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- ▶ The Non-Droppability of Uninterpretable Features in Second Language Acquisition: on the Interpretation of Resumptive  
第二語言習得中無法詮釋的不可省略的特質：第二語中文集合代名詞的詮釋

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**THE NON-DROPPABILITY OF UNINTERPRETABLE  
FEATURES IN SECOND LANGUAGE ACQUISITION:  
ON THE INTERPRETATION OF  
RESUMPTIVE PRONOUNS IN L2 CHINESE\***

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**ABSTRACT**

The study sets to test proposals made by Yuan and Zhao (2005) and Tsimpli and Dimitrakopoulou (2007) in relation to the issue of parameter resetting in the interpretation of resumptive pronouns by adult English speakers of L2 Chinese. Fifty-four English speakers of different proficiency levels were asked to correct sentences involving ungrammatical resumptive pronouns in L2 Chinese and their responses were compared with those of a native speaker control group. Findings of the study argue against Yuan and Zhao's input-driven parameter resetting account. Instead, they support the *Interpretability Hypothesis* of Tsimpli and Dimitrakopoulou in assuming that there is a critical period for the accessibility of uninterpretable syntactic features for the construction of mental grammars. It is argued, by extending the unattainability of the uninterpretable features assumption, that once the uninterpretable syntactic features are selected, they become difficult to lose if L2 lacks such uninterpretable features.

Key words: uninterpretable features, parameter resetting, partial access, resumptive pronouns

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## **1. INTRODUCTION**

The focus of the present study is on some observable differences in the behaviour of native and non-native speakers of Chinese in the interpretation of the resumptive pronouns in L2 Chinese. The question that will be specifically addressed is whether such differences are an effect of difficulties in obtaining certain input-driven parameters for L2 (Schwartz and Sprouse 1994, 1996) or whether it can be maintained that certain uninterpretable syntactic features that are not selected during first language acquisition cease to be operational for L2 grammar construction (Tsimplici and Dimitrakopoulou 2007). It will be argued that not only are uninterpretable syntactic features not selected during first language acquisition inaccessible for adult L2 grammar construction but also that they resist dropping if the L2 lacks such features.

The discussion proceeds as follows: in Section 2, we present two different positions concerning the availability of UG in SLA. In Section 3, we compare the syntactic differences between English and Chinese resumptive pronouns. In Section 4, we review a study investigating the acquisition of L2 resumptive pronouns by non-native speakers. In Sections 5 and 6, we present a study and its results. These results are then discussed in Section 7.

## **2. TWO COMPETING THEORIES IN SLA**

### **2.1 Full Access to UG Accounts**

SLA researchers working within the framework of the principles and parameters approach to Universal Grammar since the 1990s have been interested in giving a general account of the developmental problems (how knowledge of syntax develops over time) and logical problems (how L2

learners come to know more than what is present in the input) in SLA. Two influential theories emerged which assume a UG-constrained hypothesis to address the logical problems in SLA. The two theories differ, however, in their assumptions as to the nature of second language syntax and in their accounts of the grammar development of L2 learners.

One of the two theories is the *Full Transfer/Full Access* (FTFA) account proposed by Schwartz and Sprouse (1994, 1996). FTFA researchers (Schwartz and Sprouse 1994, 1996; Epstein et al. 1996; Grondin and White 1996; Slabakova 2000) view Full Transfer as a particular grammar adopted by the L2 learner in the initial state of L2 acquisition. This grammar constitutes the entire L1 grammar that the learner already has. Full Access takes place when the L1 grammar is unable to accommodate properties of the L2 input or when the learner does not have sufficient time to experience enough samples of L2 data to establish the relevant categories found in the native-speaker grammar, hence interlanguage grammars. In other words, Full Transfer, according to these researchers, refers to the initial state grammar. Full Access refers to the subsequent restructuring of the grammar during the course of development. Interlanguage grammars developed during the course of acquisition are nevertheless UG-constrained. In the later stage of L2 acquisition, advanced learners are in theory able to restructure their initial grammars to be more native-like based on the L2 input or on UG options.

A recent example in support of the *Full Transfer/Full Access* (FTFA) account is an empirical study provided by Yuan (1998) on the acquisition of the long-distance *ziji* in L2 Chinese by speakers of Japanese and English. The linguistic properties concerned in Yuan (1998) are domain (long-distance versus local antecedents) and orientation (subject versus object antecedents). Like Chinese, Japanese allows local and long-distance antecedents, whereas antecedents in English can only be locally bound. With respect to their treatment of *ziji*, Japanese and English speakers show distinctly different behaviour. So far as the interpretation of domain is concerned, Yuan found that Japanese speakers of intermediate Chinese did not perform significantly differently from the native speakers of Chinese;

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they recognized the local and long-distance nature of *ziji*. English speakers of intermediate Chinese, however, performed significantly differently from the native speakers of Chinese and from the Japanese-speaking group in that they dispreferred *long-distance bound* antecedents. The implication of the finding is that Japanese and English speakers treat long-distance antecedents very differently, reflecting properties of these antecedents in their respective L1s. This in turn supports Full Transfer. Yuan also found that English speakers of advanced Chinese recognized the long-distance properties of *ziji*, suggesting subsequent grammar restructuring and supporting the *FTFA* account.

## 2.2 Partial Access to UG Accounts

Another UG-constrained view assumes that there is full transfer but that certain functional-category-related features that are not selected during the acquisition of primary grammar become inaccessible to adult second language learners. Researchers (Tsimplici and Roussou 1991; Smith and Tsimplici 1995; Hawkins and Chan 1997; Hawkins and Hattori 2006; Tsimplici and Dimitrakopoulou 2007; Kong 2005, 2007, 2011) taking this *Partial Access to UG* account assume that adult L2 learners 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. How this hypothesis differs from the *FTFA* account is that there is no subsequent parameter resetting in response to L2 input when the L1 and L2 differ in parameter values. A restrictive version of the *Partial Access to UG* account is Tsimplici and Dimitrakopoulou's (2007) *Interpretability Hypothesis*. One of the claims made by this hypothesis concerns the inability of older L2 learners to acquire certain unselected uninterpretable syntactic features (Case and Agreement, for example) which are subject to a critical period. Interpretable features, on the other hand, remain available throughout life. According to Hawkins and Hattori (2006), it is functionally useful for interpretable features to be permanently available because they are

necessary for learners to construct new lexical items. Uninterpretable syntactic features, by contrast, are specific to language and form a small class of closed functional-category-related items. It would not be economical for these uninterpretable features to become permanently available. Differences in the mental grammars between non-native and native speakers of target languages, therefore, are the result of L1-L2 parameter value differences.

