L3 INITIAL STATE:
TYPOLOGICAL PRIMACY DRIVEN,
L2 FACTOR DETERMINDED,
OR L1 FEATURE ORIENTED?[*]

Stano Kong
Tunghai University

ABSTRACT

The present study investigates the interpretation of null subject and object pronouns in matrix and embedded clauses by twenty-five adult Chinese speakers of advanced L2 English acquiring L3 French in the initial stage and twenty-three participants of the same L1/L2 background acquiring L3 Spanish in the initial stage. It tests predictions made by three theories in L3 acquisition: the Typological Primacy Model of Rothman (2011), the L2 Status Factor of Bardel and Falk (2007) and Falk and Bardel (2011), and the Interpretability Hypothesis of Tsimpli and Dimitrakopoulou (2007). Asymmetries displayed in learners' interpretation of null matrix subjects and null embedded subjects as well as in null matrix subjects and null matrix and embedded objects suggest not only subjects and objects but also matrix and embedded clauses are treated differently by L1 Chinese/L2 English speakers of L3 French and L3 Spanish. The observed behaviour can be explained following Kong (2005) that adult learners have no access to uninterpretable syntactic features.

Key words: L3 pronouns, interpretability, topics, UG, initial state

1.   INTRODUCTION

A recent conception of adult language acquisition is that both L1 and L2 grammatical properties can be sources for transfer in third language acquisition (L3 acquisition). Studies in generative adult L3 acquisition since Leung (2007a) have argued that L3 acquisition is a field independent from adult second language acquisition (SLA) for the reason that L3 acquisition or multilingual acquisition usually involves primary languages as well as non-primary languages or L2s acquired typically after the critical period. In more recent works, Rothman and Cabrelli Amaro (2010) and Rothman (2011) conclude that not all observed adult L3 syntactic behaviour can be explained by using L1 or L2 transfer factors. In an effort to explore the nature of L3 initial states, Rothman (2011) investigates two different groups: L1 English/L2 Spanish and L1 Italian/L2 English, acquiring L3 adjectival interpretation of Brazilian Portuguese and Spanish and proposes that what conditions L3 syntactic transfer is neither L1 nor L2. Instead, the extent to which the L3 is typologically similar to the previously acquired languages (L1 or L2) determines the nature of L3 initial stages. According to Rothman (2011), typological primacy is defined as an unconscious process of perceived typological similarity between languages.

In this study we consider a case where two L1 Chinese groups of advanced L2 English in their initial L3 French and L3 Spanish states appear to interpret null matrix subjects differently from null embedded subjects, null matrix objects and null embedded objects. Learners seem to have consistent difficulty in unlearning null embedded subjects, null matrix objects and null embedded objects but do not have trouble unlearning null matrix subjects. The question that will be specifically addressed is whether such asymmetries are results of: (a) an effect of learners transferring L1 syntactic properties into L3, (b) acquired L2 English morphosyntactic properties failed to be transferred into L3, or (c) the inadequacy of the typological similarity account.

The article is organized as follows. Section 2 compares the syntactic differences between English, Spanish, French, and Chinese in relation to subject and object pronouns. Section 3 presents three competing generative theories in L3 acquisition. Sections 4 and 5 report the study

and its results. Section 6 offers explanations for what is observed in the study and some suggestions for further research.

2.   THE SYNTAX OF SUBJECTS AND OBJECTS IN ENGLISH, SPANISH, FRENCH, and CHINESE

In this section, we compare the syntax of subjects and objects in English, Spanish, and French first. Then, we review the syntax of subjects and objects in Chinese.

2.1 Subjects and Objects in English, Spanish, and French

It is generally agreed that English, Spanish and French all exhibit head-initial phrase structure in which specifiers (subjects) precede the head (verbs) which in turn precedes complements (objects) to produce subject-verb-object (SVO) sequencing. However, the three languages differ in whether or not subjects can be null and whether or not object pronouns have to appear before their heads. Following Park (2004), we assume two licensing conditions are applied to subjects and objects in the three languages. We focus on the syntax of subject first.

According to Park (2004), following Alexiadou and Anagnostopoulou (1998), languages like Spanish allow null subjects, whereas languages like English require overt subjects for the reason of feature checking in light of the Extended Projection Principle or EPP (Chomsky 1995). Alexiadou and Anagnostopoulou propose that null subjects require the nominal D feature which exists in the head of Agreement Phrase (AgrP) to be checked against the D feature in an element which is like a subject. English does not allow null subjects because it has a poor verb inflection system and hence a weak agreement paradigm; an affix (e.g. inflectional morphemes such as -ed, -s, etc.) is to be attached to a verb in the Verb Phrase (VP). Since the D feature in AgrP needs to be checked by the D feature in another nominal element such as subject, the internal subject in the specifier position in the VP needs to be raised to the specifier position in AgrP. In other words, the DP in the specifier position of VP merges into AgrP, and the specifier position of AgrP is filled by the subject. In

addition to the feature checking claim, Park suggests the reason that languages like Spanish allow null subjects, whereas languages like English do not, is also because Spanish has the [+interpretable] agreement feature because the affix can be considered as nominal and has a semantic content, but English has the [-interpretable] agreement feature because the affix of English has no such content. It should be noted that although Park (2004) does not mention subjects in French, what is true of the feature checking and the [-interpretable] agreement feature in English should also apply to French for the reason that subjects are to be overt in French as they are in English.

As far as objects are concerned, English, Spanish and French are considered to be non-null object languages. However, the three languages differ in syntactic sequencing when nouns and pronouns are involved. Instead of placing an accusative noun phrase turned pronoun (e.g. from *football* to *it*) after the finite verb that this pronoun follows as it does in English, an accusative noun phrase in Spanish and French follows the verb as its complement, whereas an accusative pronoun cliticizes immediately before the verb. Examples (1) and (2) below illustrate the differences.

(1) a. I play *football*. (English accusative noun)
     b. [Yo] juego *futbol*. (Spanish accusative noun)
         I   play football
     c. Je joue au *foot*. (French accusative noun)
        I play   football

(2) a. I play *it*. (English accusative pronoun)
     b. [Yo] *lo* juego. (Spanish accusative pronoun)
         I   it play
     c. Je *le* joue. (French accusative pronoun)
        I it play

Despite the sequencing preference in which English and Spanish/French vary in head-complement placements in relation to accusative noun phrases and pronouns, the three languages share a common setting which states that objects with definite reference must be

overtly realized. To account for the overt object phenomenon in languages like English and Spanish, Park (2004), following Boskovic and Takahashi (1998), proposes a theta-features checking approach which suggests that the theta feature is strong in obligatory object languages like English and Spanish. Since English and Spanish verbs have a strong theta feature, the feature should be checked at the syntactic level. That makes the object position phonetically overt in the two languages. The obligatory nature of objects in French can receive an explanation if one follows Parks' theta-features checking hypothesis, although Park himself does not make such a conclusion.

2.2 Subjects and Objects in Chinese

Park (2004) investigates the acquisition of L2 English subjects and objects by L1 Korean children and finds that learners rarely drop subjects but have trouble unlearning null objects. In other words, young Korean speakers of L2 English have trouble acquiring overt objects but not overt subjects due to L1 transfer. Such a subject-object asymmetry leads Park to propose that the licensing conditions on null subjects and null objects are different. According to Park, [+interpretable] agreement features license null subjects (as in the case of Spanish) and [-interpretable] agreement features require a language to have obligatory subjects (as in the case of English); Korean has [-interpretable] agreement features but allows null subjects for pragmatic reasons. The licensing of null objects is determined by theta features in Park's analysis. Strong theta features require a language to have obligatory objects (as in the case of Spanish and English) while weak theta features allow a language to have null objects. Korean speakers of L2 English in Park's study have more problems unlearning null objects than null subjects because English and Korean have the same feature value in subject position but a different value in object position and it takes longer for Korean L2 English speakers to reset the theta feature value from weak to strong.

