Faculty or Humanities, Social Sciences and Education

First Language Transfer and Second Language Proficiency: A Study of Null Subjects and Null Objects in Chinese learners' L2 English

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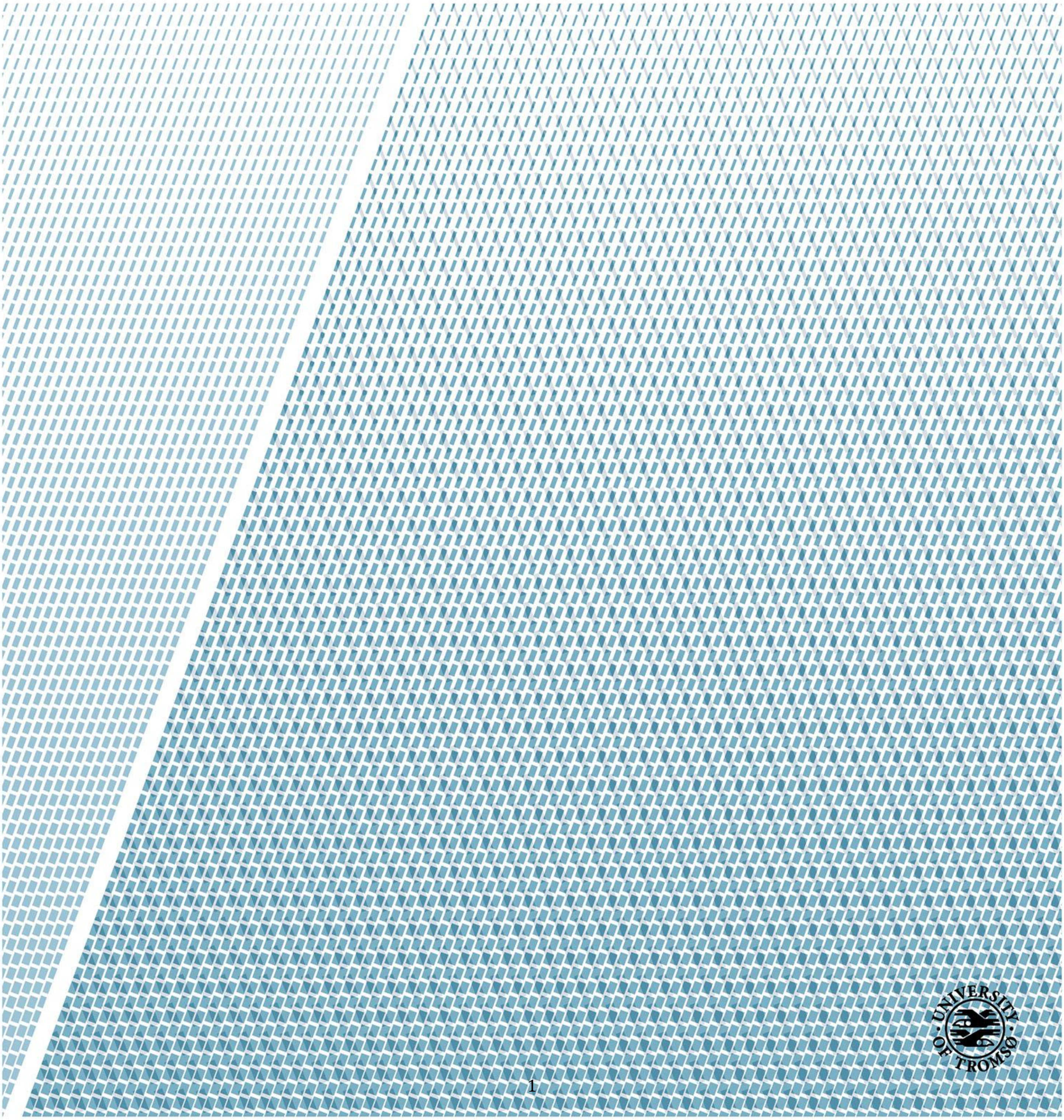

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Chapter 1

Introduction

1.1 Background

English, as an international language, now is the most popular second language for Chinese speakers. The majority of the Chinese children start to learn English as a second language in their third grade in primary school. It is known that Chinese and English are from different language families and divergent in fundamental ways, thus it is expected that Chinese learners will encounter difficulties when acquiring English as a second language. In recent years, null arguments have been a hot topic in second language acquisition within the framework of Generative Grammar. Null arguments refer to subjects and objects which do not have phonetic representations in sentences, but they still have grammatical functions and semantic contents. It is acknowledged that both null subjects (NS) and null objects (NO) are grammatical in Chinese while they are not in English. This cross-linguistic variation arises one immediate learnability question, which is, does it make it difficult for L2 learners to learn and unlearn NO and NS? And this difference seems appropriate to be applied as a point cut to study L1 transfer in L2 acquisition at syntactic level and discourse level.

Universal Grammar access and first language transfer have been the most debated topic in second language acquisition for years. The studies have been carried out from different perspectives, and different linguistic features have been examined in previous studies. In this present thesis, UG access and L1 transfer are studied from the perspective of the unlearning of NO and NS.

1.2 Aims and Hypothesis

In the present thesis, the question asked is more specific: Can Chinese learners unlearn null subjects and objects in the acquisition of English? If yes, what difficulties will they encounter? When Chinese learners start learning English as their second language, they are already equipped with a grammar which allows null subjects and null objects. Applying the theory of parameter setting, it is predictable that they will face difficulties in resetting the null subject parameter since they have already set the parameter. In other words, it would be difficult for them to unlearn null subjects and null objects in the acquisition of English as a second language. Based on previous studies in L1 transfer, the hypothesis in this thesis is that L1 transfer does take place, and the Chinese learners are expected to find English sentences with null subjects and null objects grammatical at the early stage of learning, and then gradually unlearn it with linguistic input. It is true that the unlearning of NS and NO in L2 acquisition has been studied for decades and there are a number of fruitful studies in this field, but most of them are on pro-drop languages like Italian and Spanish, etc. Including Chinese scholars, very few linguists have paid much attention to Chinese learners acquiring overt subjects and objects in English acquisition. The literature I can refer to are thus quite limited and old sometimes.

In the following chapters, a detailed discussion of null subjects and null objects in Chinese will be given, including the phenomenon of NS in early English and literature review of previous studies on Chinese learners unlearning NO and NS in English acquisition. To get a reliable result, an empirical study is carried out to investigate whether the Chinese learners are capable of detecting the ungrammaticality of English sentences with null subjects or null objects. The tested Chinese learners are at different proficiency levels in English to see if language proficiency interferes with or helps the acquisition of English. The questions expected to be answered by analyzing the collected data are:

a) Is there evidence supporting the hypothesis that L1 transfer does take place?

b) Does the influence of L1 transfer decrease or increase with improvement in the level of second language proficiency?

c) Is there an asymmetry between unlearning of null subjects and objects by Chinese learners in the acquisition? If yes, what could be the possible reason?

d) Is there an asymmetry between unlearning of null arguments in matrix and embedded sentences?

1.3 Organization of the thesis

The thesis includes two parts. The first part is the theoretical discussion. The second part consists of an experiment, data analysis and discussion.

The present thesis will start with an overview of the studies in second language acquisition, universal grammar and language transfer. In chapter 2, I will first briefly introduce the theoretical background of this study-first language acquisition and most of all, second language acquisition. The third chapter of the present thesis is the discussion of null arguments in Chinese and other languages. Chapter 4 consists of several relevant studies in the acquisition of overt subjects and objects in L2 English. An empirical study is conducted in chapter 5 and results description is also included. The last chapter of the present thesis offers discussion and conclusive remarks according to the findings in chapter 5.

Chapter 2

L2 Acquisition, L1 Transfer and Universal Grammar

2.1 First Language Acquisition and Universal Grammar

The ability to acquire a language and develop a certain grammar is believed to be unique to human beings. It is observed in numerous studies that, regardless of the specific language a child is exposed to, some regularities are found when different speakers develop the same type of grammar.

First, different from second language acquisition, when acquiring their native language, children usually spontaneously develop languages with exposure to linguistic input. That is, acquiring a native language requires no explicit teaching. Child's linguistic experience includes two factors: positive evidence and negative evidence. Positive evidence refers to the utterance that children hear around them. Negative evidence is the input data about ungrammaticality, that is, the corrections that inform children of what is not possible in their native language. Though it is still much argued, it is generally agreed that negative evidence is not a reliable source in first language acquisition because it is not sufficient, not available under all circumstances (Brown and Hanlon 1970; Morgan and Travis 1989). It has been claimed that children acquiring their native language depending on positive evidence. Nevertheless, a child still gradually acquires the knowledge that certain utterances are unacceptable and he can even know that certain utterances are accepted only in specific contexts. Acquisition of this kind of knowledge is done though a child is not exposed to any external stimuli about ungrammaticality, explicitly or implicitly.

Second, universally, children tend to produce repetitive syllables at about 6-8 months, and they start to speak their first words at about 10-12 months. Subject mission, one of the most noticeable feature of early language, starts at about 2 years and lasts until 3.5 years. At the same time, despite the fact that the linguistic input the children is exposed to could be greatly different, they all achieve the same competence in a limited amount of time. (Guasti 2002).

According to the facts describes above, it is agreed that there is mismatch between the input (the utterance that a child is exposed to) and output (the unconscious grammatical knowledge that the child acquires) which gives rise to *the logical problem of language acquisition* or *the poverty of stimulus*. In other words, how do children acquire a language and develop a certain grammar with the limited available linguistic data?

The term *initial state* is applied in linguistics to describe the unconscious and potential knowledge of a language without learning and input of the language. In the framework of generative grammar, Chomsky proposes Universal Grammar to account for the initial state in first language acquisition. According to Chomsky (1975, p29) , Universal Grammar is "*the system of principles, conditions, and rules that are elements or properties of all human languages ... the essence of human languages*". To account for language acquisition, UG is assumed to be an innate biologically endowed language faculty (Chomsky 1965, 1981b; Pinker 1994), which means that all humans share part of their knowledge of language. It is supposed that everyone is born with a language acquisition device (LAD) which is the instinctive mental capacity that enables an infant to acquire and produce language. UG is universal and it has nothing to do with which language people speak.

The major task for all language learners is to reach a steady state in which they can understand and produce language on the basis of language exposure and experience. UG constitutes the child's initial state (zero state), which means that when a child is born, she is equipped with the unconscious knowledge that allows her to reach the steady state. However, having these principles and parameters is not enough, the values of parameters need to be set. And it is the language input that triggers parameter setting. Language acquisition is actually learning how these principles apply to a particular language and which value is appropriate for each parameter. The interaction of linguistic input with UG leads to the building and developing of a series of grammars and finally, all language learners are expected to reach a steady state of the mother tongue. (Table 1)

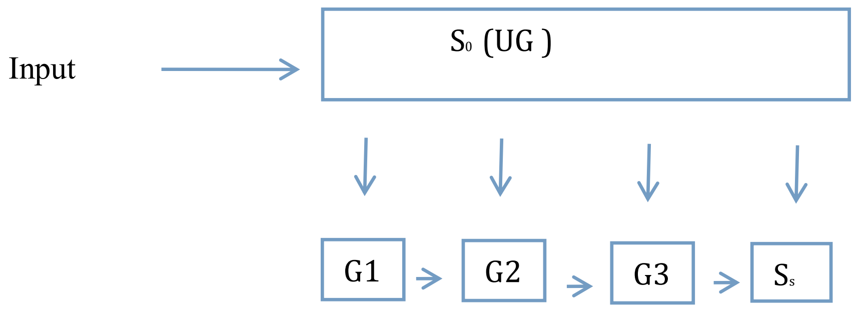

Table 1 Model of L1 Acquisition (White, 2003)

It is the genetic endowment that makes it possible to learn any language. Though all languages have the same specific underlying structure, there is also variation. Take the two languages that will be the focus of this thesis as an example, English is a language that does not allow null subjects while Chinese licenses subject drop. While an English-speaker would say *It rained yesterday*, a Chinese-speaker would say *zuotian xiayu le* which means *yesterday rained*. The Principles and Parameters Model (Chomsky, 1981a, 1981b) in UG could be applied here to account for the variation. This model claims that the basic concept of UG consists of principles and parameters. It is claimed that both principles and parameters are innate, they are possessed by all human beings. The principles are fixed and universal, which means they are generally true across languages. In other words, principles refer to what is shared by all languages. It is the different values that a parameter may take that makes a language different from another. In the course of language acquisition, parameters must be fixed based on exposure to a certain amount of input. Thus we can assume that the language environment plays a crucial role in parameter setting. Chomsky (1986a, p.146) states that "*The transition from the initial state to the steady state is a matter of setting the switches.*"

In the framework of Generative Grammar, the Null Subject Parameter could be applied here to show how parameter setting works in first language acquisition. This parameter states which languages license the omission of subjects. There are some different languages that allow subject drop and some that do not. When a child learns Chinese as his first language, he would gradually acquire the knowledge that Chinese is a language that allows null subjects with enough input, and he would set the parameter and start to use null subjects himself in his native language. However, when a child learns English as his first language, with adequate input, he would gradually acquire that English does not license null subjects, and he would set the parameter accordingly. [1]

With exposure to a large amount of input, a language-specific lexicon is built up, and the child can gradually set the parameters to values appropriate for the language in question. Over the course of time, the grammar may be reconstructed, and the child arrives at a steady state grammar for his first language. The acquisition process is assumed to be a parameter-setting process.