In a recent study, Kong (2011) tested the interpretation of adult English speakers of L2 Chinese of monomorphemic *ziji* and polymorphemic *taziji*. Similar to English, polymorphemic *taziji* in Chinese behaves like a reflexive in English, which has a local antecedent. But unlike English, monomorphemic *ziji* in Chinese (no equivalent in English) allows a local and a long-distance antecedent. Kong found that an asymmetry exists where the interpretation of *taziji* was native like, and where the interpretation of *ziji* was divergent. Native speakers of Chinese allowed *ziji* to be locally and long-distantly bound, whereas elementary and intermediate learners of L2 Chinese disallowed *ziji* to be locally bound. Following Tsimpli and Dimitrakopoulou's (2007) line of reasoning, Kong speculates that no parameter resetting has taken place as learners have trouble accessing null AGR, a critical period-associated uninterpretable syntactic feature. Instead, they may have misanalysed *ziji* as pronouns in English.

Two views concerning SLA have been discussed. If the *FTFA* account is correct, i.e., that learners start out with L1 functional categories and are able to acquire L2 categories, it would be expected that adult or older L2 learners will converge on target grammars given sufficient input. If, however, the *Partial Access to UG* account is correct, i.e., that uninterpretable syntactic features not selected in primary language acquisition become inaccessible, it would be expected that adult L2 learners would have to use alternative options made available by UG to approximate to the target grammar. They may appear to have reset the relevant parameters when in fact their underlying grammar is still L1; no parameter resetting has taken place.

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### 3. THEORETICAL ASSUMPTIONS

#### 3.1 Relative Clauses and Resumptive Pronouns in English

It is generally believed that a *wh*-phrase (*who*, *which*, *whose*, etc), the complementizer *that*, and a null operator can all introduce a relative clause in English, as shown in 1a, 1b, and 1c. However, it is ungrammatical for the complementizer *that* to co-occur with an overt *wh*-phrase, for a resumptive pronoun to take an object position, or for a relativized subject to have neither an overt *wh*-operator nor an overt complementizer, as shown in 1d, 1e and 1f.

- (1) a. The man [cp *who*<sub>i</sub> e [you hate *t*<sub>i</sub>]] has gone.  
 b. The man [op<sub>i</sub> that [you hate *t*<sub>i</sub> ]] has gone.  
 c. The man [cp e [you hate *wh*-*i*]] has gone.  
 d. \*The man [cp *who*<sub>i</sub> [op<sub>i</sub> that [you hate *t*<sub>i</sub>]]] has gone.  
 e. \*The man [*who*<sub>i</sub> [you hate him *i*]] has gone.  
 f. \* The man<sub>i</sub> [op<sub>i</sub> e [*t*<sub>i</sub> hates me]] has gone.

Following Rizzi (1990) and Hawkins and Chan (1997), we will assume that relative clauses in English are derived by operator movement and that feature specification requires heads to agree with their specifiers. According to Rizzi (1990), English C has a [+/-wh] feature which motivates the operator to move to the Spec of CP, which is a nonargument or an A' position, in relative clauses. Relative *that*, according to Rizz, carries [+predicative, -wh] features. And when an overt operator, such as a *wh*-phrase, or a null operator moves, a variable or a trace (*t*) is left behind, as shown in 1a, 1b, and 1c above. What motivates operators to move is that the [wh] feature is strong and operators need to be moved to check the [wh] feature in the head C via Spec-head agreement checking. The overt operator *who* in 1a has a [+wh] feature, the null operator (op) in 1b has an unspecified [0wh] feature, and the empty C in 1c has a [+predicative] and a [+wh] feature. They all fulfill the feature specification of C requirement. 1d

is ungrammatical because the co-occurrence of a *wh*-phrase and a complementizer *that* results in a feature clash. The complementizer *that* is the lexical realization of [-wh] in C. The co-occurrence of the two will result in [-wh] in C but [+wh] in Spec. In 1e, the overt object *him* violates the operator movement assumption. And finally, 1f is ungrammatical for the reason that the trace of the embedded subject *ti* is not properly governed, which violates the Empty Category Principle (ECP). According to Rizzi (1990), null operators carry no agreement features and null complementizers do not allow head-head agreement. The subject trace in 1f is ungoverned because the null complementizer remains inert.

Another observation concerning relative clauses in English is head direction (Hawkins and Chan 1997). Relative clauses in English are head first, which requires heads of relative clauses to precede the clauses. Examples in 1 above show that relative pronouns are preposed to the position adjacent to the NP via *wh*-movement, although they may be phonetically null as in 1c. In other words, two parameter values are involved concerning relative clauses in English. The first involves the possibility of moving the operator to the Comp position of the relative clause and the second involves moving the relative head noun to the position preceding the relative clause.

### 3.2 Relative Clauses and Resumptive Pronouns in Chinese<sup>1</sup>

One observation concerning relative clauses in Chinese, and one which shows a difference in the parametric value from English is the possibility of operator movement. Following Rizzi (1990) and Hawkins and Chan (1997), we will assume that Chinese C lacks a [+/-] *wh* feature, in contrast to

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<sup>1</sup> We follow Hawkins and Chan (1997) and Xu and Langendoen (1985) in the theoretical analysis of syntactic parametric variations between Chinese and English resumptive pronouns. For a recent and alternative analysis of resumptive pronouns between the two languages, see Auon and Li (2003). We would like to thank one anonymous reviewer for bringing Auon and Li's work to our attention.



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English. The underspecification of [+/-] wh feature makes operator movement unnecessary because there is no strong feature in C to be checked. Nevertheless, resumptive pronouns can be overt or covert in Chinese whereas they can only be empty in English, as shown in 2 below<sup>2</sup>.

- (2) a. wo tao yan ta de nei ge nan sheng  
I dislike him COMP that CL boy  
'the boy that I dislike'  
b. wo tao yan *ec* de nei ge nan sheng  
I dislike COMP that CL boy  
'the boy that I dislike'

According to Hawkins and Chan (1997), following Huang (1984) and Xu and Langendoen (1985), neither the overt nor the null resumptive pronoun in 2 above is the consequence of a bound variable being bound to a moved operator. Instead, it is bound to a null topic, base generated in the Spec of CP. In other words, the relationship between *ta/ec* and the fronted phrase in 2 is the one of pronoun and its antecedent rather than one of movement, since there is no motivation for operators to move in Chinese. Therefore, structures which would appear to violate Subjacency in English are in fact grammatical in Chinese, as the example in 3 shows.