For theoretical simplicity, one could follow Park's approach and assume that the licensing conditions on null subjects and null objects which apply to Korean are also applicable to Chinese since Chinese allows null subjects and null objects. However, there are two reasons to

argue that the licensing conditions on null subjects and null objects are different between Chinese and Korean. First of all, the agreement features are weak in Korean but they are not completely absent as they are in Chinese. According to Park (2004), Korean has an honourific agreement system and subject-mood agreement markers which trigger the verbal agreement morpheme –si-. For example in (3),

(3) a. sensayngnim-i   o- si-   n-   ta
        Teacher –Nom   come-Hon(ourific)-Pres(ent)-Decl(arative)
        'The teacher comes'   (Park 2004:19)
     b. haksayng-i   o-   n-   ta
        Student –Nom come- Hon(ourific)- Pres(ent)- Decl(arative)
        'A student comes'   (Park 2004:19)

The subject (the teacher) in (3)a is a respected person whereas the subject (a student) in (3)b is not. The honourific suffix -si- is required for the subject in (3)a but not in (3)b. Chinese, on the other hand, has no verbal agreement morphemes which means a verb can agree with any subject.

     c. Ta/Tamen/Ni/Nimen/Wo/Women/Lao-shi/Zong-tong lai   le.
        S(he)/They/You(Plural)/I/We/Teacher/President come (Aspect)
        'She/He/They/I/We/The teacher/The president has (have) come'

Therefore, Korean has a weak agreement feature like in English, whereas agreement morphemes are totally absent in Chinese.

The second reason to suggest that the licensing conditions on null subjects and null objects are different between Chinese and Korean is the inadequacy of Park's proposal. Park's proposal cannot explain findings in Kong (2005) in which an asymmetry is found between the unlearning of null matrix subjects and the unlearning of null embedded subjects/null embedded objects by Chinese speakers of L2 English. Learners in Kong (2005) appear to acquire overt matrix subjects in early development but have long-term difficulty with overt objects in L2 English. It coheres with an observed behaviour in the L2 literature that learners tend to drop more objects than subjects in their L2 English (Zobl 1994; Yuan 1997; Park 2004). However, what is intriguing is another observation made by Kong

(2005) that learners display asymmetries relating to matrix overt subjects and matrix embedded subjects on the one hand and matrix overt subjects and matrix and embedded objects on the other hand. That is to say, learners have persistent difficulty in unlearning null embedded subjects, null matrix objects and null embedded objects but not in null matrix subjects; matrix subjects have been set by the learners to the target L2 English setting but embedded subjects and matrix and embedded objects are still in L1 Chinese settings. If we followed Park's line of assumption, we would expect learners in Kong (2005) to display an asymmetry between subjects and objects but never between matrix and embedded subjects; [-interpretable] agreements features should be equally weak in matrix and embedded subject clauses in Chinese if Park's assumption were correct.

Given the inadequacy of Park's proposal, we turn to assess an account relating to null subjects and null objects in Chinese presented in Kong (2005) instead. Contrary to Huang (1984), who assumes that null embedded subjects in Chinese are *pro* but null embedded objects are variables, Kong (2005) argues that not only null embedded subjects are *pro*, null objects can also be *pro* in Chinese. In addition to that, Kong postulates, extending from Li and Thompson (1976) and Yip (1995), that Chinese is not only a topic-prominent language but also an obligatory topic language.

Kong's argumentation goes like this. Regarding the null embedded subject in Chinese, Kong follows Huang (1984) and treats it as a *pro*. According to Huang, so long as an embedded null subject is not locally bound, a matrix subject or another referring expression in discourse can be its binder. Here is an example.

(4)   Zhangsan$i$ shuo [pro$i*j$ bu renshi Lisi$j$]
        Zhangsan   say   no know Lisi
        Zhangsan$i$ says that pro$i*j$ doesn't know Lisi$j$.

Since the embedded null subject in (4) can refer to the matrix subject *Zhangsan* or someone else in the context but not the embedded object *Lisi*, it must be a pronominal. On the other hand, Huang argues that Chinese does not allow genuine zero object pronouns because of the *Generalized*

Control Rule (GCR) and the *Disjoint Reference* (DJR) principle. According to Huang, GCR stipulates that an empty pronominal must be co-indexed with its closest antecedent, while DJR requires a pronoun to be free in its governing domain. Therefore in (5),

(5)   *John said that Bill saw *e*.   (as in Huang 1984: 553)

the null embedded object *e* cannot refer to the matrix subject *John* because the embedded subject *Bill* is the closest antecedent (GCR). Neither can it refer to the embedded subject *Bill* because a pronoun must be free within its governing category (DJR). The only binder of *e* must be someone previously mentioned in discourse and embedded null objects in Chinese involve topic movement from the object position to the initial position of the sentence. Example (5) will then have a structure like (6).

(6)   [Top*j*] John*i* said that [Bill saw *ej*]]   (as in Kong 2005: 248)

Neither *Bill* (the embedded subject) nor *John* (the matrix subject) can bind *e* due to GCR and DJR constraints; *e* can only be bound by a moved topic. Null embedded objects are therefore variables in Chinese, as Huang claims. However, by examining topic structures in English, Kong (2005) argues that the claim for GCR licensing null objects becomes less plausible. For example in (7):

(7)   a.   John*i* thinks that Mary likes him*i*.   (as in Kong 2005: 249)
      b.   As for Bill*i*, John thinks that Mary likes him*i*.
                                                    (as in Kong 2005: 248)

the embedded object *him* in (7)a is bound by the matrix subject *John*, which is the closest possible binder in the sentence. On the other hand, the embedded object *him* in (7)b can only be bound by *Bill* in the topic and not *John* in the matrix clause for the reason that *Bill* would not have an interpretation if it were not co-indexed with an existing argument in the sentence. The English example in (7)b shows that topics need to bind an argument position in the following sentence, and pronouns may be bound by topics as long as they are free in their governing domain. The

observation leads Kong to propose that GCR may not necessarily be involved in the licensing of null objects in Chinese and null objects can also be pro in Chinese. A null object sentence may look like this in Chinese:

(8)   [Top *ei* [Zhangsan shuo] Lisi renshi pro*i*]]]
         Zhangsan say   Lisi know
         Zhangsan says that Lisi knows *e*.

The embedded object is a pro which is bound by a topic. The possibility arises that null objects are pro and not variables in Chinese.
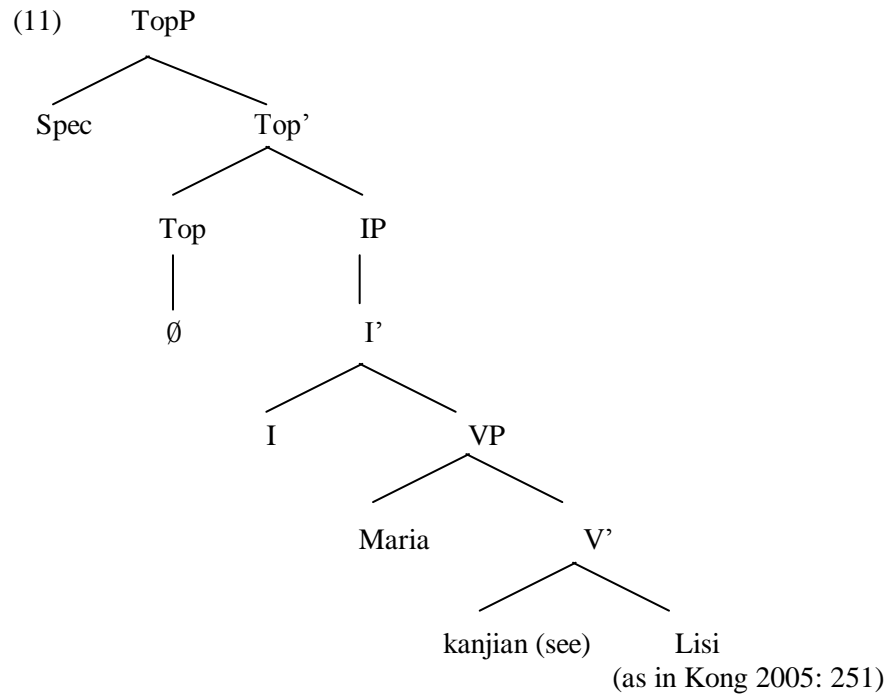
Kong further argues, extending Li and Thompson (1976) and Yip (1995), that topic-hood is a generalized property of Chinese. Yip (1995) observes that an indefinite noun phrase cannot head a sentence in Chinese. Sentence (9) is therefore ungrammatical:

(9)   *Yi ge   xiaohai lai   le
     one Cla(ssifier) child   come PFV (perfective aspect marker)
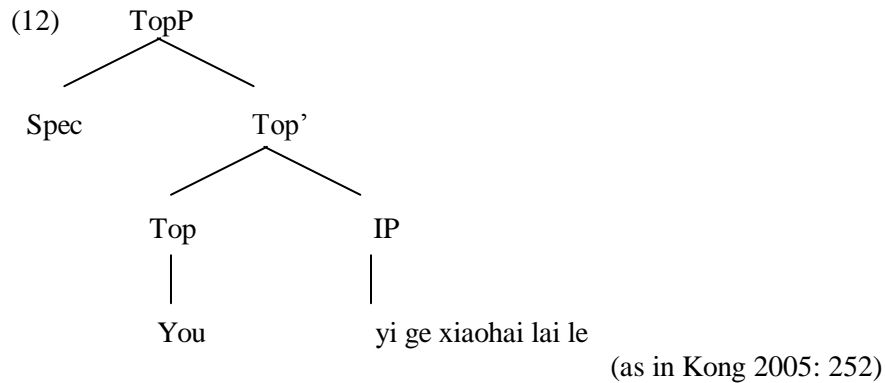   A child has come.   (Yip 1995: 87)

An existential verb *you* (there be) has to be introduced to head the topic position for the sentence to become grammatical, as in (10):

(10) You   yi ge   xiaohai lai   le
     There be one Cla(ssifier) child come PFV (perfective aspect marker)
     A child has come.   (Kong 2005: 251)

According to Kong, then, some constituent has to move to the specifier position of topic phrase (TopP) to satisfy the requirement that a topic is obligatory in Chinese.

(11)   TopP
```
                TopP
              /      \
           Spec      Top'
                    /     \
                  Top      IP
                   |        |
                   Ø        I'
                          /    \
                        I        VP
                               /    \
                            Maria     V'
                                    /    \
                             kanjian (see)  Lisi
```
(as in Kong 2005: 251)

Either *Maria* or *Lisi* in (11) would have to move to the specifier position of TopP to head the topic. However, if the only available noun phrase is an indefinite one (like *one child* in (9)), an existential verb has to be introduced to head the topic position, as shown in (12) below:

(12) TopP

```
            TopP
           /    \
        Spec     Top'
                /    \
             Top      IP
              |        |
             You    yi ge xiaohai lai le
```

(as in Kong 2005: 252)

Kong then suggests:

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: 252)

The *topic-hood as a generalized property of Chinese* assumption allows Kong to account for the asymmetries found in adult L2 English speakers' interpretation of matrix and embedded subjects as well as in matrix subjects and matrix and embedded objects. Because adult Chinese speakers of L2 English in the study rarely dropped matrix subjects but had difficulty detecting the ungrammaticality of null arguments in embedded subjects as well as in matrix and embedded object positions, Kong argues, following Tsimpli and Roussou (1991) and Smith and Tsimpli (1995), that functional category-associated parameter values (e.g. *Complementizer*, *Agreement*, *Determiner*) are only available during the acquisition of primary grammar during the critical period. In subsequent language acquisition they become inaccessible. What are still operative are other UG options, interpretable features for example. Learners in the study did not set the null subject parameter from null to overt. In fact, they made a small adjustment to the use of topic chains which require that one topic at the head of every sentence must be overt. In this case, the learners may have interpreted matrix English subjects as topics in Chinese

but allowed arguments in other positions to drop because they are bound by topics.

Given the comparisons discussed above, the syntactic similarities and differences between English, Spanish, French, and Chinese concerning subjects and objects are as follows:

(13) Subjects can be null in Spanish and Chinese but not in English and French for different reasons; Spanish allows null subjects, whereas English and French require overt subjects because the former has a rich agreement paradigm and the [+interpretable] agreement feature which the latter two languages lack. Chinese allows null subjects because they are pro and are bound by topics.

(14) Objects cannot be dropped in Spanish, English and French but are droppable in Chinese for the reason that objects in the former three languages have a strong theta feature which must be checked, whereas null objects behave like null subjects in Chinese and are bound by topics.

Although Spanish and Chinese share a parametric value in allowing null subjects, the two languages are not psychotypologically similar. Psychotypology, according to Kellerman (1983, 1986), refers to learners' perception of relative similarity between languages. That is to say, psychotypology is an unconscious linguistic knowledge of native speakers. In this regard, Spanish, English, and French are typologically similar or closer languages, whereas Chinese is typologically different from the other three despite the fact that it shares the null-subject parameter with Spanish. We return to the comparative syntactic nature and the typological proximity of the four languages in explaining findings of the study in section 6.

3.   STUDIES IN L3 ACQUISITION

Interest in adult L3 acquisition from within generative approaches has only recently surfaced and is beginning to form a discipline in its own

right (Leung 2007a; Rothman and Iverson 2008; Rothman 2011). We review three competing theories in L3 acquisition in this section.

3.1 The *Typological Primacy Model* (Rothman 2011)

The *Typological Primacy Model* of Rothman (2011) can be seen as a modified version of the *Cumulative Enhancement Model* (Flynn et al. 2004). The *Cumulative Enhancement Model* has been proposed based on the development of L3 English restrictive relative clauses by L1 Kazakh speakers of L2 Russian. The model assumes previous linguistic knowledge (including of the L1 and the L2) involvement in L3 development. It predicts cumulative linguistic development but in the meantime disallows negative transfer from previously acquired languages. In other words, the *Cumulative Enhancement Model* views L3 acquisition as a process in which prior languages (L1 or L2) can facilitate subsequent language development but in case the prior languages carry negative values (different from L3) such values become neutral and will not be transferred.

While following the *Cumulative Enhancement Model*'s line of argument that L3 linguistic development is cumulative, Rothman (2011) questions the model's claim that negative values from all previous linguistic knowledge remain neutral or play no role in L3 acquisition. Based on an earlier study (Rothman and Cabrelli Amaro 2010) investigating the acquisition of null subjects in L3 French and Italian by L1 English speakers who were also proficient L2 Spanish learners, Rothman (2011) compares the interpretation of the determiner phrase and adjectival semantics by two groups of elementary to intermediate proficiency levels of L3 Spanish and L3 Brazilian Portuguese learners who were L1 Italian/L2 English and L1 English/L2 Spanish, respectively. Results from the two studies point to the direction that not only is L3 acquisition cumulative, it is also typologically deterministic. Rothman (2011) proposes the *Typological Primacy Model* which posits that previously acquired linguistic knowledge (L1 or L2) is a factor for syntactic transfer but if L3 is typologically similar to either the L1 or the L2, the typological proximity factor will take precedence over the previously acquired linguistic knowledge factor. That is to say, the

Typological Primacy Model allows both L2 morphosyntactic and L1 typology to be transferred to L3. But when the two factors are in direct competition, the typological proximity will be the dominant factor. In Rothman's sense, typological proximity refers to perceived typology of the language pairings involved. Syntactically (syntactic features, word order, inflection system, etc.) and phonetically (sound system, pronunciation, etc.), English is perceived to be closer to Spanish and French than Chinese is.

3.2 The *L2 Status Factor* (Bardel and Falk 2007; Falk and Bardel 2011)

Bardel and Falk (2007) test whether L1 V2/L2 non-V2 and L1 non-V2/L2 V2 learners of L3 Swedish or Dutch (both V2 languages) are aware of interpretive differences on the placement of negation. Nine university students took part in the experiment and were divided into two groups. The first group consisted of five L3 Swedish (verb second or V2) beginners: three with Dutch (V2) as their L1 and advanced English (non V2) as their L2, one with English (non V2) as her L1 and advanced German/Dutch (V2) as her L2, and one with Hungarian (non V2) as her L1 and advanced Dutch (V2) as her L2. The second group included four L3 Dutch (V2) beginners: two with Swedish (V2) as their L1 and advanced English (non V2) as their L2, one with Italian (non V2) as his L1 and advanced German (V2) as his L2, and one with Albanian (non V2) as his L1 and advanced German (V2) as his L2.