2.2 Second Language Acquisition and Access to Universal Grammar

L2 learners face a task similar to that of L1 acquirers which is to build up a grammar (arrive at a linguistic system) on the basis of language input allowing them to understand and produce a second language.

It's discussed in the previous part that there is mismatch between the input and output data in L1 acquisition, which is also known as the poverty of stimulus. UG, as discussed before, has been perceived as a system of principles and parameters that provide constraints on grammars in the course of L1 acquisition. If L2 learners could also acquire abstract properties of the second language that could not possibly have been induced from the L2 input, it implies that principles of UG constrain interlanguage grammar (White 2003) (see chapter 2, section 2.1). The question of whether UG also plays an important role in second language acquisition (SLA) and to what extent has been much studied and discussed. That is, does L2 learners have access to UG or is UG still available to L2 learners? The methodology of the research is to investigate whether learners can apply principles of UG and set or reset parameters; and studying whether L1 parameter settings are adopted.

According to White (2000), there are three possible positions of UG in second language acquisition: *No Access, Direct (Full) Access and Indirect (Partial) Access*[2].

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[1] Nina Hyams in her early work suggested that children start out with the parameter setting to [+pro drop] and then as they acquire English they realize that they have to reset the parameter to [- pro drop].

[2] Terms like indirect and direct access are replaced by Full and Partial Access in later studies.

Bley-Vroman (1990) proposes the Fundamental Difference Hypothesis to account for the logic problem of foreign language learning. According to him, child L1 and adult L2 are different in many fundamental ways, and as a result he argues that the domain-specific language acquisition system of children does not continue to operate in adult L2 acquisition. This theory claims that since child L1 and adult L2 are different in many fundamental ways, adult L2 acquisition is not constrained by UG and can only be accessed through the L1 grammar as universal properties. Thus the *No Access* position acknowledges that UG is at least partially accessible, and hence it is also known as *Partial Access*. Nevertheless, the essential idea is that all the accessible linguistic mechanisms are no longer available to L2 learners. Some studies supporting this position tried to show that L2 acquirers are stuck with principles and parameter settings exemplified in the L1 (e.g. Schachter 1989), or L2 learners' grammars show no evidence for UG constraints at all. (e.g. Clahsen and Muysken 1986, 1996).

Some more recent studies provide a clear-cut distinction between parameters and principles, and these studies locate all parameters within functional categories. Following (Borer 1984; Lebeaux 1988; Chomsky 1991), Tsimpli and Roussou (1991) propose that, instead of parameter resetting, adult L2 learners have access to UG to re-structure their L1 on the basis of L2 data.

In contrast to the *no access/ partial access* approach, other researchers hold the *direct access* position, which claims that interlanguage grammars are constrained by UG, that is, L2 acquirers have access to UG. For some researchers, this position holds that the L2 learners acquire L2 free from the influence of L1 grammar, (e.g. Flynn 1987). There is still some argument on whether *Full Access* implies that interlanguage grammar is free from the influence of L1 grammar. Epstein, Flynn and Martohardjono (1996) claims that *Full Access* strictly refers to L2 learners have access to UG and is completely free from the influence of L1 grammar. On the other hand, the *Full Access/Full Transfer* hypotheses proposed by Schwartz and Sprouse (1996) claims that, initially, interlanguage grammar in its entirety transferred from L1, and when an L1-based analysis fails to accommodate L2, restructuring of the grammar will occur. So L2 input will trigger grammar change and L2 development is UG-constrained, with interlanguage falling with the range sanctioned by UG.

Though the debate on *full* versus *partial access* has contributed to the development of the theory, it would be difficult to clearly separate properties of UG from that of L1 grammar. As White (2000) proposes, we should avoid considering interlanguage grammar as a dichotomy, that is, whether it comes from UG or L1. According to White (2000, p.149) *it seems promising to investigate the detailed properties of the interlanguage grammar without assuming that problems in one domain necessarily imply problems elsewhere, or that success in one domain necessarily implies success in another.*

2.3 Language Transfer

As L2 learners are already equipped with the grammar of their mother tongue, it is impossible to discuss and study the influence of UG and L1 grammar separately. Despite the arguments related to the issue of access to UG in second language acquisition, nearly all the researchers acknowledge that first language transfer takes place. And L1 transfer has become another significant issue in recent years. The definition of language transfer differs among linguists. In second language acquisition research, the concept of transfer has been associated with the role of native language in learning a second language, Crystal (2004) proposed that language transfer is *the influence of linguistic features upon another, in such contexts such as bilingualism and language learning, also called transference.* More recently, Danish linguist Faerch and Kaesper (1987) define transfer as *the process by which L2 learners activate L1 knowledge in developing or using their interlanguage, and point out that the process may either support (positive transfer) or detract (negative transfer) from learning.* (O'Malley and Chamot, 2001:148). Odlin offered the working definition of transfer: "transfer is the influence resulting from the similarities and differences between the target language and any other language that has been previously (and perhaps imperfectly) acquired" (Odlin 2001: 27).

Previous SLA literature has offered discussions on different types of transfer. First, two types of transfer are usually distinguished: borrowing transfer where L2 influences L1; substratum transfer where L1 influences L2 (Ellis, 1994). In this thesis, L1 transfer refers to substratum transfer only. Ringbom (1992) suggested that there are 2 types of transfer: overt and covert. Overt is the transfer of knowledge in comprehension, and covert refers to the transfer of knowledge in production. At last, Language transfer literature also makes a distinction between positive and negative transfer (Odlin 1989:55-63). Positive transfer refers to the transfer that takes place when the L1 grammar accommodate to that of the L2; while negative transfer occurs when the L1 and the L2 are different in terms of linguistic features. Hence the similarities and differences between the L1 and the L2 can influence the comprehension and production of the L2. In other words, positive transfer helps L2 learning and makes it easier while negative transfer hinders it and causes errors.

For instance, English is different from Chinese in various ways and it is expected that when Chinese speakers acquire English as a second language, they will meet difficulties and make mistakes at different linguistic levels. Phonetically, Chinese does not have the two dental fricatives θ and ð , and it is assumed to be difficult for Chinese learners to acquire them in English. The Chinese speakers would transfer the phonology of their native language into that of English. Since the two dental fricatives are not present in Chinese, when Chinese learners pronounce the word *that thing*, they tend to pronounce them as /zat siŋ/ instead of /ðæt θɪŋ/. And this mistake can be seen as the result of negative transfer. On the other hand, syntactically, both English and Chinese have the 3 fundamental elements-subjects, verbs and objects, and they come in the same order as SVO. The same words order helps Chinese speaker acquire English, thus it can be seen as positive transfer. At the same time, Chinese is known as a null subject language while English is not. The unlearning of null subjects is quite difficult for Chinese learners and the result is negative transfer. Ellias (1994) assumed that the influence of a native language is stronger in pronunciation, lexis and discourse than in syntax.

Recently, the most debated question in L2 acquisition is does L1 transfer take place in SLA? If so, to what extent does it occur and interfere with SLA? Since the beginning of transfer studies in second language acquisition, different schools hold different viewpoints on the extent to which native language can help or hinder the learning of a target language.

Generally there are two possibilities concerning the interlanguage grammar: whether UG or L1 grammar constitutes the initial state in L2 acquisition. The Full Transfer/Full Access Hypothesis, The Minimal Tree Hypothesis and the Weak Feature Hypothesis agree that the interlanguage grammar is the L1 grammar while the Initial Hypothesis of Syntax and the Full Access Hypothesis claim that UG itself is the interlanguage grammar.

The Full Transfer/Full Access Hypothesis was proposed by Schwartz and Spouse (1996). It claims that the initial state in L2 acquisition is the entire L1 grammar (excluding specific lexical items), and with exposure to L2 input, restructuring to the L1 grammar can take place when it fails to accommodate L2. The factors that determine the L2 development are the L1 grammar, L2 input, the apparatus of UG and learnability of the L2 learners. The FT/TA

Hypothesis also claims that though the cognitive processes underlying L1 and L2 acquisition are constant, their final states are different as a result of the differences in their initial states.

The Minimal Trees Hypothesis proposed by Vainikka and Young-Scholten (1996) also claims that the initial state in L2 is a grammar, but they hold that only lexical categories and their linear orientation are transferred and there is no transfer in functional categories. Functional categories are triggered by L2 input and are gradually added to the representation from the bottom up. However, the Weak Features Hypothesis of Eubank (1994) claims that lexical and functional categories and the linear orientation are transferred, but the feature strength of L1 functional categories are not. The strength of L2 features will be acquired during the course of L2 development, when morphological paradigms are acquired.

The Initial Hypothesis of Syntax of Platzack (1996) claims that the L1 and L2 acquisition share the same initial state which is UG. Both learners (L1 and L2) will initially set functional categories with all features at default or unmarked strength even though L1 grammar has strong feature values. The Full Access Hypothesis of Epstein et al. (1996, 1998) proposes that the interlanguage grammar is constrained by UG at all stages. He recognizes the presence of L1 effects in interlanguage grammar but claims that it is impossible for L1 grammar to form the initial state. This theory suggests that interlanguage grammar conforms to the principles of UG and learners have access to UG in L2 acquisition. It also claims that the L1 and L2 acquisition have identical process, any apparent differences being attributable to performance factors.

2.3.1 Transferability

Why do some aspects of a language tend to transfer while others do not? According to Kellerman (1986), the transferability of a structure refers to *the probalility with which it will be transferred to an L2 compared to some other structure or structures.* He also proposes three criteria of transferability. First, the learners' mentalinguistic awareness of language distance between the native language and the target language. The more distance a learner perceives between the L1 and the L2, the less helpful his native language is going to be in L2 acquisition. Second, unmarked features are more likely to transfer than marked ones. Much work has been done to investigate the relationship between linguistic markedness and first language influences (Gass 1979, Kellerman 1983). It is generally agreed that the unmarked features of a language are more likely to be transferred. Kellerman claims the marked features which are unique to the L2 learners' native language are not transferred as often as the unmarked ones. For example, Chinese has quantifiers that are impossible to translate into English because the equivalent English words do not exist. When Chinese learners translate the NPs such as *yi zhang zhuozi (a desk), yi tai dianshi (an TV), yi zhi laohu (a tiger)* into English, they haven't been found to make mistakes by trying to translate the Chinese quantifiers *zhang tai zhi* because they are marked in Chinese and thus less transferable. The more marked an linguistic feature is, the less influence it has on the target language. Third, the L1 structures that conform to the L2 reasonableness assumption are more likely to be transferred.

In addition, though L2 proficiency is generally regarded as a significant factor that influences L1 transfer, researchers take different views on how it affects L1 transfer. Some studies show that transfer occurs more often at an early stage, but other studies support that a L2 learner has to reach a certain level of language proficiency to be able to transfer linguistic features to the L2. A detailed discussion of the relationship between second language proficiency and native language transfer will be provided in the following part.

Despite the fact that L1 transfer depends on some factors described above, there is no factor that will absolutely help or hinder language acquisition.

2.3.2 L2 Language Proficiency and L1 Transfer

Different factors may contribute to L1 transfer: learners' perception of language distance between their native and target language (e.g. Takahashi, 1999, 2001), learning context (e.g. Takahashi&Beebe,1987), instructional effect (e.g. Kasper, 1992), second language proficiency (e.g. Olshtain&Cohen,1989) (Takahashi&Beebe,1987), and length of time in the target community (e.g. Blum-Kulka &Olshtain, 1984).

The influence of L2 proficiency on L1 transfer is a debated and complicated issue in second language acquisition and it has been much discussed and argued. While there is evidence to suggest that an increase in L2 proficiency may trigger an decrease in L1 transfer, other research findings indicate that an increase in L2 proficiency may result in a increase in L1 transfer. For instance, Taylor (1975:73-107) conducted a research on Spanish learners of

English. The participants were divided into more and less advanced groups. They were asked to translate eight English sentences into Spanish. Taylor suggests that the participants' errors show that less advanced learners are more likely to produce more translation errors reflecting the influence of Spanish. He argues that since less advanced second language learners have less second language knowledge than more advanced learners, they will need to rely more heavily on their native language. As they learn more about the target language, their reliance on the native language will decrease and they will deal with the second language directly without an extensive reliance on the native language. Fathman and LoCoco (1989) support Taylor's hypotheses and investigated the acquisition of English linguistic forms that indicate negation and possession by native German and Spanish learners. It was concluded that the most significant influence for L1 transfer takes place at the early stages of learning when the learners rely heavily on the native language to fill the gaps in their L2 knowledge. A number of other studies (e.g., Takahashi 1996; Takahashi & Dufon 1989) have attempted to examine the relationship between transfer and learners' proficiency at different levels.