- (3). Zheben shu<sub>i</sub> [[*ec*<sub>j</sub> du guo *eci* de ren<sub>j</sub>] bu duo]  
This book *ec* read ASP *ec* C man not many  
\*This book<sub>i</sub>, the people who read *eci* aren't many  
(as 10c in Hawkins and Chan 1997 extracted from Xu and Langendon 1985:14)

The topicalised DP (*This book*) and its empty category *ec* in the relative clause in 3 have two bounding nodes between them but the structure is not

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<sup>2</sup> The abbreviations used in the examples in the paper are: C/COMP = complementizer; De = complementizer; CL = classifier; ASP = perfective aspect marker.

subject to Subjacency because it is derived by base-generated operation instead of an operator movement.

Parametrically, relative clauses in Chinese are also different from their English counterparts in head direction. Following Hawkins and Chan (1997), we will assume Chinese relative clauses are head-final and are obligatorily headed by the complementizer *De*, which modifies an NP. The complementizer *De* is always obligatory in a relative clause in Chinese for the reason that it is “the only overt manifestation of the CP” (Hawkins and Chan 1997:192) in Chinese. In other words, a Chinese relative clause will adjoin to the left of its NP with an obligatory complementizer *De* as its head (as in Sentences 2 and 3), whereas a relative clause in English will adjoin to the right of its NP headed either by an overt or a covert operator.

A third syntactic distinction between English and Chinese relative clauses is the possibility of gaps in relativized positions. As manifested in Hawkins and Chan (1997), all relativized positions (except subject) in English require surface gaps whereas gaps are only possible in subject and object positions in Chinese. Other than subject and object positions, resumptive pronouns are obligatory in all positions, including embedded subject position, indirect and oblique object positions. To avoid lengthy discussion, we have skirted the other positions and focused on subject and object positions only. Following Xu and Langendon (1985) and Hawkins and Chan (1997), we assume that the optionality in the resumptive pronouns in Chinese relative clauses is one of topicalization of a null topic generated *in situ* rather than the one of movement as proposed by Huang (1984). Xu and Langendon argue that empty categories are derived by the binding of null pronominals or *pro* by null topics instead of movement operation. Hawkins and Chan further assume that a null topic is generated *in situ* in CP and binds a *pro*, which can also be overt or covert:

- (4) a. *ec*/\**ta* gongzuo qinglao de neige nuhai  
       *ec*/\**she* work hard C the girl  
       The girl who works hard  
       (Subject relative) (as 8a in Hawkins and Chan 1997)

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- b. wo xihuan *ec/ta* de neige nuhai  
I like *ec/her* C the girl  
The girl who I like  
(Object relative) (as 8b in Hawkins and Chan 1997<sup>3</sup>)
- c. wo jiao *ta/\*ec* lai de neige nuhai  
I ask her come C the girl  
The girl who I asked to come  
(Embedded subject relative) (as 8c in Hawkins and Chan 1997<sup>4</sup>)

If null topic binding pronominal is the structure of relative resumptive clauses in Chinese, 4a to 4c will have the structure as in 4d to 4f:

- d. [cp Topi [IP *proi/\*ta* gongzuo qinglao de neige nuhai<sub>i</sub>]]  
null topic *pro/she* work hard C the girl  
The girl who works hard
- e. [cp Topi [IP wo xihuan *proi/ta*] de] neige nuhai<sub>i</sub>  
null topic I like *pro/her* C the girl  
The girl who I like
- f. [cp Topi [wo jiao *ta/proi* lai ] de ] neige nuhai<sub>i</sub>  
null topic I ask her/*pro* come C the girl  
The girl who I asked to come

So far as syntactic differences between English and Chinese resumptive clauses are concerned, the two languages display three parametrical differences. The first is relativization. In English it is derived by *wh*-

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<sup>3</sup> One may consider it ungrammatical for 4b to have an overt object relative pronoun *ta*. But according to Chao 1968 and Li and Thompson 1981, gaps and overt objective pronouns are possible in Chinese. We also asked the 18 native speakers for confirmation. Five informants indicated a preference for deleting *ta*, while the other 13 accepted equally the presence or deletion of *ta*. Based on the two factors, we consider the sentence grammatical.

<sup>4</sup> Hawkins and Chan interpret 4c with an empty embedded subject as ungrammatical. Twelve out of 18 native speakers interviewed agreed that they would allow an overt or a covert embedded subject in 4c.

movement but in Chinese it is derived by base-generated operation. Secondly, while relative clauses in English are head-initial with the complementizer *that* or the operator *who/which* as an optional head, relative clauses in Chinese are head-final with the complementizer *De* as the obligatory head. Thirdly, gaps are generally required in relative clauses in English (except in the subject relative) but they are not allowed in positions other than subject and object in Chinese.

Following Adger (2003) and Hawkins and Hattori (2006), we further assume that operator movement in English involves an agreement dependency between an interrogative complementiser [C] such as *who* with an interpretable question feature [Q]. For an agreement dependency to be established, it requires an uninterpretable [*uwh*:] feature, which is specified on C: [C,Q, *uwh*:]. A *wh*-word phrase in English has to move to the specifier of [C,Q, *uwh*:] to carry out checking operation and delete the uninterpretable [*uwh*:] feature. That is to say, English has an uninterpretable [*uwh*:] feature that forces a *wh*-phrase to move. The uninterpretable [*uwh*:] feature, however, is absent in Chinese. Concerning the complementizer *that*, what appears to be present in English is the [Agreement] features that are associated with predicative *that* which activates subject relative (for example in a sentence like *The man that hates me has gone.*), according to Hawkins and Chan (1997). In Chinese, however, such [Agreement] features are underspecified. The syntactic parametric variations between English and Chinese in relation to the uninterpretable [*uwh*:] feature will be of concern to us in the study, to which we return in Section 7.

#### **4. STUDIES IN L2 RESUMPTIVE PRONOUNS**

A number of studies have been conducted on the L2 acquisition of resumptive pronouns (Epstein et al. 1996; Hawkins and Chan 1997; Martohardjono 1993; Perez-Leroux and Li 1998, White and Juffs 1998). However, the focus of these studies has been on L2 English learners of various L1s; very little research has been done on the acquisition of L2

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Chinese resumptive pronouns. Yuan and Zhao (2005) and Hu and Liu (2007) are two recent exceptions. Here we focus on Yuan and Zhao (2005) only.

Yuan and Zhao (2005) examined how English and Palestinian speakers interpret resumptive pronouns in L2 Chinese. Using the Subset Principle proposed by Berwick (1985) and Wexler and Manzini (1987) and the ‘psychotypology’ distance proposed by Kellerman (1979, 1983) as two analytical instruments, Yuan and Zhao accounted for an asymmetrical interpretation of L2 resumptive pronouns by English and Palestinian speakers.