The results show that the L1 non-V2/L2 V2 group is more likely to produce target-like negated structures than its L1 V2/L2 non-V2 counterpart. In their more recent work (for a review, see Rothman et al. 2011), Falk and Bardel (2011) investigate L1 English/L2 French learning German as the L3 and conclude that L2 morphosyntactic transfer plays a crucial role in initial L3 acquisition. They put forward the *L2 status factor hypothesis*, borrowing the term which was first used by Williams and Hammarberg (1998), and Hammarberg (2001) to explain L3 lexicon transfer. According to the *L2 status factor* hypothesis, L1 transfer is of no relevance to L3 acquisition despite the fact that L1 and L3 might be typologically related. In other word, the *L2 status factor hypothesis*

allows for the newly acquired (L2 morphosyntax in most cases) language to block access to L1 morphosyntactic transfer in the L3 initial state. It predicts that the source of the L3 initial state is necessarily from the L2 steady state but never from the L1.

3.3 The L1 Uninterpretable Features Factor or the *Interpretability Hypothesis* (Tsimpli and Dimitrakopoulou 2007)

The *Interpretability Hypothesis* is formulated on the basis of the specific case of the acquisition of *wh*-interrogatives by intermediate and advanced Greek learners of L2 English. Although it makes no direct claim about adult L3 language development, it would be interesting to test if L1 factors would necessarily be involved in the acquisition of new uninterpretable syntactic features in L3.

Drawing on an earlier proposal by Tsimpli and Roussou (1991) to posit that critical-period-associated functional categories become inaccessible to adult L2 learners, the *Interpretability Hypothesis* of Tsimpli and Dimitrakopoulou (2007) further assumes that uninterpretable functional features (e.g. Case and Agreement features, [wh] on C (complementizer), +/-past on T (Tense)) not instantiated in the L1 grammar will become fossilized in L2 acquisition. Interpretable syntactic features, however, remain available and are permanently operative for the construction of new lexical items. In other words, the *Interpretability Hypothesis* predicts that uninterpretable syntactic features not selected during primary language acquisition will disappear following a critical period; learners will resort to other options provided by UG for L2 grammar building. In such cases, adult L2 learners with sufficient exposure to the target language may still acquire a grammar, based on the available UG options and the accessibility to interpretable syntactic features. This grammar is highly similar to the one of the native speakers, whereas in fact they have not yet acquired the said uninterpretable features, and their underlying grammar is still L1 (Hawkins and Hattori 2006; Kong 2011a, 2011b). Following Tsimpli and Dimitrakopoulou's line of argument, although the hypothesis does not say anything about the L3 initial state, it is logical to assume that the absence of the uninterpretable syntactic features in L1 will stop learners from setting the

correct parameters in subsequent stages of language acquisition, be it L2 or L3. Instead, learners will transfer the L1 value and resort to UG but create grammatical representations which are superficially similar to the target setting.

To sum up, the three hypotheses considered so far (the *Typological Primacy Model*, the *L2 Status Factor Hypothesis*, and the *Interpretability Hypothesis*,) disagree on whether the L1 grammar is implicated and make different predictions in the L3 interlanguage initial state. The *Typological Primacy Model* would allow previously acquired linguistic knowledge as a source of transfer in the L3 initial state. This would mean both L1 and L2 can form the L3 initial state. However, the hypothesis maintains that typological proximity would be the deterministic factor for transfer. That is to say, the L3 initial state can behave either like the L1 or the L2 depending on how similar it is to the two previously acquired languages. The *L2 Status Factor Hypothesis* of Bardel and Falk (2007) and Falk and Bardel (2011) claims that the order of successful acquisition determines syntactic transfer in L3 acquisition and that the access to L1 grammar will necessarily be blocked by the acquisition of L2 morphosyntax. In other words, the hypothesis predicts that L1 should have no bearing in L3 acquisition for the reason that the L2 steady state morphosyntax acts as an obstacle to L1 syntax transfer. The *Interpretability Hypothesis* assumes that L2 steady state contains L1 lexical and functional categories, but uninterpretable syntactic features not selected within the critical period will become inaccessible. An extended interpretation, although the hypothesis does not make such a prediction, of the hypothesis could mean critical-period associated uninterpretable syntactic features are inaccessible to adult learners of L3 because the options to select these features have disappeared. What is left for L3 learners is the UG lexicon which allows learners to map the L1 functional features on to new L2/L3 morphosyntactic materials. The result of such a mapping can be a grammar which approximates the grammar of the target language speakers but the underlying grammar is still L1.

Predictions made by the three hypotheses will have implications in regard to the interpretation of subjects and objects in initial L3 Spanish and L3 French by adult Chinese speakers of advanced English in the

study. The *Typological Primacy Model* would predict that both L1 Chinese and L2 English are possible sources for transfer but the proximity between the L2 (English) and the L3s (Spanish and French) would be a deterministic factor in the acquisition of subjects and objects. Chinese would have little or no effect on this as it is typologically very distant from the other three languages. Support for the *L2 Status Factor Hypothesis* would suggest that L1 transfer ceases to be operative. The acquisition of L2 English morphosyntactic features would allow learners to transfer these features (i.e. [+/- interpretable] agreement features) to the acquisition of subjects and objects in L3 Spanish and French, rendering successful L3 acquisition possible. And finally, support for the *Interpretability Hypothesis* would predict that adult learners would have difficulty setting values which trigger the possibility of +/-subject and +/-object in Spanish and French because the uninterpretable agreement feature values are not realized in their L1. Traces of L1 transfer would become evident as learners can still resort to other UG options for grammar building. We return to this in Section 6.

4.   The METHODOLOGY OF THE STUDY

4.1 Participants

In this study 48 adult Chinese speakers were tested. They all majored in English literature and were in their third and fourth year of undergraduate study at a university in Taiwan. Their mean age was 20.35. Among the 48 participants, 25 were L3 French learners (n=25) and 23 were L3 Spanish learners (n=23). Their exposure to the L3s was predominately classroom based. Their first contact with the L3s started when they were at that university. The time the learners spent on learning the L3s in class was 4 hours per week. At the time the experiment was undertaken they were in their second year of L3 French and L3 Spanish learning. They had been learning the languages for approximately 16 months, and the matrix-embedded structures had been taught to them prior to the execution of the test. A proficiency test on French (*Diplome d'etudes en langue francaise/ DELF* or *Diploma in French Studies*) and

Spanish (*Diplomas de Espanol como Lengua Extranjera/ DELE* or *Diplomas of Spanish as a Foreign Language*) shows that the average score was 42 out of 100 for both groups. Both *DELF* and *DELE* are standardized tests described by the Common European Framework of Reference for Languages and are widely used by French and Spanish teaching institutes around the world. The fact that the learners in this study majored in English literature does not necessarily correlate to native-like proficiency in the L2. Both groups of L3 learners therefore took the Oxford Placement Test in English (Allan 1992). The average English language proficiency test scores were 81.2/100 and 79.4/100 for the L3 French subjects and the L3 Spanish subjects, respectively. In other words, participants in the current study were advanced L2 English speakers but L3 French and L3 Spanish beginners. Table 1 below summarises the participants' number, average age and language proficiency.

Table 1. Participants' language background and age

Group	G1	G2
Proficiency level	Chinese: Native English: Advanced French: Elementary	Chinese: Native English: Advanced Spanish: Elementary
Number of participants	25	23
Average age	20.4	20.3

4.2 The Test

The goal of the experiment was to investigate L3 learners' knowledge of subject and object pronouns in French and Spanish. Learners from each experimental group were asked to do an error correction test (ECT) in the respective languages separately. For reasons of choosing controlled ECT over spontaneous speech tests, see Kamimoto et al. 1992; White et

al. 1997; and Hawkins and Chan 1997 for discussion[1]. Both the French and the Spanish tests consisted of null subjects in matrix and embedded clauses, null objects in matrix and embedded clauses and fillers (grammatical and ungrammatical sentences of various structures). The fillers were used as distracters and were excluded from statistical analysis. Tables 2 and 3 below show the sentence structures and the number of test items in the two languages concerned.