Klein & Perdue (1992), in contrast, suggests that with the increase in L2 proficiency, the transfer errors also increase. He proposes that at the elementary level, L2 learners can not apply a specific rule of the L2 because they do not know them, and they can not transfer the rules from L1 because their L1 structures are not reinforced by the corresponding L2 structures. Klein claims that L2 learners can not be affected by their L1 at the early stages of learning because they have not acquired enough basic vocabulary and syntactic knowledge to transfer the L1 to the L2. The notion underlying the positive correlation hypothesis that L2 learners' limited target language knowledge prevents them from transferring their L1 has been supported by several studies (e.g. Blum-Kulka 1982; Olshitain&Cohen 1989) in the interlanguage pragmatics literature. But since neither Blum-Kulka (1982) nor Olshtain & Cohen (1989) investigated the performance of their learners at different proficiency levels, they can not provide conclusive evidence for the positive correlation hypothesis.

A study carried out by the European Science Foundation (Vainikka, A., & Young-Scholten, M., 1996) supported Klein's proposal which compares L2 learners' utterance structure at different proficiency levels. The findings demonstrates that despite their different L1 backgrounds, L2 learners show similar development in their L2 acquisition at the initial stage. When the learners reach a more advanced level, they started to transfer their L1 to L2.

The hypotheses that have been briefly discussed above are just part of the studies carried out to investigate the relationship between L2 proficiency and L1 transfer, however, the main views are quite controversial. The findings can be summarized as follows: L1 influence decreases with increase in L2 proficiency (Taylor, Fathman and LoCoco, etc) ; L1 does not interfere with L2 learning at the earliest stage of learning, but affects L2 learning at more advanced stage (Klein 1998, Klein and Perdue, 1997). The contradictions may be the result of different factors. First, different native and target languages and different aspects of transfer were examined in different studies. For example, it would be wrong to presume that lexical transfer of English to Chinese resembles phonological transfer of Spanish to English. It is reasonable to assume that for different languages and aspects of transfer, the relationship between L1 transfer and L2 proficiency is different. Other factors that may lead to contradictions include: the levels of language proficiency vary from one another. The age ranges are quite limited in the studies, furthermore, different methodologies were applied to examine transfer and different data collection methods were applied.

Chapter 3

Null Subjects and Null Objects in Chinese and Other Languages

This chapter introduces the research background of this thesis - the differences between Chinese and other languages, particularly English, in terms of null subjects and null objects. I will first introduce the null subjects in Chinese and other languages in general and then discuss what they have in common and what makes them different with examples. The second part of this chapter is about the object omission in Chinese and English, detailed discussion on the status of null objects will be provided. Though English does not license null subjects and null objects, they can still be found in child grammar. The last part of this chapter compares null subjects and null objects in Chinese with subject and object drop in early English.

3.1 Null Subjects in Chinese and other languages

Languages such as Chinese, Japanese, Spanish, Italian, Portuguese, etc. which license subject drop in their grammars are null subject languages, while languages such as English, French, German, etc. in which overt subjects are compulsory are non-null subject languages. Null subject is a syntactic phenomenon which entails that in certain languages, subjects are allowed to be phonologically silent. Many studies have been done in an attempt to figure out why some languages allow null subjects while others do not. There are also plenty of research trying to find out if there are different types of null subject languages. Though there is still some controversy, it is generally agreed that there are two types of languages which allow null subjects: the Chinese type (Chinese, Japanese, Korean, etc) and the Spanish type (Spanish, Portuguese, Italian, etc). Though this thesis focuses on Chinese, I would like to briefly introduce the Spanish type first in order to understand the NS phenomenon better.

The following is some examples of null subject in Spanish and Italian:

(1) a. Mangia come una bestia.
(He/She) eats like a beast.

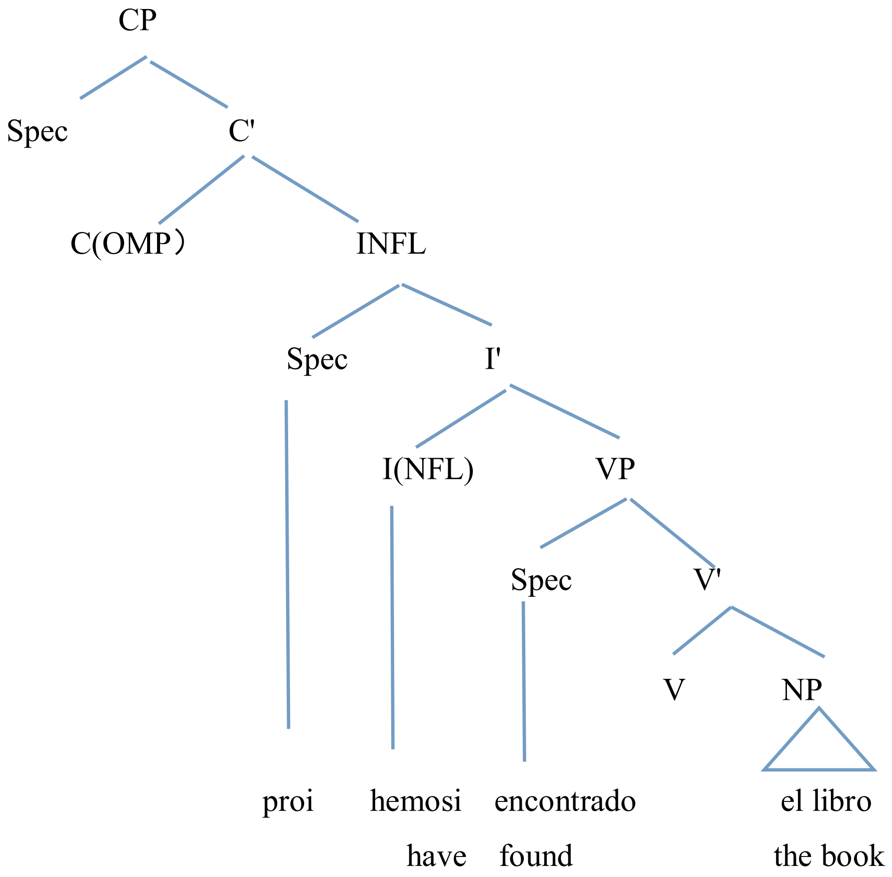
b. Sembra che Gianni sia matto.
(It) seems that John is crazy.

c. Piove oggi.
(It) rains today.
(Italian: Hyams, 1983)

d. hemos encontrado el libro.
have found the book
We have found the book.
(Spanish: Liceras, J and Diaz, L. 1999)

Null subjects of the Spanish type are supposed to be related to morphologically rich agreement and are found in languages where verbs are inflected for tense, number, person and mood and there is overt agreement between the subject and the verb. "*In languages with rich inflectional systems the subject can be dropped because agreement on the verb can enable the subject to be identified.*" (Chomsky 1981b, P.241). While inflection licenses null subjects, according to Jaeggli and Hyams (1988), the realization of null subjects is only possible when the null subjects can be identified from the syntax of the language. Rizzi (1986) proposed that null subjects of Spanish type are licensed by inflection and identified by Φ-features (number, person, tense, mood) expressed by agreement morphemes on verbs. That is to say, the dropped subjects could be recovered by the inflection of the verb. Accordingly, the null argument in the subject position is governed by INFL and is identified through the rich agreement specification. The licensing and identification of null subject in example (1d) is shown in (1f).

(1). f



(Liceras, J and Diaz, L. 1999)

This theory can explain why languages that have rich inflectional morphology license null subjects. It is the verb-subject agreement that licenses null subjects, while in English it does not. All the dropped subjects in these types of languages are believed to be pronouns, thus such languages are referred to as pro-drop languages. Applying parameter setting theory, it is said that native speakers of Italian and other NS languages of this type have attached a positive value to the Null Subject Parameter [+NS]. The cross-linguistic variation between Italian and English with regard to the requirement that subjects are phonological realized can be explained by the Null Subject Parameter.

However, the same theory can not be adopted to account for other type languages that allow null subjects; Since this thesis mainly focuses on null subjects in Chinese and early in English, I would like to discuss NS in the Chinese type of language in more detail. It is known that

Chinese is a language which does not have subject-verb agreement, but NSs still occur freely. The following are examples of null subjects in Chinese.

(2) a. Kuai yao xiaxue le.
soon will rain PART
It is going to rain.

b. Kanshangqu Zhangsan hen lei.
seem Zhangsan very tired
It seems that Zhangsan is very tired.
(Yuan, 1997 P. 473)

c. you henduo xuesheng zai tushuguan
have many students in library
There are many students in the library.

d. Kanjian ta[3] le.
see him ASP
(He/she/they) saw him.
(Huang, 1984)

e. Wo zai huayuan li zhong le yixie hua, zhang de hen hao.
I at garden in plant PERF some flower, grow PERF very well
I have planted some flowers in the garden, (they) grow very well.

f. Wo wen Zhangsan Lisi xia zhou hui bu hui lai, Zhangsan shuo kending
I ask Zhangsan Lisi next week will not will come Zhangsan say definitely
hui lai.
will come.
I asked Zhangsan whether Lisi will come next week, Zhangsan said (Lisi) will definitely come.
(Yuan, 1997. P. 472)

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[3] In Chinese, *ta* could refer to either *he* or *she* according to the corresponding written language, to simplify the discussion, *ta* is regarded as *he* throughout the present thesis.

From the sentences presented in (2)[4], it is clear that Chinese licenses null subjects, and null subjects actually fall into two categories: null expletives and null referential subjects. In (2a), (2b) and (2c), all the subjects in the Chinese sentences are null while the English corresponding sentences must have the expletives *it* or *there* as subjects. English is a language which does not license null subjects, thus the expletives *it* and *there* are used as structural subjects in weather-predicates and raising-predicates which have only phonetic forms without semantic contents. The Chinese counterparts of English expletives *it* and *there* have to be phonologically null in Chinese.

In (2d), the Chinese sentence is subjectless and grammatical in adult grammar. However, the identification of the dropped subject is impossible without a discourse topic. To identify the dropped subject, it is necessary to be clear about the context, that is, the discourse topic. The subject in (2e) *yixie hua* (some flowers) is dropped in the second clause because it is co-indexed with that of the main clause, while in English this is ungrammatical. In addition, in (2f), the subject of the second embedded clause *Lisi* is dropped which can be identified by the closest possible identifier which refers to the topic *Lisi* in the first embedded clause, while the English counterpart requires overt subjects.

As the examples show, null subjects are licensed in Chinese while the grammar of English requires overt subjects. The subject drop occurs not only in matrix but also in embedded sentences. Different theories have been put forward to explain such cross-linguistic variation. Chomsky (1981a, 1981b) proposed a single parameter of UG to account for this difference. The null-subject parameter suggests that the value of this parameter is positive as [+null subject] in languages that allow null subjects (Chinese, Spanish, Italian, etc), and it is negative as [-null subject] in languages that do not allow null subjects (English, French, etc). Chomsky's proposal was based on the availability of a rich agreement system. However, there are languages which do not have morphological agreement at all but also allow null subjects (e.g. Chinese, Korean and Japanese). Take Chinese and Spanish as an example, both of them license null subjects, but they are quite different in their system of verb inflection. Chomsky's theory failed to explain why Chinese allows null subjects while it is a language without subject-verb agreement. In addition, Chomsky proposed that when a language does not allow null subjects, it must have expletives. Such as *there* and *it*. The null subjects parameter can help us determine what kinds of languages allow null subjects, but it fails to explain why subject omission is grammatical in some languages while it is ungrammatical in others.

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[4] In (2), examples (a) , (b), (e) and (f) are from Yuan (1997); (d) is from Huang (1984). All the Chinese and English examples in the present thesis are given by Chunyuan Nie when they are not stated.

Jaeggli and Safir (1989) proposed the Morphological Uniformity Principle to explain the difference between the two types of null subjects, which stated that "*null subjects are permitted in all and only languages with morphological uniformity in inflectional paradigms*". This principle, a syntactic system, is regarded as uniform if all verb forms are morphologically infected for tense, person, mood and number or none of them are. When some verb forms are inflected and can be morphologically divided into stem+affix whereas others can exist as bare stems, then it can not be considered as a uniform paradigm and null subjects are not licensed. That is, for instance, both Spanish and Chinese allow null subjects but they represent two types of languages with regard to morphological uniformity. In Spanish, all the verbs are inflected and they all allow null subjects while in Chinese none of the verbs are morphologically inflected and it also licenses null subjects. In English, however, there are some verbs which have the form of stem+affix while others are bare forms. Hence it does not license null subjects.

Yuan (1997) argued that the Morphological Uniformity Principle fails to explain how the morphological differences are theoretically connected to the typological variation in null subjects. He proposed that null subjects in Chinese are directly related to the underspecification of inflectional features in Chinese. It is the underspecification of Tense and Agreement features that license null subjects in Chinese but not in English[5].