Two experimental groups and one control group were involved in Yuan and Zhao (2005). They consisted of five intermediate English speakers of L2 Chinese, five advanced Palestinian speakers of L2 Chinese, and nine native speakers of Chinese. The test was a sentence-acceptability judgment task in which participants were asked to indicate on a scale of 1 (completely unacceptable) to 5 (completely acceptable) after reading each of 72 sentences. The results showed that the English speakers outperformed their Palestinian counterparts in judging Chinese sentences with the use of resumptive pronouns, suggesting that they had less trouble resetting L1 parameters to L2 than the Palestinian speakers did. This is surprising given that the Palestinian learners were more advanced and that the use of resumptive pronouns is available both in Palestinian and Chinese but not in English.

Yuan and Zhao attributed this asymmetrical effect to the subset principle and the psychotypology distance factor. According to them, the correlation between English and Chinese concerning resumptive pronouns is the one of subset and superset, while the one between Palestinian and Chinese is superset and subset. That is to say, English represents a subset (narrower) grammar and Chinese a superset (broader) grammar with respect to relative clauses for the reason that Chinese allows resumptive pronouns in indirect and genitive positions in addition to allowing gaps in positions that English also allows. In the meantime, Chinese represents a subset and Palestinian a superset with respect to subject and object position; only gaps are allowed in subjects and objects in Chinese whereas subjects require gaps and objects

require resumptive pronouns in Palestinian. The Subset Principle predicts that positive evidence in the input favours subset grammar learners learning a superset language but that it hinders superset grammar learners learning a subset language. Therefore, English speakers were more successful in resetting subset value to superset value than the Palestinian speakers in resetting superset value to subset value, because the English speakers would encounter positive evidence that resumptive pronouns are obligatory in positions other than subject and object in Chinese but the Palestinian speakers would have no positive evidence telling them that resumptive pronouns are not allowed in subject and object positions in Chinese. As a result, English speakers performed better in judging Chinese sentences with the use of resumptive pronouns than the Palestinian speakers.

Yuan and Zhao also suggested, following Kellerman (1979, 1983), that the apparent L2-like performance by the English speakers on the interpretation of L2 Chinese resumptive pronouns could lie on the perception that resumptive pronouns are typologically different from English rather than on L1 transfer. The essence of the ‘psychotypology’ of Kellerman is to lower the incidence of L1 transfer in L2 acquisition. If the L1 and the L2 are perceived by the learners as typologically very different, learners will resort to other learning mechanisms such as generalization based on the input. Such a perception of the typological distance between English and Chinese, according to Yuan and Zhao, made English speakers resort to a default setting which happens to be a subset value of Chinese with regard to gaps and resumptive pronouns. In other words, positive evidence in the input triggered the English speakers in Yuan and Zhao’s study to reset the value from English to Chinese.<sup>5</sup> One question concerning

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<sup>5</sup> Yuan and Zhao’s assumption that English speakers have reset from the subset value of English to the superset value of Chinese based on positive evidence in the input can only be substantiated if it can be established that relative clauses with resumptive pronouns in *indirect object*, *genitive* and *oblique* positions are ample either in natural setting or in classroom setting. However, it is unlikely that native speakers produce many of these clauses in a natural setting. Neither is it probable that the speakers in Yuan and Zhao’s study were taught these

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Yuan and Zhao's psychotypology-distance-factor explanation is that there is no mention of the connection between the psychotypology-distance-factor and the difficulties that the Palestinian speakers had in acquiring Chinese resumptive pronouns. Chinese is typologically different from Palestinian in the way that subjects and objects are relativized and the two languages also form a subset-superset relationship. If typological differences between Chinese and English led English speakers to resort to input instead of L1 transfer for resumptive pronoun acquisition, there should be no reason why Palestinian speakers should lag behind given the assumption that Chinese and Palestinian are also typologically different.

Yuan and Zhao's line of argument is consistent with the view that values in the L2 which differ from those in the L1 are in principle resettable, given that learners are exposed to sufficient positive evidence in the input. But, if there is no unambiguous positive evidence for change in the L2, learners will continue with the L1 features as they are crucial to the development of interlanguage (Schwartz and Sprouse 1996, Schwartz 1998a). A possible conclusion is that there is no syntactic critical period in SLA and that adult learners should have full access to L2 grammars.

If Yuan and Zhao are correct, i.e., that typological distance and the subset value of resumptive pronouns in English trigger learners to eventually lose the settings in their L1 based on the positive evidence in their L2 Chinese input data, it would be expected that older L2 learners with sufficient exposure to Chinese will reset the transferred parameter settings from English to Chinese. To test the reliability of the evidence for drawing such a conclusion, we consider a case where adult native speakers of English, a language which is typologically different from Chinese with regard to *operator movement* and *head direction* on the one hand, and forms a subset value with regard to gaps and resumptive pronouns (gaps in subject and object positions in English vs gaps in subject position but

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structures in the classroom. The assumption made by Yuan and Zhao seems to be weak and inconclusive.

gaps/resumptive pronouns in object position in Chinese) on the other hand, interpret resumptive pronouns in L2 Chinese. The questions to be asked are:

- a. Is there a way in which it could be maintained that English speakers reset the two parameters, namely the *operator movement* and the *head direction*, from English to Chinese, given the fact the two languages are typologically different in these two domains and that positive evidence in the input is sufficient for such a conclusion to be drawn?
- b. Will English speakers be able to easily acquire resumptive pronouns in subject and object positions in Chinese, given the subset-superset nature between the two languages with respect to resumptive pronouns and gaps?

## **5. THE STUDY**

### **5.1 Subjects**

The study consisted of three experimental groups and one control group, which involved a total of 45 adult English speakers learning Chinese as a second language at a language centre in Taiwan and 18 native speakers of Chinese. Because using the number of years of studying Chinese may not be a reliable factor in reflecting learners' proficiency level, the experimental learners were instead divided into three groups based on a Chinese proficiency test administered by the language centre before enrolling. They were all above 18 and had learnt Chinese in a classroom setting ranging from six months to twelve years at the time of the experiment. None of them had been exposed to Taiwanese/Minnanhua (a dialect spoken in Taiwan) or other varieties of Chinese while growing up. The Chinese they were exposed to at the language centre is standard Mandarin and the time learners spent on learning Chinese in class ranged from 5 hours per week to 20 hours



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per week<sup>6</sup>. All of the subjects in the control group were students at a university in Taiwan. Information about the subjects is summarized in Table 1.

