2 grammar which is basically English in its properties; Chinese will provide evidence to eliminate overt subjects from that grammar. In other words, there should be enough positive evidence available in Chinese to tell English speakers that null subjects are possible in Chinese. It would predict that English speakers would have no trouble acquiring null subjects in Chinese. Unfortunately, this prediction is not borne out in the current study. The informants investigated here show a high level of acceptance of null matrix subjects on the one hand. But on the other hand, they retain their English settings as far as embedded subjects are concerned.

It seems clear that there is an asymmetry between the acquisition of null Chinese matrix subjects and embedded subjects by English speakers in this study. The observation reported here is difficult to accommodate within the FT/FA account.

If we abort the FT/FA account, then the one account left for consideration is to explore the implications of the proposition that while the principles of UG constrain the way L2 grammars are built, L2 speakers either have trouble assessing some functional category related parameters, or they simply cannot reset these parameters, as in the theories of Tsimpli and Roussou (1991) and Hawkins and Chan (1997).

It would be argued that English speakers restructure their grammars for Chinese on the basis of positive evidence in the input, but without resetting the overt arguments and zero topic-chain parameters.

In generative syntax, it is assumed that sentences are usually ungrammatical in English if the Specifier position of IP in tensed clauses is not overtly realized. The Specifier position can either be filled by an AGENT-like argument, an expletive pronoun, or a postverbal argument being moved to the Specifier (Hawkins 2001). However, there are exceptions in which the Specifier of IP can be null, as observed in Haegeman (1991). For instance, subjects can be null in "diary contexts":

(19) Got up, had a shower and went to the office.

But null subjects become impossible when they are in embedded clauses, or when the subject is a second person or when there is an overt CP in the initial position of the clause:

- (20) a. *Dreamed that got up (versus Dreamed that I got up).
b. *After got up, had a shower.
c. *Where did go after breakfast?
d. *Got up, had a shower and went to the office (where the intended reference is: ‘You got up, you had a shower...’). (as (42a-d) in Hawkins 2001)

Neither is a zero topic chain possible in English. It could be argued, judging from the data, that there is an L1 transfer in which learners drop matrix subjects but rarely embedded subjects.

Still, another possible explanation is to maintain the assumption made by Kong (2005)—following Yip (1995) as discussed in Section 3—that topic-hood is a generalized property of Chinese and that as long as one topic position is filled, other argument positions can be covert, then we may be able to establish an account explaining the divergence in English-Chinese interlanguage grammars within the partial access framework.

Assuming topichood is a generalized property of Chinese and input is sufficient to tell English speakers that topics bind arguments in other positions in a sentence. English speakers will then allow English matrix subject pronouns to drop as long as they are adjacent to topics. Such an omission under licensing by a topic is local, only matrix subjects adjacent to initial adverbs, topics, and adjuncts are allowed to drop. In this regard, English speakers of L2 Chinese seem to have reset the non-topic and overt argument settings of English as they allow null matrix subjects, which can be identified by a topic. Nevertheless, the results in embedded subjects prove otherwise. In fact, they reflect a difficulty that L2 Chinese speakers have trouble resetting the overt argument parameter. Learners, advanced speakers of L2 Chinese included, retain embedded subjects at their English value rendering matrix subject and embedded subject divergence possible. One could maintain that learners are in the process of acquiring topichood in Chinese but have trouble resetting English feature values.⁷

⁷ One *Concentric* reviewer suggests that what is “common to the results in both studies [Kong 2005 and the current study] is that L2 learners’ matrix subjects conform to the parameter resetting earlier than embedded subjects.” This is indeed a very interesting observation. Nevertheless, as interesting an observation as it is, it does not seem to offer an explanation as to why there is a divergence between the recognition of the matrix and embedded subjects in both studies.

6.4 Conclusion

The focus of the paper has been on native-nonnative grammar divergence in relation to the interpretation of null subjects in L2 Chinese. The study was intended to be a pilot study of its kind. Nevertheless, results from the study have tentatively pointed to the direction that the partial access of UG view seems to have made the right predictions as far as the study is concerned.

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Appendix

Initial adverbs

- (1) 小明一有空就去看電影，昨天 (Adv.) 他 (Matrix Sub.)才看了一部他很喜歡的關於一位著名畫家的電影。

Xiaoming yi you kong jiu qu kan dianying, zuotian ta cai kan le yi bu ta hen xihuan de guanyu yi wei zhuming huajia de dianying.

‘Xiaoming likes to go to the cinema in his free time. Yesterday, he just saw a film he liked very much which was about the life of a famous painter.’

- (2) 小娟為人老實，經常(Adv.)她(Matrix Sub.)被人騙了，她也知道。

Xiaojuan weiren laoshi, jingchang ta bei ren pian le, ta ye bu zhidao.

‘Xiaojuan is very naïve. Often, she doesn’t even know she has been deceived by others.’