Yuan (1997) proposed that the inflectional features of the verbs include Agreement and Tense features. The licensing of null subjects relies on the strength of inflectional features of the verbs and the level where these features are checked. A null subject is licensed when the subject position is governed by a lexical head at the phonological form (PF), or when the subject position are not lexically governed at all. If the subject position is governed by a lexical head at the Logical Form (LP), a null subject will not be licensed. For instance, Spanish has the strong inflectional features of the verbs which are visible at the level of PF, and must raise to Inflection at Structure to be checked at phonological form, thus the subject position is governed by a lexical head at PF. In Chinese, as agreement morphemes are totally absent, verbs do not have any inflectional features. Following Sano and Hyams (1994), Yuan argued that, the inflectional features are underspecified and verbs never raise to inflection in Chinese, thus the subject position can never be lexically governed in Chinese. This could explain why Chinese and Spanish both allow null subjects. He further assumed that it is because the inflectional features of verbs are weak and not visible at PF in English that they will not rise to I for feature checking until LF. The subject position is governed by a lexical head at LF. These null subjects cannot be grammatical in English.

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[5] Yuan's proposal has been discussed by Kong (2005), and it won't be investigated in the present thesis.

Park (2004) made another proposal within the framework of Minimalist Program (Chomsky, 1995). He proposed that null subjects are related to the interpretability of the agreement feature. Language with interpretable agreement features like Spanish license null subjects, while languages like English which do not have interpretable features do not license null subjects. Chinese is a language without interpretable features but still allows subjects drop. This theory also failed to explain why Chinese licenses subject drop not only at the discourse level, but also at the syntactic level like (2a-2c).

Though null subjects are grammatical in certain languages, it does not necessarily mean that the language will have null subjects. Jaeggli and Hyams (1988) proposed that licensing null subjects must be separated from identifying them. Huang (1984) suggested that there are two types of null-subject languages: “sentence-oriented” languages in which the null subjects are pronominal and are identified by rich verbal agreement; and “discourse-oriented” languages in which a preceding discourse topic binds the null subject as part of a deletion process referred to as “topic-chaining”. Applying the theory of parameters, the null-subject parameter can be further divided into *pro-drop parameter* and *topic-drop parameter*. Based on the two types of null-subject languages, Jaeggli and Hyams (1988) further proposed that the identification of the null subjects can be done by a governing category containing features of T and AGR, or the closest identifier. For instance, subject drop in Spanish and other null subject languages that have rich agreement morphology is licensed by inflection and identified by Φ-feature (number, person,tense,mood) (see example (1f)). However, Chinese does not have agreement morphology, then the identification has to be done by the closest identifier. To account for the null subjects in (2e) and (2f), the rule of Topic NP Deletion has to be applied, “*which operates across discourse to delete the topic of a sentence under identify with a topic in a preceding sentence. The result of such a deleting process is formally a Topic Chain*” (Huang, 1984, p.549). That is, the null subject is interpreted as the outcome that the subject in a topic position is deleted by the Topic NP Deletion Rule. Chinese has been considered as a discourse-oriented language (Huang, 1984, 1989; Shi, 1989; Tsao, 1977; Li, 2005), Shi (1989, 2000) proposed that the largest syntactic unit in Chines is a topic chain while in English Complementizer Phrase (CP) is the largest one. Though Chinese topic chain bears all the syntactic function that the English CP has, it may consist of more than one CP. As a result, the null subject and its antecedents are dominated by the same topic chain, and the referential content of the null subjects can be recovered within the same topic chain. Example (3) from Tsao (1977) is often cited as a typical topic chain.

(3) nei ke shui, ei hua xiao, ei yezi da, ei hen nankan, (suoyi) wo mei mai ei.
that CL tree flower small leave big very ugly so I not buy
That tree, (its) flowers are small; (its) leaves are big; (it) is very ugly; so I did not
buy (it).

In (3), there is a sequence of sentences. The topic nei ke shu (that tree) extended its domain to all the sentences in this sequence which function as comment on the topic.
On the contrary, this hypothesis could be applied to explain why English does not allow null subjects. Since the largest syntactic unit in English is CP, the content of the referential subject can not be recovered within the CP.

To be more specific, the following examples shows the process of subject deleting in (2e) and (2f) detail.

(4) a. Wo zai huayuan li zhong le yixie hua$_i$, [$_{CP}$[$_{TOP}$zhexiehua$_i$] [zhang de hen
I at garden in plant PERF some flower, this CL flower grow PERF very
Hao]].
well
I have planted some flowers in the garden, they grow very well.

b. Wo zai huayuan li zhong le yixie hua$_i$, [$_{CP}$ [$_{TOP_i}$] [zhang de hen Hao]].
I at garden in plant PERF some flower, grow PERF very well
I have planted some flowers in the garden, they grow very well.

(5) a. Wo wen Zhangsan Lisi$_i$ xia zhou hui bu hui lai, Zhangsan shuo
I ask Zhangsan Lisi next week will not will come Zhangsan say
[C$_P$[$_{TOP}$Lis$_i$ j] kending hui lai.
Lisi definitely will come.
I asked Zhangsan whether Lisi will come next week, Zhangsan said Lisi will definitely come.

b. Wo wen Zhangsan Lisi$_j$ xia zhou hui bu hui lai, Zhangsan shuo
I ask Zhangsan Lisi next week will not will come Zhangsan say
[$_{CP}$[$_{TOP\ j}$] kending hui lai.
definitely will come.
I asked Zhangsan whether Lisi will come next week, Zhangsan said (Lisi) will definitely come.

In (4), under the Topic NP Deletion Rule, the topic of the second coordinate clause *zhe xie hua* (these flowers) is identical to the discourse topic which is at the object position of the first coordinate clause, thus it can be dropped. The identification of the dropped subject could be done via the closest possible identifier.

It is almost the same in (5). The topic forms a topic chain which is the subject in the embedded sentence of the first coordinate clause: *Lisi*. The topic of the embedded sentence of the second coordinate clause *Lisi* is dropped because it can be identified by the closest identifier which is the topic *Lisi* in the embedded sentence of the first coordinate clause. The two examples provide us with evidence that subjects can be dropped both in matrix and embedded sentences/clauses, the syntactic position of subjects does not influence the identification and the possibility of omission.

Applying the Topic NP Deletion Rule, (2d) could be expressed as[6]:

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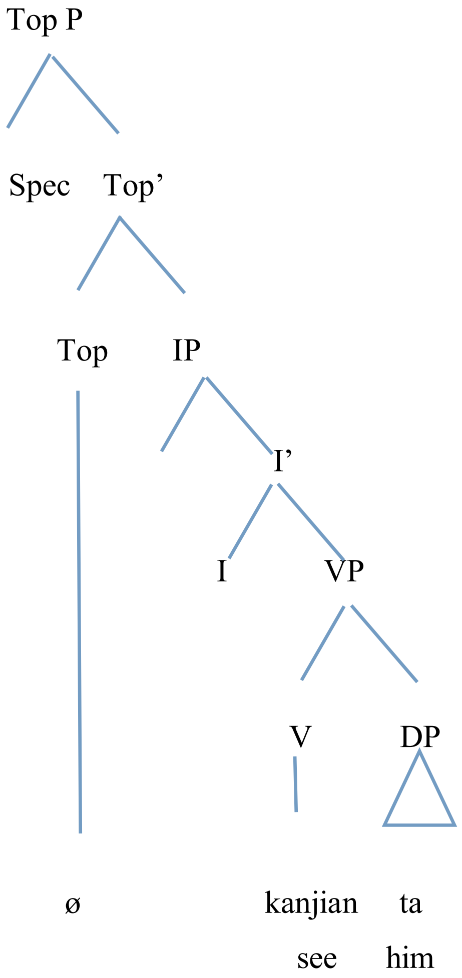
[6] (6) is a based on (6a) in Guasti (2002), and the aspectual morpheme *le* is not represented for simplicity.

(6)



The Topic NP Deletion Rule proposed by Huang can successfully explain the reason why subjects can be dropped in Chinese and how they can be identified, thus the examples in (2e) and (2f) are perfectly explained. Following Yip (1995), Kong (2005) proposed that topic is not only prominent in Chinese but also obligatory.

However, this theory still fails to account for null expletives *there* and *it* in (2a)-(2c). The Extended Projection (EEP) proposed by Chomsky(1982a, 1982b) could be applied to explain why the expletive *it* is used in weather-predicate and raising-predicate sentences in English. The basic idea of EEP is that in Chinese, structural subjects can not be found. The null expletives raises another question: since the dropped referential subjects in sentence-oriented languages must be governed by T and AGR.

3.2 Null Objects in Chinese and object omission in English

3.2.1 Object drop in English

Though it is well known that English does not allow null objects as well as null subjects, but there are some sentences without objects that are grammatical. To better study the unlearning of null objects by Chinese speakers, the phenomenon of occasional object drop in English will be briefly discussed at the beginning of this part. The following are some grammatical sentences with object drop in English.

(7) a. They ran away but we followed ［them］
b. John aimed at the target and missed ［it］
c. The team was doing well. So Mary joined ［it］

(Ingham 1993/1994: 96)

Linguists have offered different explanations to account for this phenomenon. Some researchers proposed that whether an object in English can be omitted or not is lexically related and is decided by the particular definition of a particular verb. (Ingham 1993/1994; Cote 1996). More recently, some scholars (Goldberg 2001, 2004a, 2004b; Erteschik-shir 2007; Lemmens 1998, 2004; Mittwoch 2005; etc) assumed it is not simply syntactically related, nor related to the particular definition of particular verbs. They proposed that the object drop in English is constrained by specific discourse and semantics. Goldberg (2001) proposed a principle of Omission under Low Discourse Prominence: *Omission is possible when the patient arguments is not topical(or focal) in the discourse, and the action is particularly emphasized (via repetition, strong affective stance, topicality, contrastive focus,etc).* On the other hand, studies also show that omission of objects is related to the different types or definitions of verbs, or in other words, it is semantically related. It was found out that activity verbs are more likely to omit objects than accomplishment verbs; and the verbs that can undergo causative alternation to express change-of-state are the least likely to omit objects. (Goldberg2001, 2004a, 2004b; Lemmens1998, 2004; Mittwoch 2005; Rappaport Hoavav & Levin 1998, 2005; etc). Different theories have been put forward to explain this finding, but they all agreed that the objects appear with verbs that express change-of-state are the most prominent participant in the action, thus the interpretation of the sentence relies on the objects and they can not be omitted.

In addition, under certain circumstances, both verbs and objects are found to be elided in English and the term for this phenomenon is VP-Ellipsis (VPE). It's stated that VPE is only permitted when a auxiliary precedes the elided VP (Sag 1976, Williams 1977). According to Huang (1991), VPE refers to the phenomenon that when a sentence consists of two or more clauses and they are structurally parallel, VP of the second sentence and subsequent is elided. The following is an example of VP-Ellipsis in English.

(8) a. John likes swimming, and Bill does too.
b. John likes swimming, and Bill [likes swimming] too.

The auxiliary in the second clause of (8a) licenses the elision of a VP. The elided VP could be recovered from the representation of the first clause. The identification of the elided VP in (7a) is clear and does not involve any ambiguity.

(9) a. John likes his new smart-phone, and Bill does too.
b. John$_i$ likes his$_i$ new smart-phone, and Bill$_j$ [likes his$_{i/j}$ smart-phone] too.

Different from (8), the identification of the elided VP in (9a) is ambiguous and can be done in two way: sloppy and strict identification, as exemplified in (9b). If the identification of the pronoun in an elided VP is not identical to the antecedent VP, then it is sloppy identification, while strict identification refers to the identical of an elided VP and the antecedent VP. In (9a), the auxiliary *does* refers to *likes his new smart-phone* in the first clause. What makes the identification ambiguious is the pronoun *his.* There are two possibilities for the pronoun *his:* it could be identical to the one in the first clause refers to John's, while it is also possible for the same pronoun *his* in the second clause to refer to Bill's. To be more specific, when assigning a different index to the pronoun *his* in the second clause, it is sloppy reading. And when assigning the same index both to John and the "*his*" pronouns, it is strict reading.

3.2.2 Null Objects in Chinese

Chinese is language in which both null subjects and objects are licensed in adult grammar. To discuss the difference between NS and NO in Chinese, the example of NS in (2d) provided by Huang (1984) is repeated in (10a):

(10) a. Kanjian ta le.
See he ASP
(He/She/They) saw him.
b. Ta kanjian le.
He see ASP
He saw (him).

The identification of the dropped subject and object in (10) is impossible due to the lack of context or discourse topic (examples (2a)-(2c) show that null expletives in Chinese are also possible and they do not require a discourse topic to identify). Unlike null subjects, null objects in Chinese only occurs at discourse level as exemplified in (11):

(11) a. A: ni qu guo yingguo$_i$ ma? B: qu guo *e*$_i$.
A: you go PART England PART B: go PART
A: Have you been to England? B: Yes, I have been (to England)

b. Neige reni, Zhangsan shuo Lisi bu renshi *e*i.
That man Zhangsan say Lisi not know.
That man, Zhangsan said Lisi didn't know.

(Yuan, 1997)

c. Neige ren$_i$, Lisi bu renshi *e*$_i$.
That man Lisi not know
That man, Lisi didn't know.