Table 1: Subjects' background information

Group	G1	G2	G3	G4
Level of Proficiency	Elementary	Intermediate	Advanced	Native
Number of Subjects	20	17	17	18
Average Age	21.2	21.4	23.5	21.3
Average Number of Months Learning Chinese	8.4	45.6	73.2	N/A

## 5.2 Task and Scoring

To test the predictions made by Yuan and Zhao (2005) in relation to the two research questions of the study, a grammaticality judgment test (GJT) consisting of a set of 25 relative clause-related ungrammatical sentences was

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<sup>6</sup> One anonymous reviewer has correctly pointed out that the resumptive clause structure is a difficult syntactic structures and is to be taught in the later stages of L2 learning. The involvement of elementary learners in the study may have compromised the results since they have no knowledge of L2 resumptive pronouns. However, the study sets to test the theory of L1 transfer in relation to the initial state of the SLA of Chinese resumptive pronouns, *among other parameter resetting issues*. It is therefore necessary to involve elementary learners. In addition, the pattern that the elementary learners constantly favoured English resumptive pronoun settings over Chinese settings suggests that L1 transfer rather than random behaviour is taking place in their interlanguage grammar.

conducted<sup>7</sup>. A relatively controlled grammaticality judgment task was chosen over other test formats such as spontaneous speech tasks so as to avoid the possibility that the experimental learners may not produce target structures as frequently as native speakers do (see Kamimoto et al. 1992, White et al. 1997, and Hawkins and Chan 1997 for discussion). It should be noted that comparative performance, i.e., within the three English groups and between the English groups and the Chinese control group, rather than absolute performance is the focus of the study. A total of 25 sentences were included in the task to test learners' L2 Chinese knowledge with respect to resumptive pronouns (see the Appendix for the 25 sentences used). These sentences can be divided into three types which are constituted of the head-direction parametric variations between Chinese and English as reviewed in Sections 3.1 and 3.2:

- i) Ungrammatical relative clauses involving an overt resumptive pronoun in the subject position and a null complementizer *De*<sup>8</sup>
- ii) Ungrammatical relative clauses involving a null complementizer *De* in the object position

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<sup>7</sup> Regarding methodological issues, one may question how a comparison can be drawn since Yuan and Zhao employ a sentence-acceptability judgment task whereas the current study adopts a grammaticality judgment test. The two studies share a common ground in testing the grammatical knowledge of resumptive pronouns in L2 Chinese. Methodological variations should not differ in judging learners' knowledge. In fact, native speakers' performances (usually an indicator of test validity and reliability) in both studies are as target-like as expected. We would nevertheless like to thank one of the anonymous reviewers for pointing out the issues to us.

<sup>8</sup> *De* has many other functions in Mandarin Chinese (see Li and Thompson 1981; Chappell and Thompson 1992 for discussion). As far as relative clauses are concerned, it has been discussed in Section 3.2 that *de* functions as the complementizer and is obligatory in relative clauses in Chinese.

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- iii) Ungrammatical relative clauses involving a null resumptive pronoun in the embedded subject position and a null complementizer De

Tables 2 and 3 below display examples of the three types of sentence and tokens of ungrammatical items in the GJT.

Table 2: Types of sentence structures and examples in the GJT

Type of structure	Examples
Ungrammatical relative clauses involving an overt resumptive pronoun in the subject position and a null complementizer De	*ta ai kan shu xue sheng He like read book student ying le san ge win ASP three CL zuo wen bi sai da jiang composition contest big prize The student who likes to read has won three composition competition awards.
Ungrammatical relative clauses involving a null complementizer De in the object position	*xiao ma xi huan na ge Xiao ma like that CL ren qu le mei guo man go ASP America The person who Xiaoma likes has gone to the US.
Ungrammatical relative clauses involving a null resumptive pronoun in the embedded subject position and a null complementizer De	*li xiao jie qing li kai na Lee Miss ask leave that ge ren shi ta de tong shi CL man is her colleague The person who Miss Lee asks to leave is her colleague.

Table 3: Tokens of ungrammatical items in the GJT

Grammaticality Judgment Test	OReSub	NESub	NCompDe
*Tokens	10	8	25

\*Tokens: The total number of overt or null items in each sentence type; e.g., there are in total 10 counts of ungrammatical overt resumptive pronouns in the subject position in the test.

Key: OReSub = Overt resumptive pronouns in the subject position

NESub = Null resumptive pronouns in the embedded subject position

NCompDe = Null complementizer De

The 25 sentences of the three sentence types were arranged in a randomized fashion so as to reduce the chance of participants becoming aware of the syntactic knowledge being tested. The sentences were presented both in traditional Chinese characters and in Pinyin forms to the participants. Their performance was scored on a scale of either 1 or 0. 1 was given for the right correction, while 0 was given for no correction or a wrong correction. For example, in 5:

(5) \*ta ai kan shu xue sheng ying le san ge  
 He like read book student win ASP three CL  
 zuo wen bi sai da jiang  
 composition contest big prize

The student who likes to read has won three composition competition awards. (as Sentence 1 in the Appendix)

There are two tokens of ungrammatical items in 5, one concerning the overt subject *ta* (*he*), the other the null complementizer *de* modifying the NP *xue sheng* (*student*). For sentence 5 to be presumed grammatical, participants should delete *ta* (scoring 1) and insert *de* (scoring 1) in between *kan shue* (*read book*) and *xue sheng* (*student*). However, if *ta* is deleted but *de* not inserted, participants will receive 1 and 0, respectively. And if no correction

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is made or a correction made but still incorrect, participants will receive 0 on both items. Participants were scored individually for their performance in detecting the ungrammaticality of the test sentences under investigation and mean group scores were then calculated. Statistical analyses, namely ANOVAs and *post hoc* Scheffe tests, were performed on the corrections.

### **5.3 Procedure**

The experimental groups and the control group were given the GJT separately. The experimental participants were given written instructions in English at the beginning of the test. They were told to correct 25 sentences which all had grammatical errors concerning relative clauses. Since some of the ungrammatical sentences can be salvaged by using other alternative structures such as the topic structure (a common means used by native speakers to substitute for relatives), it was made clear in the instructions that the participants were asked to change the ungrammatical sentences into correct relatives so as to avoid other structures being used. In addition to the 25 test sentences, there were four practice sentences in the instructions. The four practice sentences were different from the test sentences and participants were encouraged to ask questions at the time that the instructions were given if they had any problems with the format of the test. Prior to the test and after the practice had been completed, the participants were told that neither discussion nor answer-checking were allowed during the test. The test was not timed but most participants finished it in less than an hour. The participants in the control group took the test at the university and all finished it within 30 minutes.

## **6. RESULTS**

### **6.1 Ungrammatical Relative Clauses Involving an Overt Resumptive Pronoun in the Subject Position**

A one-way ANOVA shows that there are significant differences between groups in detecting grammatical errors in the task ( $F(3,68) = 11.762, p < .05$ ). A Post hoc Scheffe test shows that there are significant differences in performance on the accuracy rates for the grammatical function between groups: G1 (elementary learners) performed significantly worse than all other groups ( $p < .05$ ). That is to say, the performance of the learners in G1 were significantly worse than that of those in G2 (intermediate learners), G3 (advanced learners), and G4 (native speakers), respectively. As can be seen in Table 4 below, development between experimental groups is gradual. G3 (advanced learners) showed the highest scores among the experimental groups but there is a significant difference in the scores for this group and for those of the native control group (G4).