- (3) 偉華喜歡打麻將，我想他有可能每星期花幾個小時在麻將桌上。他(Matrix Sub.)今天(Adv.)大概又去打麻將了。

Weihua xihuan da majiang, wo xiang ta you keneng mei xingqi hua ji ge xiaoshi zai majiang zhuo shang. Ta jintian dagai you qu da majiang le.

‘Weihua likes playing mahjong. I think he probably spends a few hours on it every week. Probably, he has gone to play it again today.’

- (4) 小張熱愛運動，看起來他(Embedded Sub.)今天(Adv.)又去跑步了。

Xiaozhang reai yundong, kan qilai ta jintian you qu paobu le.

‘Xiaozhang takes exercise seriously. It looks like he has gone jogging again today.’

- (5) 君君還沒做完功課，明天(Adv.)她(Matrix Sub.)不去上學。

Junjun haimei zuowan gongke, mingtian ta bu qushangxue.

‘Junjun hasn’t finished her homework. She will skip her class tomorrow.’

- (6) 星期天的時候，家寶他喜歡到台東去，我看這星期(Adv.)他(Embedded Sub.)也不例外。

Xingqitian de shihou, Jiabao ta xihuan dao Taidong qu, wo kan zhe xingqi ta ye bu liwai.

‘On Sundays, Jiabao likes to go to Taitung. I think he will go there this Sunday.’

- (7) 小娟有空的時候喜歡閱讀，最近(Adv.)她(Matrix Sub.)所看的是古典小說。

Xiaojuan youkong de shihou xihuan yuedu, zuijin ta suo kan de shi gudian xiaoshuo.

‘Xiaojuan enjoys reading when she has the time. Recently, she reads mostly classic novels.’

- (8) 小林常去對面那家法國餐廳，我看今天(Adv.)他(Embedded Sub.)才剛去過。

Xiaolin changqu duimian najia faguo canting, wo kan jintian ta cai gang qu guo.

‘Xiaolin often has his meals at a French restaurant on the other side of the road. I guess he has just been there today.’

Topics

- (1) 小明過去習慣吃各種不同的食物。肉(Top)，他(Matrix Sub.)近來比較少吃。
Xiaoming guoqu xiguan chi gezhong butong de shiwu. Rou, ta jinlai bijiao shao chi.

‘Xiaoming used to eat various types of foods. As far as meat is concerned, he seldom eats it now.’

- (2) 孩子們會選擇什麼吃呢？湯啊(Top)，他們(Matrix Sub.)近來很少喝。

Haizimen hui xuanze sheme chi ne? Tang-a , tamen jinlai henshao he.

‘What will the kids choose to eat? Soup, they seldom eat it now.’

- (3) 小明過去習慣吃各種不同的食物。我想，肉(Top)，他(Embedded. Sub)近來比較少吃。

Xiaoming guoqu xiguan chi gezhong butong de shiwu. Wo xiang, rou, ta jinlai bijiao sha ochi.

‘Xiaoming used to eat various types of foods. As far as meat is concerned, I think he seldom eats it now.’

- (4) 我把我的家具和書都一起賣了。可是我的朋友說，那些書(Top)，我(Embedded Sub.)實在不該賣掉。

Wo ba wode jiaju he shu dou yiqi mai le. Keshi wode pengyou shuo, naxie shu, wo shizai bugai maidiao.

‘I sold all my furniture and books. As far as the books are concerned, my friends said that I shouldn’t have sold them.’

- (5) 每到小華的生日，他寧可去看電影，也不買生日蛋糕。生日蛋糕(Top)，他(Matrix Sub.)提不起甚麼特別的興趣去買。

Meidao Xiaohua de shengri, ta ningke qu kan dianying, ye bu mai shengri dangao. Shengri dangao, ta tibuqi sheme tebie de xingqu qu mai.

‘When it comes to Xiaohua’s birthday, he would rather go to the cinema than get himself a birthday cake. So far as birthday cakes are concerned, he can’t be bothered to buy them.’

- (6) 小王會把車子借給老李還是小陳呢？老李(Top)，他(Matrix Sub.)總是沒信心把他的車出借給他。

Xiaowang hui ba chezi jiegei Laoli hai shi Xiaochen ne? Laoli, ta zongshi mei xinxin ba tade che chujie gei ta.

‘Will Xiaowang lend his car to Laoli or Xiaochen? Laoli, he can never trust him with his car.’

- (7) 每到小華的生日，他寧可去看電影，也不買生日蛋糕。我想，生日蛋糕(Top)，他(Embedded Sub.)提不起甚麼特別的興趣去買。

Meidao Xiaohua de shengri, ta ningke qu kan dianying, ye bu mai shengri dangao. Wo xiang, shengri dangao, ta tibuqi sheme tebie de xingqu qu mai.

‘When it comes to Xiaohua’s birthday, he would rather go to the cinema than get himself a birthday cake. So far as birthday cakes are concerned, I think he can’t be bothered to buy them.’