To explain null objects in Chinese, the Topic NP Deletion Rule mentioned to account for null referential subjects has to be applied again. In the example (11a), the object as well as subject are dropped in the answer because they both appear in the question. And also, the subject drop is not allowed in English. The identification of the dropped object as well as the subject is via the discourse topic which is mentioned in the question. The dropped objects in (11b) and (11c) are both *neige ren* (that man) which is the topic in both sentences. The difference between (11b) and (11c) is that in (11b) the object is dropped in an embedded sentence while in (11c) it is dropped in a matrix sentence. From the examples give in (11a-c), we can see that object omission is possible because Chinese is a discourse-oriented language and the dropped object can be identified by the closest identifier. It seems that null objects are less complicated compared with null subjects in Chinese according to the discussion done here, however, the detailed discussion on null objects will be given in the following part.

3.2.3 The Status of Null Objects

3.2.3.1 Null Objects as Free Empty category

In generative grammar, Chomsky (1981a, 1981b) proposed Empty category in the syntactic framework of government and binding theory. Empty category is a nominal element that does not have any phonological content and is therefore unpronounced. Empty categories may also be referred to as covert nouns, in contrast to overt nouns which are pronounced. According to Chomsky, the classification of NPs is on the basis of the feature [±Anaphor] and [±Pronominal], and thus there are four possibilities:

Type	Overt	Non-overt
[+Anaphor, -Pronominal]	Anaphor	NP-trace
[-Anaphor, +Pronominal]	Pronoun	pro
[+Anaphor, +Pronominal]	R-expression	Wh-trace/variable
[+Anaphor, +Pronominal]	None	PRO

At the beginning of null objects study, linguists (Rizzi,1986; Huang 1984) attempted to analyze this phenomenon within the framework of empty categories proposed by Chomsky (1981a, 1982a, 1982b). Xu (1986) in his study of empty category in Chinese claimed to have found a new one- a free empty category. He argued that a free empty category is a *all inclusive EC* which could be identified as the 4 empty categories as a whole. He makes two proposals for for the status of Free Empty Category: first, FEC is a result of deletion of either a full NP, a pronominal, or a expletive which exists in S-structure and deleted in Phonological Form, so it would not violate the recoverability principle. Second, FECs are ECs without specific features.

3.2.3.2 Null Objects as VP-Ellipsis in Disguise

Compared to VP-Ellipsis in English, it has been suggested that null objects in Chinese type of null subject and null object languages also involve VP-ellipsis after V-to-Infl raising and VP deletion (Huang, 1984, 1989, 1991, etc.). In (11), the Chinese sentence in (12a) has the same interpretation as that of (12b).[7]

(12) a. John likes his new smart-phone, and Bill does too.

John$_i$ likes his$_i$ new smart-phone, and Bill$_j$ [likes his$_{i/j}$ smart-phone] too.

b. John xihuan tade xin zhineng shouji, Bill ye xihuan.

John like his new smart phone Bill too like.

Johni likes his$_i$ new smart-phone, and Bill$_j$ [likes his$_{i/j}$ smart-phone] too.

Applying the identification ways in English VP-ellipsis, in (12a), the reading of the null object in the second clause can be either sloppy or strict and identified either as *John*'s smart-phone or *Bill*'s smart-phone. The examples here support the assumption that null object construction (NOC) in Chinese can be analyzed as VP-ellipsis in English:

(i) Chinese sentences like (12a) show the strict or sloppy ambiguity, typical of VP-ellipsis; and

(ii) They also show the locality effect of VP-ellipsis for the sloppy reading.

(Huang 1988a, b)

The repetition of the verbs in (12b) functions the same as *do-support* in English. Huang (1991) assumes that the second occurrence of the verb is actually an example of do-support and it can be considered as a VP-deletion process.

Li (1998), however, argues against the VP-ellipsis analysis for Chinese NOC. First, Li proposes that while English does not allow a expletive to have a strict reading in the second clause, it is possible for the Chinese counterpart to get a strict reading.

(13) a. John criticized himself, and Bill did, too.

b. Zhangsan piping le ta-ziji, Lisi ye piping le.

---

[7] To make the examples easier to follow, example (8) is repeated here as (11a), and (11b) is its counterpart in Chinese.

Zhangsan criticize PERF himself Lisi also criticize PERF
Zhangsan$_i$ has criticized himself$_i$, Lisi$_j$ also has criticized himself$_{i/j}$.
(Li, 1998)

According to Li, the dropped VP in (13a) which is *criticized himself* can only have a slopping reading, the second clause can be expressed as Bill criticized John. Instead, the dropped object in (13b) can have a strict reading and it could be identified as either Zhangsan or Lisi.

Second, Li claims that the VP-ellipsis English sentence in (13) observes a *locality effect* when the elided VP in the second clause has a strict reading:

(14) Mary fed her child, and Susan thought that the nanny did too.
Mary$_i$ fed her$_i$ child, and Susan$_j$ thought that the nanny fed her$_i$ child too.
*Susan thought the nanny fed Susan's child.[8]
(Li, 1998)

However, the Chinese NOC sentence in (14)[9] does not observe the *locality effect*:

(15) Mary wei guo ziji de haizi le, Susan yiwei naimai ye wei guo le.
Mary feed EXP self PART child PERF Susan think nanny too feed EXP PART
Mary$_i$ fed her$_i$ (own) child, and Susan$_j$ thought that the nanny fed her$_j$ child too.
(Li, 1998)

Third, Li also proposes that the second clause in sentences like (16) can have a couple-internal reading while the same reading can not be applied to (17). The examples (16) and (17) are both from Li (1998).

(16) Every Chinese couple recommended each other's friends, and every German couple did too.

Every Chinese couple recommended each other's friend, and every German couple recommended each other's friends.

---

[8] Here in this thesis, sentences marked with * means that it is ungrammatical or inappropriate .

[9] In the original examples provided by Li, her in (13) was interpreted as herself in (14), While I support that these examples could be considered as evidence showing that Chinese NOC sentences are different from English VP-ellipsis sentences, I argue that with this interpretation (14) should be included into (12) since it involves a reflective.

(17) Mei dui Zhongguo fufu tuijian le bici de pengyou,
every CL Chinese couple recommend PERF each other PART friend
Mei dui deguo fufu ye tuijian le.
Every CL German couple also recommend PERF
*Every Chinese couple recommended each other's friend, and every German couple recommended each other's friends.

To sum up, the examples from Li (1998) provides convincing evidence showing that Chinese NOC sentences are different from English VP-ellipsis sentences when it comes to the reading or identification of certain elided or dropped pronouns/expletives which are *taziji* (himself), *bici* (each other) in the second clause of the conjoined sentences.[10] The expletive *taziji* has been frequently discussed as a dropped object and it will be further discussed in the following part.

3.2.3.3 Null Objects as Variables

In spite of the fact that both null subjects and null objects are allowed in Chinese, there is still a difference between them. The following examples from Huang (1984) show the difference in detail.

(18) a. Zhang shuo bu renshi Huang.
Zhang say not know Huang
Zhang said (he/sb.) did not know

b. Zhang shuo Huang bu renshi
Zhang say Huang not know
Zhang said Huang did not know (somebody).

c. Zhang shuo Huang bu renshi ta
Zhang say Huang not know him
Zhang said Huang did not know him.

---

[10] A more detailed discussion of VP-ellipsis and NOC can be found in Pan (2002)'s work.

In (18a), the subject in the embedded clause is dropped. Without a particular context, the dropped subject could be interpreted as *Zhang* which is the subject of the main clause or someone else mentioned in the discourse. However, it is a different case in (18b) in which the object of the embedded sentence is dropped. The dropped object can not refer to the subject of the main clause which is *Zhang*, it can only be identified by the topic and refers to someone occurs in the discourse. If the the dropped object is the same as the subject in the main clause, then the sentence is not acceptable in Chinese. However, pronoun *ta* in (18c) has two possible interpretations, it can refer to the discourse topic or the matrix subject *Zhang*.

To account for this difference in Chinese null subjects and null objects, Huang (1984, 1989) proposes that it is a result of different properties of null objects and null subjects. Chinese null objects can not be analyzed as pro, because they can not be interpreted as being A-bound by the matrix subject and can only be analyzed as coreferential with the discourse topic. If it is regarded as a pro as in (18c), then it will have a same referential function with an overt pronoun. He suggested that null subjects can be pros or variables, while null objects can only be variables. To explain why null objects can not be pros, he introduced

(i) the Generalized Control Rule (GCR)
Coindex an empty pronominal with the closest nominal element.

(ii) Disjoint Reference(DJR)-Binding Condition B
A pronoun must be free in its governing category.

According to Huang, if null subjects are pros, then they have to follow both GCR and DJR. According to GCR, null subjects have to be coindexed with the closest nominal element which is the subject of the embedded clause. At the same time, DJR requires a null subject to be free in its governing category which means that it can not be governed by the subject in both the main clause and embedded clause. That is, in (18b) DJR requires the dropped object not to be governed by *Zhang* or *Huang*. These two rules then caused controversy in identify null objects. Huang argued that null objects in Chinese are just variables.

Xu (1986) questioned Huang's proposal, he argued that null objects can freely coindex with any other elements in the sentence if the condition allows in semantics and pragmatics. Xu proposed some examples in which null objects coindexed with the subject in the main clause:

(19) a. zuifan zhudong yaoqiu jingcha daibu.
criminal provocative ask policeman arrest.
The criminal procatively asked the policeman to arrest him.
b. Xiaotou yiwei meiyou ren kanjian
thief think no man see
The thief thought no one saw ［him］.

The example (19) shows that the interpretation of null objects is greatly influenced by semantics and pragmatics. The dropped object in (19a) is affected by *jingcha (policeman)* and *zuifan (criminal)* because it is clear that the policeman can arrest criminals, and the omitted object in this sentence should be coindexed with the subject of the main clause. It is the same in (19b), in which the dropped object can refer to the matrix subject. Actually, the dropped object can be bound by the subject in the main clause in particular contexts.

(20) a. Zhang piping ziji le ma? - ta piping le.
Zhang criticize self PART PART - he criticize PART
Did Zhang criticize himself? - He criticized ［himself］.
b. Zhang piping guo ziji, danshi Huang meiyou piping guo.
Zhang criticize PART self but Huang not criticize PART
Zhang has criticized himself, but Huang hasn't ［criticized himself］.
c. meigeren dou renshi ziji, Zhang renshi, Huang ye renshi
Everyone all know self Zhang know, Huang also know
Everyone knows himself, Zhang knows ［himself］, Huang also knows [himself］.

The sentence structures vary in (20) but they all involve expletive pronoun *ziji.* According to Huang, the dropped object must be bound by the discourse topic *ziji* rather than the matrix subject. This proposal can successfully identify the omitted objects in (20a) as *ziji* which is coindexed with the matrix subject Zhang. However, the identification of the dropped object in (20b) is coindexed with the subject *Huang*
in the coordinate sentence; and the two dropped objects in the two coordinate sentences refers to the two subjects in the two coordinate sentences respectively.

These examples prove that dropped objects can be coindexed with subjects rather than discourse topics. Thus null objects can not be regarded as variables bound by the discourse topic.

Based on the brief discussion about the status of null objects in Chinese, it is true that objects can be dropped in Chinese under various circumstances only if a discourse topic is given for identification. From what we have discussed before, it is hard to find a single constrain the status or property of null objects. I assume that due to different semantic interpretations and reasons for formation, null objects in Chinese can not always be treated as variables, VP-Ellipsis or FECs. The status of a certain null object depends on the specific circumstance.

3.3 Null subjects and null objects in Early Child Language

Though null subjects and null objects are licensed in some certain languages, children tend to drop subjects around a certain age universally. The null subject stage during which a child allows subjects to be omitted from main clauses starts at around age 2 and lasts until age 3.5 (Guasti 2002). Though the frequency of the production of NS sentences varies from child to child, language to language or even from time to time concerns the same child, it is universal, we can find it in all languages. The NS phenomenon is illustrated in (21) in different languages that do not license subject drop in their adult grammar. All the examples and explanations are from Guasti (2002).

(21) a. Tickles me. (English)
  b. Se, blomster har.
    Look owers have/has
    Look, (I/you/she/we) have/has flowers. (Danish)
  c. Mange du pain
    eat-3sg some bread. (French)

(Guasti, 2002)

Early null subjects might be the most discussed topic in the acquisition of syntax. Why do children tend to drop subjects universally? Since NS could be found both in early child language and some certain adult languages, do they have the same characteristics and reasons behind them? Applying parameter setting theory, Chinese speakers allow subjects to be dropped because they set the topic-drop parameter on which allows null subjects to be dropped. Is it the same case with NS in early English? Comparing to the phenomenon of null subjects and null objects in Chinese discussed in chapter 2, different properties were found in early English language: while subjects can be freely dropped in null subject languages, it is a different case in early English: NS are highly impossible in certain contexts:

(22) a. questions with a fronted wh-element (Valian 1990)
  b. subordinate clauses (Valian 1990; Weissenborn & Verrips1992)
  c. matrix clauses with some fronted XP other than the subject (Haegeman 1995)

Guasti (2002) offered examples showing that in adult Italian (pro-drop language), null subjects are allowed in all these contexts. She also stated that these observations can also be found in topic-drop languages, in spite of the fact that they lack overt wh-movement. The examples in (23) show that subject drop can be found in Chinese in the three contexts.