Table 4: Mean scores for the correction of overt resumptive pronouns in the subject position in the GJT

G1(n=20)	G2 (n=17)	G3 (n=17)	All	G4 (n=18)
0.1970	0.4321	0.6235	0.4138	1.000

Recall that the purpose of the present study is to examine one of the claims made by Yuan and Zhao that positive evidence in the input is sufficient for learners to notice typological differences between Chinese and English in allowing overt resumptive pronouns in the subject position. If such recognition were the triggering factor, we would expect that the experimental learners, the advanced learners in particular, to detect the ungrammaticality of overt resumptive pronouns in the subject position in a native-like fashion; there should be no difference in their responses when compared to those of native speakers.

## **6.2 Ungrammatical Relative Clauses Involving a Null Resumptive Pronoun in the Embedded Subject Position**

In seeking to detect the ungrammaticality of null resumptive pronouns in the embedded subject position in the task, a one-way ANOVA shows that

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there are significant differences in performance on the grammatical function between groups ( $F(3,68) = 20.125, p < .05$ ). A post hoc Scheffe test shows a similar result as observed in the detection of ungrammatical overt resumptive pronouns in the subject position. The ability to reject ungrammatical null resumptive pronouns in the embedded subject position develops gradually in line with proficiency with elementary learners being the worst performers of all, as can be seen in Table 5 ( $p < .05$ ). Even though the advanced learners in G3 showed the highest accuracy in corrections among the experimental learners, they were still significantly less accurate than the native control group ( $p < .05$ ).

Table 5: Mean scores for correcting null resumptive pronouns in the embedded subject position in the GJT

G1(n=20)	G2 (n=17)	G3 (n=17)	All	G4 (n=18)
0.1892	0.5113	0.7322	0.4776	0.9438

### 6.3 Ungrammatical Relative Clauses Involving a Null Complementizer *De*

Results of a one-way ANOVA indicate that there are significant differences between the groups in detecting null complementizer errors in the task ( $F(3,68) = 21.324, p < .05$ ). A Post hoc Scheffe test shows that there are significant differences in the accuracy rate in performance between groups. The performance of G1 in detecting the ungrammaticality of null complementizer *De* is remarkably low, around 20% as shown in Table 6 ( $p < .05$ ). G3 shows the highest correction rate among the experimental groups but is still significantly less accurate when its performance is compared with the corrections of the native speakers ( $p < .05$ ).

Table 6: Mean scores for correcting null complementizer *De* in the GJT

G1(n=20)	G2 (n=17)	G3 (n=17)	All	G4 (n=18)
0.1963	0.5218	0.6782	0.4654	0.9827

What we have found in the study suggests that there is a consistent pattern in that the ability to detect ungrammatical sentences involving resumptive pronouns increases as proficiency rises among the English speakers. What is striking is that development in detecting resumptive pronoun errors shows a dramatic improvement from G1 to G3. However, the learners' mental representations for L2 Chinese resumptive pronouns appear to be different from those of the native Chinese speakers as the learners were significantly less accurate at detecting these errors than the control group. It may suggest that the three structural positions – resumptive pronouns in subject position, resumptive pronouns in embedded subject position, and the complementizer *De* – are treated differently by the adult English speakers of L2 Chinese. The question now is: what kind of account of how English speakers acquire L2 Chinese would explain the observed behaviour? In the next section, we will consider how these observations might be explained. In particular, the performance of individual learners on the three structures, namely *resumptive pronouns in subject position*, *resumptive pronouns in embedded subject position*, and the complementizer *De*, will be analysed.

## 7. DISCUSSION

The specific empirical domain this study has explored is the interpretation of Chinese resumptive pronouns by adult English speakers. The purpose of the study is to test whether the predictions made by Yuan and Zhao (2005) about the *Full Transfer* and *Full Access to UG* theory in relation to typological difference and subset-superset nature between English and Chinese can provide insight into the interpretation of Chinese resumptive pronouns by English speakers.

The first research question we are interested in is whether, following Yuan and Zhao's line of assumption, it could be maintained that the *operator movement* and the *head direction* are typologically different



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between English and Chinese and that positive evidence in the input would allow English speakers to establish grammatical representations which converge with those of native speakers. Contrary to findings in Yuan and Zhao (2005), the experimental learners in the study, in the elementary and the intermediate English groups in particular, show a preference for head-initial over head-final with subject and indirect object resumptive pronouns, for example:

- (6) \*ta kai qing sheng pai dui nu hai tui xue le  
 she open celebrate birth party girl drop school SAP  
 The girl who throws a birthday party has dropped out of school. (as Sentence 3 in the Appendix)

Fifteen of the 20 subjects at the elementary level and ten of the 17 subjects at the intermediate level incorrectly moved *nu hai* (*the girl*) to the initial position of the clause preceding the overt subject *ta* (*she*). Progressively learners have become aware that resumptive clauses are head-final in Chinese, but such recognition has not stopped five advanced learners from moving *nu hai* (*the girl*) to the initial position of the clause. Another example showing the preference for head-initial over head-final is in 7:

- (7) \*xiao ming jiao da wang qiu nan ren zhong le le tou  
 Xiao ming teach hit tennis ball that man win ASP lottery  
 The man who Xiaoming teaches how to play tennis has won the lottery.  
 (as Sentence 19 in the Appendix)

Respectively, fourteen of the 20 subjects and nine of the 17 subjects in the elementary and the intermediate groups moved the embedded subject *nan ren* (*that man*) to the clause initial position preceding *Xiao ming*<sup>9</sup>.

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<sup>9</sup> One of the anonymous reviewers suggests that learners may have applied topicalization structure by moving “nan ren” (that man) to the clause initial position in 7, instead of proposing a transfer of L1 head-initial parameter to L2. It is true that topicalization structures

So far as typology is concerned, the complementizer *de* is obligatory in a relative clause in Chinese whereas its English equivalent *that* is optional. Table 6 in Section 6.3 has shown that the accuracy of detecting the null complementizer *De* is proficiency related. It seems that experimental learners make significant progress in detecting the ungrammaticality of null complementizer *De* in Chinese. However, the fact that advanced learners performed significantly less accurately than the native controls (0.6235 VS 1.000) may weaken the claim of Yuan and Zhao that the recognition of typological distance between English and Chinese in terms of *head direction* and *operator movement* triggers the unlearning of *head-initial* and *operator movement* of English. In other words, the *FT/FA* account which Yuan and Zhao adopt incorrectly predicts the native non-native divergence in which L2 input fails to trigger parameter resetting from the L1 to the L2.