- (8) 小張要文華通知顧客和商家們他的公司將暫時關閉。他覺得，顧客(Top)他(Embedded Sub.)應該要優先通知他們。

Xiaozhang yao Wenhua tongzhi guke he shangjiamen tade gongsi jiang zhanshi guanbi. Ta jue de, guke, ta yinggai yao youxian tongzhi tamen.

‘Xiaozhang told Wenhua to notify customers and business associates that the company was going to close down temporarily. As far as customers are concerned, he thought he should notify them first.’

Adjuncts

- (1) 在小王完成作品後(Adjunct)，他(Matrix Sub.)總說他要泡壺濃茶。

Zai Xiaowang wancheng zuopin hou, ta zong shuo ta yao pao hu nong cha.

‘After Xiaowang has finished his work, he always says he will make himself a pot of strong tea.’

- (2) 在小王寫完報告以後(Adjunct)，他(Matrix Sub.)總會喝杯咖啡。

Zai Xiaowang xiewan baogao yihou, ta zong hui he bei kafei.

‘After Xiaowang has finished his reports, he always drinks a cup of coffee.’

- (3) 在你們見過小明後(Adjunct)，可否傳話給他。

Zai nimen jian guo Xiaoming hou, kefou chuan hua gei ta.

‘After meeting Xiaoming, could you please pass a message to him?’

- (4) 小敏在寫報告以後(Adjunct)，他都說他(Embedded Sub.)要先寫摘要。

Xiaoming zai xiewan baogao yihou, ta dou shuo ta yao xian xie zhaiyao.

‘After Xiaoming has finished his reports, *he* says he has to abstract them first.’

- (5) 我在除草以後(Adjunct)，我(Matrix Sub.)總是說我會打掃房子。

Wo zai chu cao yihou, wo zongshi shuo wo hui dasao fangzi.

‘After I have finished mowing the lawn, I always say I will clean up the house.’

- (6) 她在打掃廚房以後(Adjunct)，她(Matrix Sub.)總會看報紙。

Ta zai dasao chufang yihou, ta zong hui kan baozhi.

‘After she has finished cleaning the kitchen, she will always read newspaper.’

- (7) 在我看完這本書以後(Adjunct)，我覺得你們(Embedded Sub.)可以去借這本書看看。

Zai wo kanwan zhe ben shu yihou, wo juede nimen keyi qu jie zhe ben shu kankan.

‘After I have finished reading this book, I think you can borrow it.’

- (8) 在我們看完這部電影以後(Adjunct)，我們可以討論一下我們(Embedded Sub)對這部電影的感想。

Zai women kanwan zhe bu dianying yihou, women keyi taolun yixia women dui zhe bu dianying de ganxiang.

‘After we have seen the film, we can exchange our opinions on it.’

Fillers

- (1) 什麼時候張三才會回去呢? *很久沒回家他了。

Sheme shihou Zhongsan cai hui huiqu ne? Henjiu mei huijia ta le.

‘When will Zhongsan go home again? *Long time he no go home.’

- (2) 台北天氣不好，*夏天下雨經常都。

Taipei tianqi bu hao, xiatian xiayu jingchang dou.

‘The weather is bad in Taipei. *Summer rains usually.’

- (3) 歐洲國家我都沒去過，*一定不去以後有機會。

Ouzhou guojia wo dou mei qu guo, yiding bu qu yihou you jihui.

‘I haven’t been to Europe. *I definitely don’t go there is a chance in the future.’

- (4) 為什麼我們才剛到，*又要我們走馬上呢?

Weisheme women cai gang dao, you yao women zou mashang ne?

‘We have just arrived. *Again why do we have to immediately leave?’

母語為英語之中文學習者，在中文中 對主要子句、從屬子句中的零主詞之習得差異

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這份研究以第二語言習得框架下的「原則與參數理論」中的「參數設定理論」為切入點，去探討：以英語為母語，中文為第二語的語言學習者在中文中零主詞的習得，並著手解釋，以中文為母語者，和以英文為母語者，其習得上的差異性。在現下的研究中，根據一個關於中文零主詞語料的傾向測試中發現，第二語言習得者，趨於使用零主詞的頻率和語言程度的優劣成正比。那些研究也顯示，以中文為第二語的語言習得者，包含程度較高者，在習得從屬子句中的零主詞所遇到的困難度，比在學習主要子句中的零主詞要高。這樣的研究結果支持了 Tsimpli 和 Roussou 在 1991 年與 Smith 和 Tsimpli 在 1995 年的研究中所聲稱的：與功能性範疇相關的語言參數值，對於年齡超過「關鍵時期」的第二語學習者之第二語言重新建構是無效的。在本研究中更強調，「主題冠」，一個普遍化的語言屬性，可能會嘉惠於第二語言習得者。

關鍵詞：零主詞、差異、參數設定理論、關鍵時期