(23) a. Wh-questions
  weishenme yao qu?
  why want go
  Why do you want to go?

  b. Subordinate clauses
  ta shuo pengdao lao tongxue le.
  he say meet old classmate PART
  He said he has meet an old classmate.

  c. Matrix clauses with a fronted adverb
  zuotian yijing zuowan le.
  yesterday have finish PART.
  It was finished yesterday. / I finished it yesterday.

Examples in (23) could be the evidence showing that NS in early English and Chinese have different properties, and since both child and adult Chinese grammar license null subjects in such situations, the parameter setting theory could not be applied here to account for the reason why NS is allowed in early English.

Unlike NS, null objects has not drawn that much attention. There have been much debate about the different rates between subject omission and object omission. As discussed above, Chinese licenses null subjects as well as null objects, but this is not the case in early English. According to Hyams and Wexler (1993), English-speaking children omit subjects at a rate of 48% while they drop objects at 9%. Wang et al. (1992) conducted a research to examine the speech of English- and Chinese-speaking children at the same age and mean-length-of-utterance ranges. The results supports the conclusion that in early Chinese and English, the rates of subject and object omission vary significantly. (Table 2)

Table 2

Subject and object omission in early English and Chinese

	Age range	MLU range[11]	Rate of subject omission	Rate of object omission
English	2.5-4.5	2.69-4.80	33.11%	3.75 %
Chinese	2.0-4.4	2.41-5.98	46.54%	22.53%

Data from Wang et al. 1992

These data suggest that both Chinese- and English-speaking children tend to drop subjects more often than objects. However, English-speaking children omit objects at such a low rate that we can assume object drop is not allowed in early English. These data also show that target language plays an important role. It is the difference between Chinese and English in terms of subject and object drop that account for the different performance of subject and object omission in child grammar.

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[11] MUL stands for Mean Length of Utterance

In all, early null subject in non-pro-drop languages are different from null subject in both pro-drop and topic-drop languages, and it can not be analyzed via pro-drop or topic-drop languages.

Generally, there are two basic standpoints on this phenomenon. One is that null subjects in early languages is grammatical[12], the other holds that it is related to limitations on children's performance. The theories which attribute this phenomenon to the incorrect setting of pro-drop or topic-drop parameter were popular in the 1980s. However, those theories have been abandoned now because evidence were found to show that we can not assimilate NS in early languages with neither Chinese type or Spanish type of languages that allow NS (e.g., Hyams 1986, Jaeggli and Hyams 1988, Rizzi 1994) . By comparing the properties of NSs in early language and that in NS languages and relating NS in early languages to the development of root infinitives, Rizzi (1994) proposed another grammatical theory: early null subjects arise from another option governing the projection of functional categories in child grammar: the mechanism of clausal truncation. Early null subjects are antecedentless NCs licensed in the specifier of the root. RIs clauses include null subjects, which can be either NCs or PROs (Rizzi, 1994).

Unlike competence-based theories, performance-based propose that children know that subjects are compulsory as adults do. It is the processing deficits that attribute to subjects drop. One theory proposed by Bloom (1990) claims that early null subjects arises from a performance limitation on sentence length. The longer the utterance is, the more difficult it is for a child to perform since it demands more processing capacities. Another theory is proposed by Gerken (1996) which claims that it is the production system that accounts for NS in early language. This theory studied children's preference for the trochaic foot. Based on the Metrical hypothesis, children apply the trochaic foot to their intended utterance, they tend to omit the weak syllable that do not fit the template.

Though much has been studied and discussed about what accounts for NS in child language, there are still unsolved puzzles. However, based on the discussion before, what we know for sure is that NS in early language can not be analyzed via neither pro-drop or topic- drop languages.

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[12] In earlier studies, it is knows as competence-based

Chapter 4

Literature review

Children tend to drop subjects and objects around a certain age universally though their natives languages do not allow null subjects or null objects, they will gradually attain the knowledge that null subjects and null objects are ungrammatical with exposure to linguistic input. However, it becomes more complicated when a native speaker of a null-subject and null-object language acquires a language in which null subjects and null objects are not grammatical. The phenomenon of subjects and objects omission has been extensively studied in second language acquisition since 1980s. In this chapter, the relevant studies on this issue will be introduced and discussed in detail. .As discussed in chapter 2, there are two types of null subject languages, the Spanish type which involves pro-drop parameter, and the Chinese type which involves topic-drop parameter. The examined languages in the early studies of null subjects were mostly those rich in inflectional morphology such as Spanish, Italian, while considerably fewer researches were conducted on languages that lack rich inflectional morphology. In the following part, the studies on the two types of null subject languages will be discussed respectively.

4.1. Previous relevant studies on null arguments in pro-drop language learners' L2 English

White (1985a, 1985b, 1989), one of earliest linguists who studied this phenomenon in L2 acquisition, finds out that L2 learners initially prefer the L1 setting of the topic-drop or pro-drop parameter, but as the proficiency in L2 grows they can switch it to the L2 setting. Recently, with the popularity of third language acquisition, it has also been studied in L3 acquisition. In this part, the brief introduction to some of the relevant studies will be given.

Examining the parameter resetting process, White (1985) conducted the initial study of null subject. Considering Spanish is a language that allows null subjects while French isn't, the subjects in her study involved native speakers of Spanish and French, they were asked to do a grammaticality judgment task to test if they would transfer null subject features into English. In this task, 3 aspects of null subject parameter were tested: missing subjects, subject/verb inversion (verb-subject order is not grammatical), and *that-trace* effects(prohibition on extraction of a *wh*-phrase which is immediately preceded by a complementizer). The results of the experiment showed that both French and Spanish learners showed almost the same response to the sentences testing subject/verb inversion and *that-trace* effects: both of the two groups successfully rejected the sentences with VS order and both of them failed to reject sentences with that-trace sequences. At the same the Spanish learners had much more difficulty at rejecting the sentences without overt subjects than French speakers did. She also found out that the subjects responded to the test sentence with more accuracy when language proficiency improved. These findings suggested, first, L1 transfer does not take place in all the 3 tested properties of Null Subject Parameter; and second, attaching the correct value to Null Subject Parameter was more difficult for Spanish learners of English. Though simply one aspect of the parameter reflected L1 transfer, White stated this as evidence for the parameter resetting model of UG, thus effectively separating the missing subject property from the other properties assumed to cluster with the setting the Null Subject Parameter. In other words, she proposed that partial transfer and partial resetting takes place in SLA. Though White switched the focus of SLA study from null subject parameter to other fields later in her academic life, her work keeps being one of most cited reference even in the most recent study in null subject since it is the first one which examines the parameter resetting process.

During a 10-month longitudinal experiment conducted on a single 12-year-old Spanish speaker acquiring English, Hilles (1986) analyzed the production data representing the subject’s interlanguage and came to the conclusion that L2 learners would transfer a set of parameter settings from L1 to L2. Given that the parameter settings which are correct in L1 may not be the same case in L2, L1 transfer may be responsible for a L2 learner incorrectly assuming that a second language such as English allows subjects. Different from White, Hilles studied the same phenomenon from a different perspective: she compared L1 with L2 acquisition in terms of null subjects and she found similarity in them. This finding supports the claim that languages which license null subjects are less marked than those who do not. She proposed that this could be applied to explain why both English-speaking Children and Spanish learners of English initially allow null subjects in the target language. As far as I am concerned, this study and conclusion are not convincing due to two reasons: first, there is only one language being studied and it is barely enough to infer that all Spanish learners of English would produce the same data; second, though there are some similarities in children dropping subjects in their first language acquisition and French learners having the tendency to drop subjects in the acquisition of English, it is reckless to conclude that these two behaviors share the same properties. Further discussion of this aspect will be done and evidence showing the difference between English speaking children dropping subjects and objects and Chinese learners of English allowing sentences with null subjects and null objects was given in the previous chapter.

Hilles (1991) conducted a longitudinal study on 2 adolescent and 2 adult native Spanish learners to examine their development of pronominal subject and overt inflection in the interlanguage while acquiring English as a second language. According to MUP proposed by Jaeggli and Hyams (1988), since Spanish is a ［+uniform］ language in which null subjects and null objects are grammatical, when Spanish speakers acquire English as a second language, one primary task is to switch this setting and be aware that English is a ［-uniform］ language thus do not allow subjects and objects to be dropped. Hilles predicted that by realizing English is morphologically mixed, the Spanish learners would start produce overt subjects; and the use of inflection in English is closely related to the correct use to pronominal subjects. The results were controversial. The data of one of the adolescent participant showed that the variables of inflectional development is closely related to overt subjects, and this could be interpreted as UG is accessible to him. In contrast, the data of the other adolescent participant did not reflect such a corelation, and according to Hilles, this suggested that parameter resetting did not occur. The conclusions made based on the different acquisitional behavior observed in this study should be taken critically.

Lakshmanan (1991) conducted a longitudinal study on 3 young children who are native speakers of Spanish, French, and Japanese respectively. The purpose of the study is to find out whether null subjects in L2 learner’s grammar is accompanied by the lack of inflection. The three languages in this study represent the three most discussed languages in null subjects and null objects- French stands for languages that does not allow null subjects; without rich inflection. Japanese stands for languages that allow null subjects and have underspecification of inflection (Sano & Hyams, 1994) ; and Spanish stands for languages that license null subjects and are with rich inflectional morphonology. The three subjects in this study are 4-year-old Spanish learner Marta, 4-year-old French learner Muriel, and 5-year-old Japanese learner Uguisu.

The collected data in this longitudinal study showed that Marta, the Spanish speaking child, started from using sentences without subjects and most of the null subjects are used in copular sentences with the verb form is. Nevertheless, no relation is found between null objects and the omission of inflection. Similar results are found in Muriel's data. She uses null subjects too in her production is restricted to contexts with it is. In her data, the use of inflections and null pronominal subjects are not related. Surprisingly, Uguisu performed quite poor on English verbal inflections while she did not use sentences with null subjects at all.

Uguisu's data showed contradicted evidence to the general findings that a L2 learner with null subject grammar in his L1 is likely to drop subjects in the L2 at the early stage and then unlearn the Null Subject Parameter. Lakshmanan suggests that Uguisu did not show any difficulty in using subject pronouns from the very beginning because subjects in English were salient to her. According to Lakshmana, Japanese, like Chinese, is a discourse-oriented language which licenses null subjects and null objects while English, on the contrary, is a sentence-oriented language which does not allow null subjects and null objects. It was concluded that when *the L1 is typologically very different from the L2, transfer of the L1 setting to the L2 is blocked.* (pp.408)

Galasso (2002) carried out a six month observational trial study investigating to what extent does L1 parameter setting transfer and potentially interfere with the learning processes of L2. The subjects in this study were 20 Spanish speaking students who had very little knowledge of English. The study was conducted in the setting of a classroom and the collected data was from the subjects' in-class wring and speaking skill sessions. The observation period was divided into two stages: weeks 1-6 (stage 1) and weeks 7and onward. The data showed that in stage 1 L2 errors were not random but the result of complex decisions based on their L1 parameter settings; in stage 2 the subjects started to find overt subject pronouns compulsory in English while there was a decrease in Double Pronoun Subjects.

It was concluded that, first, Universal Grammar can be reactivated for L2 learning only via L1 which can be interpreted as UG in its entirety is no longer available to the learner. Second, it is because of the assumption that L1 parameter settings are true to L2 that subjects made L2 transfer errors. However, when the subjects reached a more advanced stage, they started to *cognitively manipulate L2 input and formulate it into an L2 grammar*. (Galasso 2002, pp. 17)

In recent years, Sorace and her colleagues has contributed greatly to the study of SLA with the Interface Hypothesis (Tsimpli and Sorace 2006, Sorace and Filiaci 2006, Sorace 2011, etc). Though the relevant researches mainly involve highly advanced speakers in bilingualism, and the L2 been studied is Italian instead of English, the theory is still valuable and worth discussing here since the interpretation, acceptance and production of pronominal subjects have been studied.

The Interface Hypothesis is *an attempt to account for non-convergence and residual optionality found at very advanced stages of adult L2 acquisition* (Sorace, 2011). The hypothesis assumes that it is less likely for L2 learners to completely acquire language structures that involve an interface between syntax and other cognitive domains than pure syntactic language structures.

4.2. Previous studies on null arguments in Chinese learners' L2 English

Even up until now, very limited attention has been paid to topic-drop languages as Chinese in this field. And most of the studies discussed the asymmetry between the unlearning of null subjects and objects.