The second research question that we asked is: Where English speakers' mental representations for Chinese resumptive pronouns appear to be different from those for their L1, i.e., English and Chinese resumptive pronouns and gaps are of a superset-subset nature, is there any evidence that English speakers are able to easily acquire resumptive pronouns based on the input? One of Yuan and Zhao's findings argues for the superset-subset nature triggering the acquisition of Chinese resumptive pronouns by adult English speakers of L2 Chinese. The results in the study, however, do not lend support to Yuan and Zhao's assumption that the recognition of obligatory resumptive pronouns in subject and object positions in Chinese triggers English speakers to reset the values concerned from subset to superset<sup>10</sup>. What is consistent, judging from the correction rates displayed in

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are very common in Mandarin Chinese. However, the example in question is an embedded sentence and not a simple sentence. It would be more likely had the sentence been a simple sentence such as 'Xiao ming da le nan ren' (Xiao ming hit that man). Then, *nan ren* could be topicalized and put in front of *Xiao ming*. One more reason to favour L1 transfer over the use of topicalization structures is that topicalization is common in Mandarin Chinese but not in English and it is unlikely that elementary learners have been taught the structure already.

<sup>10</sup> We would like to thank one reviewer for pointing out that a third language group displaying typological differences from English and Chinese be involved in order to argue

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Tables 4 to 6, is that there is a clear difference in the ability of the experimental learners and of the native controls to detect ungrammatical resumptive pronouns. If such recognition were the triggering factor, we would expect the advanced experimental learners to detect the ungrammaticality of *overt resumptive pronoun in the subject position*, of *null resumptive pronoun in the embedded subject position*, and of *null complementizer De* as often as the native controls; there should be no divergence in their responses.

The underprediction of Yuan and Zhao's assumptions has weakened the *FT/FA* account of UG and raises an interesting question about the relationship between L2 speakers' apparent knowledge of surface forms and their underlying representations. An alternative to the *FT/FA* account of UG is to assume that while the principles of UG continue to constrain the way that adult L2 speakers build mental grammars for the L2, some subsets of parameters determined by the formal features of functional categories cease to be operative or resist resetting, as in the theories of Tsimpli and Roussou (1991), and Hawkins and Chan (1997). In particular, following Hawkins and Hattori (2006) and Tsimpli and Dimitrakopoulou (2007), we explore the implications of the assumption that English speakers restructure their grammars for Chinese on the basis of positive evidence in the input, but are unable to lose the uninterpretable feature [*uwh:*] of the interrogative complementizer of English, a feature which is absent in Chinese. Instead, it looks like they may have analysed surface properties in Chinese in a way which approximates to the target forms in core cases, but retain a basic underlying grammar transferred from English. In other words, while maintaining the claim made by Hawkins and Hattori (2006) and Tsimpli and Dimitrakopoulou (2007) that uninterpretable syntactic features become unavailable for end-state L2 grammar construction if they are not selected in

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against Yuan and Zhao's claim that superset-subset triggers the acquisition of L2 Chinese resumptive pronouns by adult English speakers. We agree with the reviewer and it will be a focus for future study. So far as obligatory resumptive pronouns in subject and object positions are concerned, Chinese and English do form a superset-subset relation.

*first language acquisition* and that apparent target-like L2 performance is not equivalent to the acquisition of underlying properties of grammar, we would argue with respect to the findings of the study that uninterpretable syntactic features selected during first language acquisition would be difficult to lose if the L2 lacked such features. What appears to be the underlying representations of L2 grammar may in fact be the surface morphosyntactic distributional judgments of interpreting L2 properties for L1.

Let us first consider the possibility of operator movement between Chinese and English and the role of uninterpretable feature [*uwh*:] in relation to relative clauses. Recall that in Section 3 we assume that Chinese C lacks a [+/-] *wh* feature, which makes operator movement unnecessary. The [*wh*] feature is strong in English, which requires operators to be moved and to check the head C via Spec-head agreement checking. Following Adger (2003) and Hawkins and Hattori (2006), we further assume in Section 3 that operator movement in English involves an agreement dependency between an interrogative complementiser [C] such as *who* with an interpretable question feature [Q]. For an agreement dependency to be established, it requires an uninterpretable [*uwh*:] feature, which is specified on C: [C, Q, *uwh*:]. A *wh*-word phrase in English has to move to the specifier of [C, Q, *uwh*:] to carry out checking operation and delete the uninterpretable [*uwh*:] feature. That is to say, English has an uninterpretable [*uwh*:] feature that forces a *wh*-phrase to move. The uninterpretable [*uwh*:] feature, however, is absent in Chinese.

If we follow the line of assumption that adult speakers of an L1 with an uninterpretable [*uwh*:] are unable to lose such a feature when exposed to an L2 lacking such feature, it is possible to argue that the learners will establish grammatical representations which diverge from those of native speakers despite continued exposure to the L2. The divergence in the performance of native and non-native speakers in detecting the resumptive-pronouns related ungrammatical sentences in the study seems to allow for such a conclusion to be drawn. Advanced English speakers of L2 Chinese appear to have the highest accuracy rates among the learners but are still significantly less

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accurate than the native controls. It could be argued that when such speakers encounter Chinese, they notice that relative clauses are head-final with the complementizer *De* as the obligatory head. But in the meantime the uninterpretable [*uwh*:] feature continues to be accessible. This could explain why the majority of the elementary learners and some of the intermediate and advanced learners incorrectly retained the overt subject *ta* (*she*) and inserted *De* in between *ta* (*she*) and *mi lu* (*lost*) in 8:

- (8)\**ta mi lu xiao hai ku le*  
She lost road small child cry ASP  
The girl who is lost cries. (as Sentence 8 in the Appendix)

It is possible that the underlying grammar is still English concerning overt subject position and that *De* has been interpreted as the operator *who* in English. Another example showing restructuring of Chinese to English is in 9:

- (9)\**zhang san xin ren gu yuan li zhi le*  
Zhang san trust know employ member leave job ASP  
The employee who Zhangsan trusts has resigned. (as Sentence 15 in the Appendix)

Contrary to native controls who correctly inserted the complementizer *De* between *xin ren* (*trust*) and the direct object *gu yuan* (*the employee*), the majority of the elementary and intermediate learners and four of the 17 advanced learners moved the direct object *gu yuan* (*the employee*) to the clause initial position and added *De* in between *gu yuan* (*the employee*) and the subject (*Zhang san*). This, again, could be the effect of misanalysing *De* as the operator *who* in English. It should be noted that the English relatives in (8) and (9) can be the operator *who* as well as the complementizer *that*. If the uninterpretable [*uwh*:] feature becomes nondroppable in adult English speakers' L2 Chinese and learners interpret *De* as the operator *who* by resorting to other options of UG, it is possible to speculate that *De* is also

misanalysed as the complementizer *that* in the English speakers' interlanguage.