---

[1] An anonymous TJL reviewer asks whether the single sentence design of the task may result in response bias. We thank this reviewer for pointing out the problem and will include context-based sentences in the test in our future research.

Table 2. Types and tokens of null pronouns in the French test

Sentence Types	Examples	Tokens
Null subjects in matrix clauses (FNMS)	Bernard joue au basketball. *Est grand et Bernard is playing basketball. is tall and brun. Dark-haired 'Bernard is playing basketball. He is tall and dark-haired'	7
Null subjects in embedded clauses (FNES)	*Pierre pense que va à la gare. Pierre thinks that go to the station 'Pierre thinks that he will go to the station'	7
Null objects in matrix clauses (FNMO)	La voiture de Marie ne fonctionne pas. *Je the car of Marie no work I vais réparer pour elle. will fix for her. 'Marie's car doesn't work. I'll fix it for her'	5
Null objects in embedded clauses (FNEO)	La TV de Sophie ne marche pas. *Je crois the TV of Sophie no work I think que je vais réparer pour elle. that I will repair for her. 'Sophie's TV is not working. I think I'll repair it for her'	5
Fillers (incorrect s-v agreement, number, etc) (FF)	*Jean arrive à 7heure. Jean arrive at 7 hour 'Jean arrives at 7'	10

Key:
 FNMS = French null matrix subjects; FNES = French null embedded subjects;
 FNMO = French null matrix objects; FNEO = French null embedded objects;
 FF = French fillers; Tokens 7 = seven sentences with missing matrix subjects;

Table 3. Types and tokens of null pronouns in the Spanish test

Sentence Types	Examples	Tokens
Null subjects in matrix clauses (SNMS)	Tengo un coche. Have a car 'I have a car'	5
Null subjects in embedded clauses (SNES)	La gente dice que somos muy inteligentes. People say that are very intelligent 'People say that we are very intelligent'	5
Null objects in matrix clauses (SNMO)	Estos pastels son muy buenos.*Compré the cakes are very good bought en Puli. in Puli 'These cakes are very good. I bought them in Puli'	5
Null objects in embedded clauses (SNEO)	María fue a la fiesta ayer. *Creo que María went to the party yesterday think that no vi no saw 'María went to the party yesterday. I think that I didn't see her'	5
Fillers (post-positions, incorrect articles, etc) (SF)	*Tú comiste el restaurante en. You are the restaurant in 'You are at the restaurant'	10

Key:
SNMS = Spanish null matrix subjects; SNES = Spanish null embedded subjects;
SNMO = Spanish null matrix objects; SNEO = Spanish null embedded objects;
SF = Spanish fillers; Tokens 5 = five sentences with missing matrix subjects;

The French test contained 24 ungrammatical sentences, each of which included a missing pronoun. Ten sentences involving various types of grammatical errors were also included as fillers. The Spanish test contained 20 target sentences and 10 fillers with various grammatical errors. It should be noted that subjects can be null or overt in matrix as well as in embedded clauses in Spanish. Therefore, the five SNMS sentences and the five SNES sentences are all considered grammatical in Spanish. To minimize the chance of participants becoming aware of the syntactic knowledge being tested, the 34 sentences were scrambled so that sentences of the same structure were randomly distributed. Efforts were also made to include only basic words of daily life so as to minimize any possible effect of vocabulary on the participants' judgment. The sentences were presented in Spanish and French respectively to the participants. Responses to the ungrammatical sentences were considered correct answers only if appropriate corrections were made. For example, in (15):

(15) Bernard   joue   au basketball. *Est grand et brun.
       Bernard is playing basketball.   is   tall and dark-haired
       'Bernard is playing basketball. He is tall and dark-haired'

In the French example the matrix subject *he* is missing in the second clause. A score of 1 would be given if the participant correctly inserted *He* or *Bernard* in the subject position. The participant would receive a score of 0 if no correction was made. In the Spanish test, the test sentences included grammatical null matrix and embedded subjects as well as ungrammatical null matrix and embedded objects[2]. A participant

---

[2] An anonymous TJL reviewer has correctly pointed out that all the null matrix and null embedded subject sentences were grammatical in Spanish. Whether or not learners corrected them would result in 100% accuracy, which indeed was the case. We are aware of this problem, but suggest that since matrix and embedded subjects can either be overt or covert in Spanish, it is rather difficult to design a task consisting of ungrammatical matrix and embedded subject sentences in Spanish. It should also be mentioned that although L3 Spanish learners had a 100% accuracy rate on judging the null matrix and null embedded subject sentences (Table 5), their underlying grammatical representations were not the same as the native speakers'. Sentence (16) in Section 6.3 is an example of native-nonnative divergence. While the four native speakers of Spanish preferred dropping the matrix subject *I* (yo) and the embedded

would receive a score of 1 if he/she correctly inserted an object pronoun in the sentences concerned; in the case of incorrect insertion of an object pronoun, a 1 would also be given for the reason that the learner was aware of the obligatoriness of objects in the language even though an incorrect object pronoun was used. However, a 0 would be given if he/she made no changes to the missing object pronoun. As far as sentences involving null matrix and embedded subjects are concerned, a participant would receive 1 either if he/she inserted a correct subject pronoun or made no changes to the sentence. A 1 would also be given if the participant inserted an incorrect subject pronoun which does not agree with the verb. Performance on fillers was disregarded in the scoring. Mean group scores were calculated after individual performance in detecting the ungrammaticality of the sentences was recorded.

4.3 Procedure

The two language group learners undertook the test separately. Each participant received an ECT paper. They were asked to go through the test and make corrections to any sentences which they thought were ungrammatical. Instructions for the tasks in the experiment were given in the participants' native language--that is Chinese. Participants were told that neither discussion nor answer-checking was allowed during the test. However, they were encouraged to ask their instructor if meanings of words were not clear. A group of three native speakers of Spanish and another group of four native speakers of French were invited to act as

---

subject *they* (ellos), eighteen out of the twenty-three L3 Spanish learners inserted the matrix subject *I* (yo) and kept the null embedded subject unchanged. This may be evidence that apparent target-like performance is not necessarily the same as the acquisition of underlying properties of the target language. A number of studies in the L2 research (Hawkins and Hattori 2006; Tsimpli and Dimitrakopoulou 2007; Kong 2011a, 2011b) have cautioned that one should not interpret target-like performance as evidence that the underlying grammatical properties of the target language have been acquired.

controls for the reliability of the tokens used in the test[3]. The test was untimed but most of the participants finished the test within 50 minutes. One French professor and one Spanish professor from the university were invited to grade the test papers.

5. RESULTS

5.1 Null Matrix Subjects, Null Embedded Subjects, Null Matrix Objects, and Null Embedded Objects in L3 French

Adult Chinese speakers of advanced L2 English/elementary L3 French appeared to have less trouble detecting the need for overt subjects in matrix clauses than overt subjects in embedded clauses as well as overt objects in matrix and embedded clauses. Paired *t*-tests indicate that there were significant differences between the mean rates of correcting: i) null matrix subjects and null embedded subjects ($t(24) = 25.788$, $p<.000$), ii) null matrix subjects and null matrix objects ($t(24) = 21.563$, $p<.000$), iii) null matrix subjects and null embedded objects ($t(24) = 14.966$, $p<.000$). As can be seen from Table 4 below, L3 French learners performed in a near-native manner on detecting the ungrammaticality of null matrix subjects but very poorly in detecting the ungrammaticality of null embedded subjects, null matrix objects, and null embedded objects. No significant differences were found between the rates of correcting the ungrammaticality of null embedded subject, null matrix objects, and null embedded objects. In other words, learners were equally poor in detecting the ungrammaticality of null arguments in embedded subject, matrix object and embedded object clauses.

---

[3] The Spanish and the French control informants were all 95% accurate in detecting the ungrammaticality properties in the test. Their data were therefore excluded from the analysis.