Zobl (1994) is probably the first linguist whose study involves the unlearning of null subjects and null objects by Chinese learners of English. In the study, Zobl applied a judgement test of English to investigate the L1 transfer of English learners with different native languages. An asymmetry was found in rejection of English sentences with null subjects and null objects: 75% Chinese learners rejected English sentences with null subjects while 43.8% of them rejected English sentences with null objects. With regard to the English learners whose native languages were not Chinese, 90% of them rejected null subjects when 80% of them rejected null objects. In comparing the data, it is shown that the performance of Chinese learners and non-Chinese learners were quite similar in rejecting null subjects; but Chinese learners had a much lower rate in correctly rejecting null objects. Without further data analysis, it is not clear that whether this difference in judging English sentences with null subjects and null objects is statistically significant. And an explanation of the asymmetry found in correctly rejecting null subjects and null objects was not given in his study. At the same time, another problem in his study is the clarification of participants was not clear. Among all the non-Chinese native languages involved in this study, there was not only Japanese which also allows null subjects and null objects but also French which finds null subjects and null objects ungrammatical in formal context. Nevertheless, Zobl was the first one who found out the asymmetry and he inspired Yuan to further investigate it.

Yuan (1997), one of the few linguists who studied Null Subjects and Null Objects altogether, conducted her experiment on 159 Chinese learners of English to investigate the unlearning of null subjects and null objects. The subjects were divided into 7 groups according to their different English proficiency level and a group of 17 native English speakers are also involved as a control group. All the subjects were asked to do an acceptability test. Eight types f sentence structures with different forms of null subjects and null objects were adopted to test whether Chinese learners were conscious that English does not allow null subjects and null objects. Analyzing the collected data, an asymmetry was found in Chinese speaker's L2 grammars of English - most Chinese speakers were able to detect the ungrammaticality of null subjects while it was difficult for them to reject the sentences with incorrect null objects.

Yuan argues that transfer does occur in the acquisition of English for Chinese learners with respect to the parameter setting of [+ topic drop]. The reason that the [+ topic drop] parameter keeps functioning is that there is not enough positive evidence to reset the parameter. Thus the Chinese learners fails to reject the English sentences with null object. At the same time, null subjects are not accepted in Chinese learners' L2 grammar. It is argued that the unlearning of null subjects is triggered by the positive evidence in their input that the specification of feature Agreement and Tense in English and that V-to-I raising in the target language.

The conclusion of this study can be stated in 3 aspects: first, the asymmetry found in this study implies that there seems to be no parallelism between L1 and L2 development; second, L1 transfer does take place in L2 acquisition; third, parameter settings in L1 has to be deactivated and reset in L2 grammar.

Yuan's study has been valuable in the related field of linguistics because, first of all, the null subject and null object phenomenon were studied altogether; second, Chinese, the language without rich inflectional morphology was closely examined; third, participants in this study were divided according to their English proficiency and he offered an explanation to the asymmetry found in unlearning null subjects and null objects.

Following Yuan, Kong (2005)[13] conducted a study to investigate the the acquisition of English obligatory overt argument by adult Chinese learners. The purpose of this study is to discussion the reliability of Yuan' (1997) assumption. 75 Chinese learners of English participated in this study and were divided into three experimental groups -the higher elementary, intermediate and the advanced groups, based on their English proficiency level. The control group consisted of 10 native English speakers. All the participants were asked to do three tasks: an error detection task and a cloze test. The error detection task, a revised and expanded version of Yuan's test, included null subjects in matrix and embedded clauses, null objects in matrix sentences, null expletives in matrix and embedded clauses and subject-verb agreement. A listen-and-repeat test and a reading-and-discussion task were also used as supporting data for the study. According to Kong, the design of the test was the extent to which Chinese speakers responded to null argument properties (Kong 2005, p.236). Kong added some other syntactic properties to his test, which are null subjects in matrix and embedded clauses with overt topics and null matrix and embedded subjects in *wh*-clauses, to test whether Chinese speakers could be influences on their ability to detect the ungrammaticality of null subjects and null objects when topics are in the clause initial position. It was found out that all the participants had better performance in matrix sentences than in embedded sentences regardless of whether null subjects or null objects were involved. Nevertheless, null subjects were performed significantly better than null objects in matrix sentences whereas in embedded sentences the opposite was true. That is, null subjects in embedded sentences are generally more difficult for Chinese speakers to detect. On the other hand, all the 3 groups showed no significant difference in detecting the subject-verb agreement errors. It was also found out that all learners had better performance in detecting null s than null matrix and embedded subjects in overt topic clauses.

Kong's (2005) study involved two main tasks and different syntactic properties were tested, the results listed below are the ones that are related to the purpose of the present study:

i) Chinese speakers are better at detecting the need for overt subjects in matrix clauses and verb agreement than overt subjects in embedded clauses;

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[13] Stano Kong(2003, 2005, 2007, etc) conducted a series of studies in the field of the asymmetry between the unlearning of null subjects and objects, but some of his studies are repetitive. The study introduced here is his most important work in this field.

ii) There are so significant differences between the three experimental groups in detecting the need for subject-verb agreement;
iii) All the subjects combined showed better performance in null matrix objects than null embedded objects;
iv) All the subjects combined performed better at null matrix expletives than null embedded expletives, however, no significant difference was found among the three experimental groups.

Kong assumes that, first, these findings do not support Yuan (1997)'s assumption that it was the recognition of verb agreement that triggers the unlearning of null subjects and objects by Chinese learners. He argues that these findings actually support the view of Tsimpli, Ianthi-Maria and Roussou (1991) that older learners do not reset the parameter, instead, they make small adjustments to the use of topic chains while maintaining the parameter setting.

Wang and Yu (2012) carried out a more recent study involving the unlearning of null subjects and null objects by Chinese learners. The 108 participants in the study were divided into 3 groups: the elementary group consisted of first-year students of junior high school; the intermediate group included second-year students of senior high school; and the advanced group consisted of first-year postgraduates of English majors. All the participants were asked to do a sentences judgement and error correction task. The tested sentences included matrix and embedded sentences with null referential subjects or null expletives or null objects. The results showed that participants had better performance in judging the ungrammaticality of English clauses with null subjects than that with null objects. This finding supported Yuan (1997)'s assumption that there is an asymmetry of the unlearning of null subjects and null objects. In addition, with the improvement in participants' language proficiency, the rates of correctly judging the ungrammaticality of sentences with null subjects and null objects increased. It is proposed that though the unlearning of null objects is related to the topic drop in the discourse, it is at the interface level of syntax and discourse. According to the Interface Hypothesis proposed by Tsimpli and Sorace (2006), the pure syntactic knowledge in second language is easier to acquire than the knowledge as to the interface of syntax and other levels, and thus, the unlearning of null objects is more difficult than that of null subjects. Another asymmetry was also found in the unlearning of null subjects and null objects between matrix sentences and embedded sentences. To account for this, they proposed that the hierarchical structure of embedded clauses in syntax is lower than that of matrix clauses. Thus embedded clauses are in a subordinate position in the syntax, semantics and discourse. Thus learners failed to pay attention the the embedded clauses. Interface Hypothesis was also proposed to account for the finding that the unlearning of English null expletives was easier than the unlearning of English null referential subjects. English null expletives have only syntactic functions but without any semantic reference, and thus they are purely syntactic. In terms of null referential subjects, both syntactic level and pragmatic level are involved, and the interface makes the unlearning more difficult.

Chapter 5

Method and Methodology

5.1 Hypothesis

We have discussed the linguistic variation between Chinese and English in terms of null objects and null subjects in the previous two chapters. While null arguments are licensed in Chinese, subject and object drop is not allowed in English. Thus when Chinese learners acquire English as their second language, it is expected that there will be some learnability problems. In this experiment, we assume that the L1 transfer takes place in L2 acquisition. Applying the parameter setting theory, it is assumed that Chinese learners have already set the topic-drop parameter on when they reached the steady state in L1 acquisition. When they start to acquire a second language (which is English in this experiment), they would assume that L2 also allows null subject and null object at least at the beginning of acquisition. To reach the steady state in L2, they have to unlearn the feature of null subjects and null objects in their L1 to accommodate to their L2.

Based on the previous studies on null subjects and null objects in L2, we know that Chinese learners do have problems in rejecting null objects and null subjects in their L2. So this experiment is designed based on a hypothesis that the L1 transfer does take place in L2 acquisition and interferes with it. That it to say, the Chinese learners would be affected by their L1 and it would be difficult for them to unlearn null subjects and null objects in their L2. The experiment aims at figuring out whether Chinese learners of English could reset the topic-drop parameter and spot the ungrammaticality concerning null subjects and objects in English without the influence of the L1 grammar. In addition, the role of second language proficiency level is also investigated to examine how it is related to the unlearning process in second language acquisition.

The analysis of the results of the experiment is expected to answer the questions raised in Chapter one :

A) Does L1 transfer take place in SLA?

B) If yes, to what extent does it interfere with SLA?

C) Does the influence of L1 transfer decrease with improvement in second language proficiency?

D) Is there an asymmetry of the unlearning of null subjects and null objects?

E) Is there an asymmetry of the unlearning of null subjects/objects in matrix and embedded sentences?

5.2 Test Design

The ideas of tests in the work of Yuan (1997) and Kong (2005) are adopted in the present thesis. [14]

5.2.1 Subjects/Participants

A total of 53 subjects participated in this experiment[15], divided across 3 experimental groups and a control group of native English speakers. All the Chinese subjects in the 3 experimental groups are Chinese college students learning English as a second language. And they were divided with regard to the levels of English proficiency. Due to limited time and resource, an unified English proficiency test was not conducted on all the subjects. To assure the validity of the division, the subjects in Elementary and Intermediate Group were selected according to their grades in two English tests: college final examination in the autumn semester 2015 and their grades in CET4 in December, 2015.[16] The Level 1 group consists of 21 subjects whose grades range from 15 to 30 in final examination in the autumn semester 2015, and all of them failed CET4. To make contrasting differences between the subjects in their English proficiency, the Level 2 group is composed of 23 students whose scores range from 65 to 80 in the final examination 2015, and all of them have passed CET4. As for the Level 3 group, the participants are 5 students who have studied in English speaking countries for more than one year. To study in English speaking countries as a master student, they have to get at least 6 in IELTS, and being in an English context will help them further improve their English. To be more specific, the Level 1, 2, 3 groups are called elementary, intermediate and advanced group accordingly in the following discussion. The control group included 3 native speakers of English who are living in China now, all of them are English teachers in Chinese colleges or high schools. Of all the participants, most of them are under the age of 25, only 5 of them are in their 30s.

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[14] Some test sentences and sentence structures were directly adopted in this test. Also some changes have been made to make the test serve best for the purpose of this study.

[15] Actually, 55 subjects were tested but only 53 of the results turned out to be valid.

[16] The participants are from different grades in college, without an unified English proficiency test, it would be more precise if more than one exam result was considered at the same time. Final examinations in college are different from university to university and the grading system applied here is the hundred mark system with 60 being the passing line. CET4/6 is nationally unified but since it is not compulsory some of the participants did not take it. CET4/6 is a Chinese national English test for non-English majors with a total score of 710 (the passing score could vary, but the average is 425), it is to test college students' English proficiency. It consists of two levels, Band 4 and Band 6. Around 40% of all the college students could pass CET 4, thus the students with a CET4 certificate are considered as the ones who have reached the intermediate level. A CET 6 certificate is the highest certificate of English language proficiency for a non-English major to get in university.

The following tables shows the general information of the subjects in this experiment:

Table 3 General Information of The Subjects

Group	Number	Age			Score Range	
		Mini	Max	Mean	Final Exam	CET
1.Elementary	21	17	19	18.2	15-30	Failed
2.Intermediate	23	19	23	20.3	65-80	Pass
3.Advanced	6	23	28	25.8	/	/
4. Native	3	25	32	28.4	/	/

5.2.2 The task

Scalar Grammaticality Judgement Task (SGJT) is applied in this experiment to test if the participants are able to detect and correct the ungrammatical of null subjects and null objects in English sentences. All the subjects were presented with a questionnaire which consists of 45 English sentences and they were asked to grade all the sentences according to its grammaticality. The judging system consists of 5 levels, from 1 to 5, with 1 means the least acceptable and 5 means the most acceptable. To be more specific, 1 means the subject is confident that the sentence is not acceptable and can underline and the ungrammatical part. 5 means the subject finds the sentence grammatical and can be accepted. From 1 to 5, with the score increases, the participants are more confident that the sentence is the dividing line in this system is 3.

SGJT is always carried out with correction, and this test is no exception.[17] The participants were asked to underline the ungrammatical part and correct it if they grade a sentence under 3 (including 3). If a subject grades a sentence under 3 (including 3) but failed to underline and correct the mistake, that grading would be adjusted to 4 because that implies that he/she feels that there is something wrong in that sentence but fails to spot it. If a subject grades a test sentence under 3 (including 3) and fails to spot the ungrammatical part over 5 times, his/her answers will be judged as invalid and won't be taken into consideration in the data collection. Third, to rule out the lexical factor that might influence the results, the vocabulary used in the test are at a fundamental level to make sure that all subjects can read the questionnaire without any difficulty. All the sentences are put in random order to rule out the possibility that the subjects could get some hint from the sentence order.