The question which remains unanswered and will be of further research interest is the nature of the uninterpretable feature involved in the complementizer *that*. A possible answer that can be given to the question and to the observation in general, although it is not the approach the current study adopts, is to follow Ullman's (2001) assumption that lexicon and grammar are represented neurologically differently in L1 and L2. According to Ullman, grammar computing is governed by procedural memory which is subject to maturation, whereas lexicon learning is governed by declarative memory which is available throughout life. Since procedural memory is impaired in adult L2 learners, they can only rely on lexical memory for L2 grammar building. The result of using lexical memory for grammar building results in native-nonnative syntactic divergence. In the literature of SLA, an increasing number of studies (Tsimpli and Roussou 1991; Thomas 1995; Hawkins and Chan 1997; Kong 2005, 2007, 2011; Hawkins and Hattori 2006; and Tsimpli and Dimitrakopoulou 2007) have indicated that adult L2 learners may have misanalysed L2 input for L1 properties but their underlying syntactic representations are different from those of the native speakers.

To conclude, two views about the role that UG plays were compared in the study. The *Partial Access to UG* account appears to fare better than the *Full Transfer/Full Access (FT/FA)* account in explaining the divergence between the grammars of L2 speakers and native speakers, since the difficulty that the learners in the study have seems to lie in the inability to establish native-like syntactic representations, rather than in the inability to obtain appropriate input to reset transferred parameter settings from English to Chinese. The results obtained in the present study appear to support the *Interpretability Hypothesis* of Tsimpli and Dimitrakopoulou (2007) that uninterpretable syntactic features not selected during primary language acquisition will disappear following a critical period. Instead, adult learners will construct representations for the relevant L2 structures with alternative resources made available by UG. A testable prediction and hence a

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departing point for further investigation based on the results of this study is that speakers of an L1 with uninterpretable features will have trouble losing those features when acquiring an L2 which lacks such features.

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## APPENDIX

Sentences included in the Grammaticality Judgment Test

Ungrammatical relative clauses involving an overt resumptive pronoun in the subject position and a null complementizer *De*

- 1.\**ta ai kan shu xue sheng ying le san ge zuo wen bi sai da jiang*  
The student who likes to read has won three composition competition awards.
- 2.\**ta bei ma nan hai da po le bo li*  
The boy who is told off has just broken the glass.
- 3.\**ta kai qing sheng pai dui nu hai tui xue le*  
The girl who throws a birthday party has dropped out of school.
- 4.\**ta na ge duan shou lan qiu xuan shou que ding bu neng can jia bi sai*  
The basketball player who breaks his arm cannot take part in the next game.
- 5.\**ta pao de bi ling ling kuai na nu hai shi ge guo shou*  
The girl who runs faster than Lingling is in the national team.
- 6.\**ta tou wan ju xiao nan hai bu jian le*  
The boy who steals toys has disappeared.
- 7.\**ta na ge chang chang he wo da qiu nan sheng shi wo de tong xue*  
The boy who I often play tennis with is my classmate.
- 8.\**ta mi lu xiao hai ku le*  
The girl who is lost cries.
- 9.\**ta tao yan chang ge na ge nu sheng chu guo nian shu qu le*  
The girl who hates singing has gone abroad for further study.

Ungrammatical relative clauses involving a null complementizer *De* in the object position

- 10.\**xiao ma xi huan na ge ren qu le mei guo*  
The person who Xiaoma likes has gone to the US.
- 11.\**wo zuo tian peng dao na ge ren shi wo guo xiao tong xue*  
The person who I met yesterday was my classmate.

12. \*wo bu xi huan na ge nu sheng shi de guo ren  
The girl who I dislike is German.
13. \*li si xi huan nu sheng hui mei guo le  
The girl who Lisi likes has gone back to the US.
14. \*Zhang san xin ren nu sheng shang da xue le  
The girl who Zhangsan trusts has gone to college.
15. \*zhang san xin ren gu yuan li zhi le  
The employee who Zhangsan trusts has resigned.
16. \*lao li tao yan kong jie shang ban wan dian le  
The flight attendant who Laoli hates is late for work.
17. \*wang wu tao yan nan sheng tui xue le  
The boy who Wangwu hates has dropped out of school.

Ungrammatical relative clauses involving a null resumptive pronoun in the embedded subject position and a null complementizer *De*

18. \*li xiao jie qing li kai na ge ren shi ta de tong shi  
The person who Miss Lee asks to leave is her colleague.
19. \*xiao ming jiao da wang qiu nan ren zhong le le tou  
The man who Xiaoming teaches how to play tennis has won the lottery.
20. \*mei li qing lai yan jiang xue zhe bu jian le  
The scholar who Meili invites to come has disappeared.
21. \*li si yao lai ren bei guan qi lai le  
The person who Lisi invites to come has been retained.
22. \*wo jiao tan qin na nu sheng xing lin  
The girl who I teach how to play piano is called Lin.
23. \*huang lao shi yao qing lai yan jiang na wei xue zhe hen you ming  
The scholar who teacher Huang invites to come is a distinguished scholar.
24. \*jie jie yao ching lai chang ge na ge nu sheng sheng bing le  
The girl who my sister invites to come and sing is not feeling well.
25. \*shu shu qing lai he jiu na ge nan sheng shi wo tong xue  
The boy who my uncle invites to have a drink with is my classmate.

# airiti

*Stano Kong*

第二語言習得中無法詮釋的不可省略的特質：  
第二語中文集合代名詞的詮釋

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本研究旨在測試 Yuan and Zhao 在 2005 年和 Tsimpli and Dimitrakopoulou 在 2007 年關於成年第二語中文之英語使用者對集合代名詞之參數重設詮釋。54 名不同語言程度的英文使用者被要求更正含有集合名詞之不合語法的句子；受測者的答案將和中文母語使用者之對照組做比對。實驗結果反駁了 Yuan and Zhao 的“輸入驅使參數重設”論點。取而代之的是：不可詮釋的語法對內在文法建構與關鍵期之可操控性有關，並支持 Tsimpli and Dimitrakopoulou 的“可詮釋性假說”。值得爭議的是，藉由延伸不可詮釋之語法特質假定的不可及，一旦不可詮釋的語法特質被選定，如果第二語言也缺乏這不可詮釋的特質它們便不易被省略。

關鍵字：不可詮釋的特質，參數重設，部分運行，集合代名詞