Table 4. Correct judgments (%) about ungrammatical null matrix subjects, null embedded subjects, null matrix objects, and null embedded objects in L3 French

	G1 (n=25) Group Average L1Chinese/L2 English/L3 French
FNMS	88%
FNES	17.71%
FNMO	18.4%
FNEO	24.8%

Key:
FNMS = French null matrix subjects; FNES = French null embedded subjects;
FNMO = French null matrix objects; FNEO = French null embedded objects;

The observed behaviour suggests that the three structural positions—matrix subject, embedded subject, and object--are treated differently by adult Chinese speakers of advanced L2 English/elementary L3 French learners. We will consider how the observed behaviour may receive an explanation in relation to the three competing L3 acquisition theories in Section 6.

5.2 Null Matrix Subjects and Null Embedded Subjects in L3 Spanish

While object pronouns are obligatory in both French and Spanish, the two languages differ in the presence or absence of subjects; a [-interpretable] agreement feature requires French, like English, to have obligatory subjects, whereas a [+interpretable] agreement feature allows Spanish to have optional subjects. Recall that L3 Spanish learners in the study were given sentences with null matrix and null embedded subjects. Pair *t*-tests found no significant differences between the rates of accepting null matrix and null embedded subjects for the L3 Spanish group. Table 5 below shows that null subjects in matrix and embedded clauses might have been acquired by the L3 Spanish learners as their performance on the two positions is 100% accurate. However, an alternative explanation may be that their mental grammar is still L1 for the reason that null matrix and embedded subjects are allowed in Chinese. What is unlikely is

the possibility of L2 influence; English (the participants' L2) requires subjects to be overt. We will return to this issue in Section 6.

Table 5. Mean accuracy scores (%) on accepting null matrix subjects and null embedded subjects in L3 Spanish

	G2 (n=23) Group Average L1Chinese/L2 English/L3 Spanish
SNMS	100%
SNES	100%

Key:
SNMS = Spanish null matrix subjects; SNES = Spanish null embedded subjects;

5.3 Null Matrix Objects and Null Embedded Objects in L3 Spanish

As far as null objects in matrix and embedded clauses are concerned, no significant differences were found in the learners' performance. The L3 Spanish learners were equally poor in detecting the ungrammaticality of null objects in matrix and embedded positions (Table 6). Significant differences were found when performance on detecting the grammaticality of null matrix/embedded subjects and the ungrammaticality of null matrix/embedded objects were compared. Paired *t*-tests indicate that there were significant differences between the mean rates of detecting i) grammatical null matrix subjects and ungrammatical null matrix objects ($t(22) = 17.611$, $p<.000$), ii) grammatical null matrix subjects and ungrammatical null embedded objects ($t(22) = 16.991$, $p<.000$), iii) grammatical null embedded subjects and ungrammatical null matrix objects ($t(22) = 22.111$, $p<.000$), iv), grammatical null embedded subjects and ungrammatical null embedded objects ($t(22) = 17.050$, $p<.000$). The findings suggest that L3 Spanish learners are treating the two structural positions—subject and object, very similarly; they accept null subjects and null objects. However, null subjects are acceptable in Spanish but null objects are not.

Table 6. Correct judgment (%) about the ungrammatical null matrix objects and null embedded objects in L3 Spanish

	G2 (n=23) Group Average L1Chinese/L2 English/L3 Spanish
SNMO	14.78%
SNEO	13.91%

Key:

SNMO = Spanish null matrix objects; SNEO = Spanish null embedded objects;

In conclusion, the results reported above clearly distinguish between L3 French and L3 Spanish learners' performance on the interpretation of subject and object pronouns. The main observations made in the ECT are the following. First, the adult Chinese speakers of advanced L2 English/elementary L3 French appear to have no difficulty in detecting the ungrammaticality of null subjects in the matrix clause but have persistent difficulty in eliminating null embedded subjects as well as null matrix and null embedded objects. Performance on the three structures, namely the embedded subject, the matrix object, and the embedded object, was equally poor among this group of learners. That is to say, there is an asymmetry between the matrix subject and the embedded-subject/matrix-object/embedded-object in the learners' L3 French grammar building. Second, the adult Chinese speakers of advanced L2 English/elementary L3 Spanish are much better at accepting null matrix and embedded subjects than at rejecting null matrix and embedded objects. In other words, their interpretation of matrix and embedded subjects is native-like but their interpretation of matrix and embedded objects is not. In addition, their ability to detect the ungrammaticality of null matrix and null embedded objects is equally poor. Two patterns that can be seen across the two groups of learners in the GJT are: the asymmetry in their interpretation of subjects and objects and the asymmetry in their performance of matrix and embedded clauses. In the next section, we consider how these observations might receive an explanation.

6.   DISCUSSION

The purpose of the study is to consider the syntactic roles that subjects and objects play in Chinese, English, French, and Spanish and to test whether or not L1 Chinese/L2 English learning L3 French and Spanish acquire the said properties in the two languages by building the appropriate representation for them in their mental grammars. In particular, the study tests predictions made by three competing theories in L3 acquisition and seeks to explore the explanatory power of the three theories in relation to the observed L3 behaviour in the study. We consider the adequacy of the theories next.

6.1 The *Typological Primacy Model*

The *Typological Primacy Model* of Rothman (2011) suggests that when considering factors in relation to multilingual transfer, the one role which seems to be deterministic is the typological proximity of the languages involved. In other words, among the factors discussed, namely *L2 factor*, *L1 transfer*, and *typological proximity*, *typological proximity* should be the most important factor in deciding whether or not learners acquire the syntactic properties in question. Typologically, it is fairly safe to claim that the L1 Chinese is more distant from the L3 French and the L3 Spanish than the L2 English is. Despite the fact that L1 Chinese and L3 Spanish share the same parametric value in allowing null subjects, the two languages are very different in terms of the unconscious process of perceived typological similarity. That is to say, Chinese speakers will perceive English as syntactically, phonologically, morphologically and possibly semantically closer to French and Spanish than their L1 Chinese is.

Then, suppose, following Rothman, that the learners in the study have established interlanguage grammars for L3 French and L3 Spanish that their L2 English is typologically closer to the L3s than their L1 Chinese is. This assumption would predict some behaviour in which learners construct a mental grammar which is more English-like than Chinese-like. As far as the syntactic properties are concerned, we would expect to see a symmetrical performance on detecting the ungrammaticality of null

subjects and null objects in L3 French and the ungrammaticality of null objects in L3 Spanish for the reason that both subjects and objects are obligatory in L2 English. However, findings in the study are not consistent with the claim that learners have favoured typological proximity over L1 transfer; they continue to allow objects to be dropped and embedded subjects to be null in both of the L3s.

6.2 The *L2 Status Factor Hypothesis*

The *L2 Status Factor Hypothesis* of Bardel and Falk (2007) reviewed in Section 3.2 maintains that the acquisition of L2 morphosyntactic properties serves as a blocking effect to the access of L1 at the syntactic level and these acquired L2 morphosyntactic properties constitute the initial state in L3 acquisition. Since participants in the study were advanced L2 English learners, it is reasonable to assume that they were aware of and had acquired the verb inflection system and the agreement paradigm. It is also reasonable to assume, following Park (2004), that the recognition of the [-interpretable] agreement feature in English would stop learners from dropping subjects in L2 English. In the meantime, the recognition of the strong theta feature in English (as discussed in 2.1) should stop the advanced L2 English learners from dropping objects in English. The fact that neither subjects nor objects in finite clauses are droppable in French may suggest that what governs the obligatory subject and object nature of English may also apply to French, as discussed in 2.1. So far as subjects and objects in Spanish are concerned, we follow Park (2004) and assume that the [+interpretable] agreement feature gives to null subjects, whereas the strong theta feature requires the language to have overt objects.

The *L2 Status Factor Hypothesis* argues that the nature of the L3 initial state is L2-determined and that the L2 steady state guides initial L3 grammar building. If we follow this line of argument, we would expect to see an effect of L2 transfer in which the recognition of agreement features stops learners from dropping subjects and objects in L3 French and L3 Spanish. Unfortunately, the results of the study are only partially consistent with the claim that the acquisition of L2 morphosyntactic properties (e.g. S-V Agreement) triggers the unlearning of null subjects

and null objects in L3 French and L3 Spanish. It is particularly puzzling that learners had more trouble unlearning null embedded subjects than null matrix subjects in both languages. If recognition of verb inflection systems and agreement paradigms in L2 is the triggering factor, we would expect learners to perform equally on matrix and embedded subjects as well as matrix and embedded objects in both L3s. It should be noted that although no significant differences were found between the interpretation of null matrix and null embedded subjects in the L3 Spanish learners' data and that both matrix and embedded subjects can be null in Spanish, learners were more likely to drop embedded subjects than matrix subjects. The fact that learners treat matrix subjects differently from embedded subjects and objects in matrix and embedded clauses may suggest that the most recently acquired L2 morphosyntactic properties are not sufficient by themselves to stop learners from accessing the L1 syntactic system.

6.3 The *Interpretability Hypothesis*

Recall that the *Interpretability Hypothesis* of Tsimpli and Dimitrakopoulou (2007) makes an explicit claim about permanent divergence between native and non-native syntactic representation with respect to uninterpretable syntactic person and number features selected during the critical period in the acquisition of primary grammar. These features will disappear and become unavailable in subsequent (post-childhood) language acquisition. However, other UG options (computational devices, associated operating principles, etc.) remain available for grammar building. In other words, the uninterpretable syntactic features become unavailable to adult L2 or L3 language learners but UG options allow these learners to construct grammars which may appear target-like but in fact the underlying representations are very different from those of native speakers.

Taking together the two groups of learners' performances, we interpret the results as partially consistent with the claim that the learners have failed to access uninterpretable syntactic person and number features but rely on L1 for L3 mental grammar construction. Since tense and agreement morphemes are totally absent in Chinese, the presence of the uninterpretable values of these features in L3 French and L3 Spanish will

become inaccessible to the learners who were all adults. However, all the participants were advanced L2 English learners. It is reasonable to assume that participants in the study started learning English at an early age (around the age of 5 or 6 in Taiwan) and have acquired [+/- interpretable] agreement features of English. In other words, the learners' uninterpretable syntactic features had already been activated when they started learning their L3s; the recognition of L2 English agreement features should stop learners from dropping subjects in L3 French and L3 Spanish. At a glance, it seems that the acquired L2 syntactic properties have been transferred into L3. However, the poor performance on the correction of null matrix and null embedded objects in L3 French and L3 Spanish serves as a strong indicator that learners were transferring null objects of L1 Chinese into the L3s. What is interesting is the way in which L3 French and L3 Spanish matrix and embedded subjects were interpreted by the learners. Recall that there is an asymmetry in the L3 French learners' interpretation of null matrix and null embedded subjects; they had trouble unlearning null embedded subjects but not null matrix subjects. On the other hand, no differences were found in L3 Spanish learners' performances on null matrix and null embedded subjects; the learners performed native-like in the two clauses in question. If we follow Kong's (2005) line of assumption that topichood is a generalized property of Chinese and that both null objects and embedded subjects are pro in Chinese, the observed behaviour may receive an explanation. First, let us assume that learners have no access to the uninterpretable syntactic person and number features in L3 French and L3 Spanish. What they can resort to are L1 parameter values. Second, instead of resetting L1 values to the L3 setting, learners are interpreting L3 values via L1. That is to say, learners in the L3 French group are interpreting overt matrix subjects as overt topics in Chinese[4]. As long as the topic position is filled, arguments

---

[4] In the French test, some sentences have overt topics and null elements in various positions. For example:
(i) Bernard joue   au basketball. *Est grand et brun. (overt topic and null matrix subject)
    Bernard is playing basketball.   is   tall and dark-haired
    'Bernard is playing basketball. [He] is tall and dark-haired'

in other positions (embedded subject, matrix object, and embedded object) can be null. In the case of L3 Spanish, the symmetrical performance on matrix and embedded subjects may suggest that the learners have acquired tense and agreement morphemes. But a closer look at the performance suggests that this is not the case. L3 Spanish learners in the study tended to prefer overt matrix subject to overt embedded subject, so in (16):

(16) pienso que son mis amigos.
    think that are my friend
    '*I* think that *they* are my friends'

both the matrix subject I (*yo*) and the embedded subject *they* (*ellos*) can be dropped in Spanish. However, 18 out of 23 L3 Spanish participants inserted *yo* in the matrix subject position and left the embedded subject position empty. Another example showing native-nonnative divergence is in (17):

(17) Sabemos que estudias en la universidad.
    know   that study   at the university
    '*People* know that *you* study at the university'

While both *people* and *you* were left out by the three native Spanish controls and the Spanish teacher, the majority (17/23) of the L3 Spanish learners inserted *people* in the matrix sentence and deleted *you* in the embedded sentence. These two sentences may be evidence that learners were treating matrix and embedded subject positions very differently, and it is possible that they were treating the matrix subject as a topic and the embedded subject as pro. The difficulty the L3 Spanish learners had in unlearning null matrix and embedded objects further supports the claim of L1 transfer where objects are droppable in Chinese.

(ii) La voiture de Marie ne fonctionne pas. *Je vais réparer pour elle.
    the car   of Marie no work   I will fix   for her.
    'Marie's car doesn't work. I'll fix [it] for her' (overt topic and null matrix object)

6.4 Conclusions and Suggestions for Further Research

Findings presented in the study argue against the *Typological Primacy Model* which assumes a transfer of the L2 English typological proximity factor to L3 French and L3 Spanish. The prediction that the L2 English is typologically closer to the L3 French and the L3 Spanish than the L1 Chinese and hence, a trigger for the unlearning of null subjects and null objects, is not supported by the data in the study. On the other hand, findings suggest that predictions made by the *L2 Status Factor Hypothesis* are only partially accurate. If the acquisition of L2 morphosyntactic properties could be sources of transfer in L3 acquisition and could block access to the L1 syntactic system, then it would have been expected that the learners in the study could perform well in the study or at least have transferred the obligatory nature of subjects and objects from L2 to L3. Recall that both their L1 and L2 had reached a stage in which both languages are equally available for transfer. Finally, the results in the study also partially support the *Interpretability Hypothesis*. The uninterpretable syntactic features not selected during the critical period in primary language acquisition would become unavailable in subsequent language acquisition, be it L2 or L3. However, there is evidence that learners have transferred acquired uninterpretable syntactic features from L2 into L3. In the meantime, learners resort to other options made available by UG for grammar building. In this case, learners interpret L3 pronouns as pro in their L1 and continue to apply topichood for L3 grammar building, rendering asymmetries in the performance on matrix subjects and embedded subjects as well as on the matrix subjects and matrix/embedded objects. Observations in the study cohere with findings in Kong (2005) which suggest that adult Chinese speakers of advanced L2 English speakers have persistent difficulty to unlearn null embedded subjects and null objects in matrix and embedded clauses but not null subjects in matrix clauses. Kong concludes, following Smith and Tsimpli (1995), that since the agreement features are inaccessible to adult L2 learners after the critical period, learners in the study interpret overt English matrix subjects as topics which are obligatory in Chinese and in the meantime use topic chains of Chinese to bind other arguments in a

sentence, rendering null embedded subjects and null matrix and embedded objects possible in their interlanguage grammars.

Although findings in the study partially support the claim made by the *L2 Status Factor Hypothesis* and the *Interpretability Hypothesis*, a note of caution is required in interpreting *Typological Primacy Model* as incorrect in making predictions (see Montrul and Slabakova 2003; Slabakova and Montrul 2003; Rothman and Iverson 2008; Song and Schwartz 2009 for discussion on the acquisition of purely syntactic features by adult L2 learners). The study itself consists of two small groups of L3 French and L3 Spanish learners and the task design is a single controlled task. Further tests involving more learner groups of different L1 and L2 backgrounds and different tasks are needed to determine the validity of the competing theories. Nevertheless, it is hoped that findings in the study may have some implications for L3 acquisition in general and for future research in L3 pronouns in particular.

REFERENCES

Alexiadou, Artemis, and Anagnostopoulou, Elena. 1998. Parametrizing AGR: Word order, V-movement and EPP-checking. *Natural Language and Linguistic Theory* 16:491-539.

Allan, Dave. 1992. *The Oxford Placement Test*. Oxford: Oxford University Press.

Bardel, Camilla, and Falk, Ylva. 2007. The role of the second language in third language acquisition: The case of Germanic syntax. *Second Language Research* 23:459-484.

Boskovic, Zeljko, and Takahashi, Daiko. 1998. Scrambling and last resort. *Linguistic Inquiry* 29:45-93.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: MIT Press.

Falk, Ylva, and Bardel, Camilla. 2011. Object pronouns in German L3 syntax: Evidence for the L2 status factor. *Second Language Research* 27:59-82.

Flynn, Suzanne, Foley, Claire, and Vinnitskaya, Inna. 2004. The cumulative-enhancement model for language acquisition: Comparing adults' and children's patterns of development in first, second and third language acquisition of relative clauses. *The International Journal of Multilingualism* 1:3-16.

Hammarber, Bjorn. 2001. Role of L1 and L2 in L3 production and acquisition. In *Crosslinguistic influence in third language acquisition: psycholinguistic perspectives*, eds. by Cenoz, J, Hufeisen, B, and Jessner, U., pp.21-41. London: Multilingual Matters

Hawkins, Roger, and Chan, Cecilia. 1997. The partial availability of Universal Grammar in second language acquisition: The 'failed functional features hypothesis'. *Second Language Research* 13:187-226.

Hawkins, Roger, and Hattori, Hajime. 2006. Interpretation of English multiple wh-questions by Japanese speakers: A missing uninterpretable feature account. *Second Language Research* 22:269-301.

Huang, James, C-T. 1984. On the distribution and reference of empty pronouns. *Linguistic Inquiry* 15:531-574.

Kamimoto, Tadamitsu, Shimura, Aki, and Kellerman, Eric. 1992. A second language classic reconsidered –The case of Schachter's avoidance. *Second Language Research* 8:251-277.

Kellerman, Eric. 1983. Now you see it, now you don't. In *Language Transfer in Language Learning*, eds. by Gass, S. and Selinker, L., pp.112-134. Amsterdam: John Benjamins.

Kellerman, Eric . 1986. An eye for an eye: Crosslinguistic constraints on the development of the L2 lexicon. In *Crosslinguistic Influence in Second Language Acquisition*, eds. by Kellerman, E. and Smith, M.S, pp.35-48. New York: Pergamon.

Kong, Stano. 2005. The partial access of universal grammar in second language acquisition: An investigation of English subjects by L1 Chinese speakers. *Journal of East Asian Linguistics* 14:227-265.

Kong, Stano. 2011a. Monomorphemic and polymorphemic anaphors in L2 Chinese. *Journal of Chinese Linguistics* 39:451-477.

Kong, Stano. 2011b. The non-droppability of uninterpretable features in Second Language Acquisition: On the interpretation of resumptive pronouns in L2 Chinese. *Taiwan Journal of Linguistics* 9.2:159-194.

Leung, Yan-kit Ingrid. 2007a. L3 acquisition: Why is it interesting to generative linguists. *Second Language Research* 23:95-114.

Li, Charles, and Thompson, Sandra. 1976. Subject and topic: A new typology of language. In *Subject and Topic*, ed. by Li, Charles, pp.457-489. London: Academic Press.

Montrul, Silvina, and Slabakova, Roumyana. 2003. Competence similarities between native and near-native speakers: An Investigation of the preterite/imperfect contrast in Spanish. *Studies in Second Language Acquisition* 25:351-398.

Park, Hyeson. 2004. A minimalist approach to null subjects and objects in second language acquisition. *Second Language Research* 20:1-32.

Rothman, Jason, and Michael, Iverson. 2008. Poverty-of-the-stimulus and L2 epistemology: Considering L2 knowledge of aspectual phrasal semantics. *Language Acquisition*: *Journal of Developmental Linguistics* 15:270-314.

Rothman, Jason. 2011. L3 syntactic transfer selectivity and typological determinancy: The typological primacy model. *Second Language Research* 27:107-127.

Rothman, Jason, and Cabrelli-Amaro, Jennifer. 2010. What variables condition syntactic transfer? A look at the L3 initial state. *Second Language Research* 26:189-218.

Rothman, Jason, Iverson, Michael, and Judy, Tiffany. 2011. Introduction: Some notes on the generative study of L3 acquisition. *Second Language Research* 27:5-19.

Slabakova, Roumyana, and Montrul, Silvina, 2003. Genericity and aspect in L2 acquisition. *Language Acquisition* 11:165-196.

Smith, Neil, and Tsimpli, Ianthi-Maria. 1995. *The Mind of a Savant: Language Learning and Modularity.* Oxford: Blackwell.

Song, Hyang, and Schwartz, Bonnie, 2009. Testing the fundamental Difference Hypothesis: L2 adult, L2 child, and L1 child comparisons in the acquisition of Korean wh-constructions with Negative Polarity Items. *Studies in Second Language Acquisition* 31:323-361.

Thomas, Marget. 1995. Acquisition of Japanese reflexive zibun and movement of anaphors in logical form. *Second Language Research* 11:206-234.

Tsimpli Ianthi-Maria, and Dimitrakopoulou, Maria. 2007. The Interpretability Hypothesis: Evidence from wh-interrogatives in second language acquisition. *Second Language Research* 23:215-242.

Tsimpli, Ianthi-Maria, and Roussou, Anna. 1991. Parameter-resetting in L2? *University College London Working Papers in Linguistics* 3:149-170.

White, Lydia, Bruhn-Garavito, Joyce, Kawasaki, T, Pater, Joe and Prevost, Philippe. 1997. The researcher gave the subject a test about himself: Problems of ambiguity

and preference in the investigation of reflexive binding. *Language Learning* 47:145-175.

Williams, Sarah, and Hammarberg, Bjorn. 1998. Language switches in L3 production: Implications for a polyglot speaking model. *Applied Linguistics* 19:295-333.

Yip, Virginia. 1995. *Interlanguage and Learnability: From Chinese to English.* Amsterdam: John Benjamins

Yuan, Boping. 1997. Asymmetry of null subjects and null objects in Chinese speakers' L2 English. *Studies in Second Language Acquisition* 19:467-497.

Zobl, Helmut. 1994. Prior linguistic knowledge and the conservation of the learning procedure: Grammaticality judgements of unilingual and multilingual learners. In *Language Transfer in Language Learning*, eds. by Gass, S. and Selinker, L., pp. 176-196. Amsterdam: John Benjamins.

Stano Kong
Department of Foreign Languages and Literature
Tunghai University
181Taichung Harbour Road, Section 3
Taichung City 40704, Taiwan
 stanokong@thu.edu.tw

三語初階現象：
類型學主導趨向、二語因素定向或是母語特徵導向？

江丕賢
東海大學外文系

近年來，多語言和三語習得(L3)的觀察顯示：成人的三語習得不同於二語習得(L2)的原因是在語言遷移。二語習得的語言遷移現象涉及單一語言習得，但母語和二語習得在三語習得中是有效的。本文探討主要子句和嵌入句中空主語和空受語之代名詞現象。受試者是 L2 為進階英語的漢語成年者，並且分別習得初級法語和西語。這項研究用以測試三篇不同解釋三語初階之自然性的理論。Tsimpli 與 Dimitrakopoulou（2007）的《解釋性假設》對成年學習者於往後語言習得上提出明確聲明：後期語言習得上，成年學習者無法達到非解釋性上的句法特徵。Bardel 與 Falk（2007 and 2011）的《二語因素》反對母語遷移，並提出後天性二語的構詞句法特質使三語習得較易成功。最後 Rothman（2011）的《類型學主導趨向》主張：三語習得和前期語言習得(L1 或 L2)在類型學上的相似性對語習遷移有決定性因素。此結論與《二語因素》和《解釋性假設》相似。學習者在主要子句和嵌入句中空主、受語情況的不對稱顯示：不但主、受語連主要子句和嵌入句都被第三語言是法語和西語的學習者做了不同的處理。Kong（2005）解釋了成年學習者無法達到非解讀性句法特徵。反之，中介語語法涉及漢語主題詞的使用。主題詞只要在每句之首，其他位置的論元則可被省略。

關鍵字：三語代名詞、解釋性、主題、普遍語法、初階