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[17] In the previous version of the test, the Scalar Grammaticality Judgement Task was carried out without correction, the participants were asked to simply underline the ungrammatical part if they grade a sentence under 3. However, when analyzing the collected data, it was discovered that some participants tended to score the sentences above 3 to

5.2.3 Test sentences

In the empirical study, eight sentence structures were used to test whether Chinese learners of English could unlearn the null subject and null object parameter in acquisition of English as a second language. The eight sentence structures were inspired by Yuan (1997).[18] The sentences were categorized based on the following factors to investigate whether they could influence the unlearning process: null objects/subjects; matrix/embedded sentence; expletives. The division between null subjects and objects is based on the discussion in chapter 3 and it is to test if an asymmetry can be found in unlearning. Second, when we discuss null subjects, we found out that null referential subjects are different from null expletives while the latter are only structural subjects which do not bear any semantic contents. The separation of null expletives from null referential subjects is to test if the pure syntactic language structure is easier to acquire. At last, the study still aims to find out if an asymmetry exists between unlearning null arguments in matrix and embedded sentences. That is, we expect to find out if the unlearning process or the parameter resetting is influenced by the syntactic positions of null arguments.

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avoid underlining the ungrammatical part. To make sure we could separate the participant s according to their performance in unlearning null arguments, correction was carried out in the final test.

[18] In Yuan (1997), he used 9 sentence structures. Though inspired by Yuan, the test sentence structures were different and limited to eight, considering the aim of the present thesis. And to balance the number of sentences with null subjects and null objects, sentences with null expletives were limited to two in each structure.

(a) Null objects in Matrix Sentences

a. If you do not like this jacket, then do not buy.

b. She likes her aunt, but her sister does not like.

c. She picked up a coin and put in her pocket.

d. My husband is coming back from Chengdu tomorrow, I have to pick up at the airport.

e. Mary's car broke down yesterday, I would repair for her.

(b) Null objects in Embedded Sentences

a. She was in the office, but he said he did not see there.

b. I lost my wallet last week, but the police said they have found for me.

c. Mary is a new student, I think the teacher should introduce before class.

d. She is looking for the key, she remembers she put on the table yesterday.

e. Tom is due to arrive at 5 p.m. I hope you can meet at the station.

(c) Null subjects in Matrix Sentences

a. I bought a new book yesterday, was very interesting.

b. She met her high school classmate, was very happy.

c. I watched a movie yesterday, was very fun.

d. The flowers are blooming in the garden, are so beautiful.

(d) Null subjects in embedded sentence

a. She visited Tokyo last week. She said was very beautiful.

b. He had an exam yesterday. He thought was difficult.

c. His fight took off two hours ago. I think has already landed.

d. Lucy could not sleep last night. I guess is sleepy now.

(e) Absence of the Expletive *it* in matrix/embedded sentences

a. What a lovely day. Is sunny outside.

b. Seems that she misunderstood what I said.

c. The ground is wet. I think rained last night.

d. It has been snowing for a whole week, I hope will stop snowing tomorrow.

(f) Absence of the Expletive *there* in matrix/embedded sentences

a. The sun is back, are several birds singing in the tree.

b. Today is so warm, are some boys swimming in the river.

c. Jim said were beautiful flowers in his garden.

d. I visited that city last summer, I remember was a red house around the corner.

16 sentences were added to the questionnaire as distracters/fillers[19] to keep the subjects from inferring the objectivity and to protect the credibility of the test. In general, the fillers are used to prevent the participants forming a consistent response pattern. The grammatical sentences with objects and subjects are presented to prohibit the participants from judging all the sentences ungrammatical. In addition, the previous chapter discussed that certain objects can be dropped in English sentences and they are still grammatical, the English sentences without objects are used as fillers in the questionnaire to examine if the participants can separate them from the ungrammatical sentences without objects. And some other ungrammatical sentences are also included.

Grammatical sentences with Objects and Subjects:

a. The new year is coming. We will celebrate it very soon.

b. She said she read the book twice, but she still could not understand it.

c. I can’t find my key, I think I lost it.

d. She always borrows books from his neighbors. I think they are very good to her.

Grammatical sentences with expletives:

a. It snowed last night.

b. There are three new students this term.

c. They couldn’t speak to Mr. Smith today. They hope it will be possible to speak to him tomorrow.

d. I heard there was an accident yesterday.

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[19] The results of participants on fillers were just analyzed very briefly. In general, the elementary group scored them quite randomly; the participants also gradually improved with their advances in English proficiency level. As for the natives, they also performed perfectly in judgeing them. The tendency is in line with what we found in their judgment in the ungrammatical sentences. And the results of the fillers won’t be discussed in the following part.

Grammatical sentences without objects:

a. The class starts at 9, I have to go.
b. Mary likes swimming, but I do not.
c. She said the movie was boring. I agreed.
d. I did not help preparing dinner, she did.

Ungrammatical Sentences

a. Alice is go to leave after lunch.
b. Julie is very angry and refuse to talk to anyone.
c. Parties has never liked.
d. It took him two hours climb the mountain.

5.2.4 The procedure

The questionnaire starts out with the necessary personal information for subjects to fill in (name, age)[20]; the second part of the questionnaire is the brief instruction on the judging system of the test (for Chinese participants this part is given in Chinese and for English speakers it is given in English). Three sample answers are given to help participants understand the rules, if they still have doubts, 5 minutes are given for them to ask questions; the main body of the questionnaire consists of 26 test sentences and 16 sentences as fillers. All of the sentences are put in random order. All the questionnaires are answered on the same day, different time though. To make sure the subject answer the questionnaire without any help or interruption and rule out any possible environmental factor that might influence the results, it is done in a classroom. Most of the subjects finish it within 25 minutes with 4 of them taking 25-30 minutes.

5.3 Results

When analyzing the data, it was found out that though 3 is considered as the dividing line in individual’s judging system, it was hard to say a student is absolutely incapable of detecting the ungrammaticality of null subjects and null objects in English when the mean score he/she got is above 3.[21] To discuss and compare the results in detail, first, we have to consider the scale closely and be more specific about it. The participants with an average judgement of 4-5 score are considered as below chance, that is, it is unlikely that such speakers realize that null subjects and objects are ungrammatical in English and they still have the Chinese parameter setting. Someone who is on average scores in the middle section, say with an average between 2.5-3.5 can be considered to score at chance. It means that they grade the sentence quite randomly. They are not sure if null subjects and objects are licensed or not, or at least we cannot draw any conclusions about this based on their judgements. Finally, someone who scores between 1-2.4 probably knows that null subjects and objects are not acceptable in English, so they score above chance. If we divide the scale more or less evenly, then we get the following scale:

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[20] With the participants’ permission, I consulted the Office of Academic Affairs to get access to the students’ grades.

(24)
a) 1-2.4 = above chance (they are aware of the fact that English does not allow NS and NO)
b) 2.5-3.5 = at chance (they are not certain and score in the middle – or at least we cannot know whether they have the Chinese or the English setting because they behave like they are somewhere in between)
c) 3.6-5 = below chance (they clearly do NOT know that English does not allow NS and NO)

To discuss the results in more detail, t test and Independent T test were also applied in data analyzing and in the following description.[22]

5.3.1 Group Performances

Figure 1 shows the mean scores of judgements on null subjects and null objects of the elementary group. As for null objects, with a mean score of 3.86, the elementary group scored the sentences below chance, that is, they do not know that null objects are not allowed in English and they still have the Chinese parameter setting for them. They seemed to get better at rejecting null subjects, and the mean scores suggested that they were not sure whether null subjects were licensed in English or not and they scored quite randomly. The results of t test shows that the difference in rejecting null subjects and null objects are not statistically significant (t=-1.009, P=0.319>0.005).

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[21] First, quite a few students successfully graded a sentence 3 and underlined the ungrammatical part but failed to correct it. Second, taking null objects in matrix sentence for example, some students can successfully grade a sentence under 3 and correct the mistake in some sentences, but failed to do so in other sentences.

[22] With limited participants in this empirical study (especially in the advanced and control group), the results of statistical analysis were only used as supporting evidence, the main discussion and conclusion will be based on the scale in (23).

In general, the elementary group could have the [+topic-drop] parameter for null objects while they were not sure if this parameter still works for null subjects. However, statistically, an asymmetry between unlearning of null subjects and null objects was not found in this group.

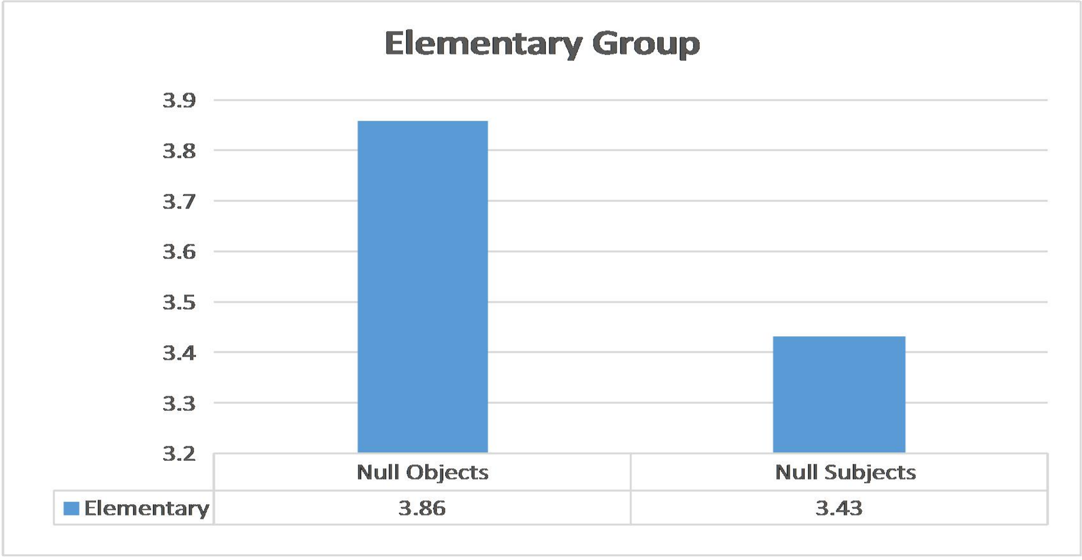

Figure 1 Mean Scores of Judgements on Null Objects and Null Subjects of the Elementary Group

The intermediate group, as Figure 2 shows, scored sentences with null objects quite randomly and they seemed uncertain about the ungrammaticality of null objects. However, with a mean score of 2.69, they were very close to reject the sentences with subjects. That is, they were near to reset their parameter for null subjects. Though the scale in (24) says that the intermediate group scored sentences with null subjects and null objects both at chance, the result of t test shows that the difference between rejecting null subjects and null objects was statistically significance (t=-0.457, p=0.009<0.05). That is, the intermediate group behaved somewhere between the Chinese and English parameter setting while asymmetry was found in their unlearning null subjects and null objects.

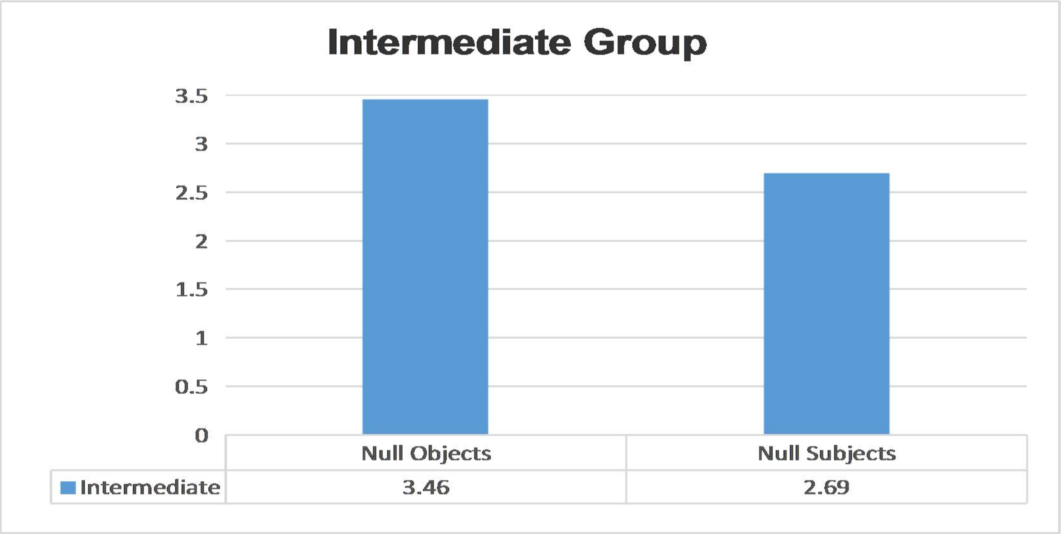

Figure 2 Mean Scores of Judgements on Null Objects and Null Subjects of the Intermediate Group

According to Figure 3, with a mean score of 2.5, the advanced group were quite close to reject null objects. And in terms of null subjects, this group scored above chance, and it implied they know null subjects are not licensed in English and they have the English parameter setting for null subjects. The result of the t test showed that the difference between unlearning null objects and null subjects was not significant (t=-0.985, P=0.423>0.005). That is, this group performed somewhere between the [+topic-drop] and [-topic-drop] parameter setting for null objects while they have the English parameter setting for null subjects. An asymmetry between unlearning of null subjects and null objects was not found statistically.

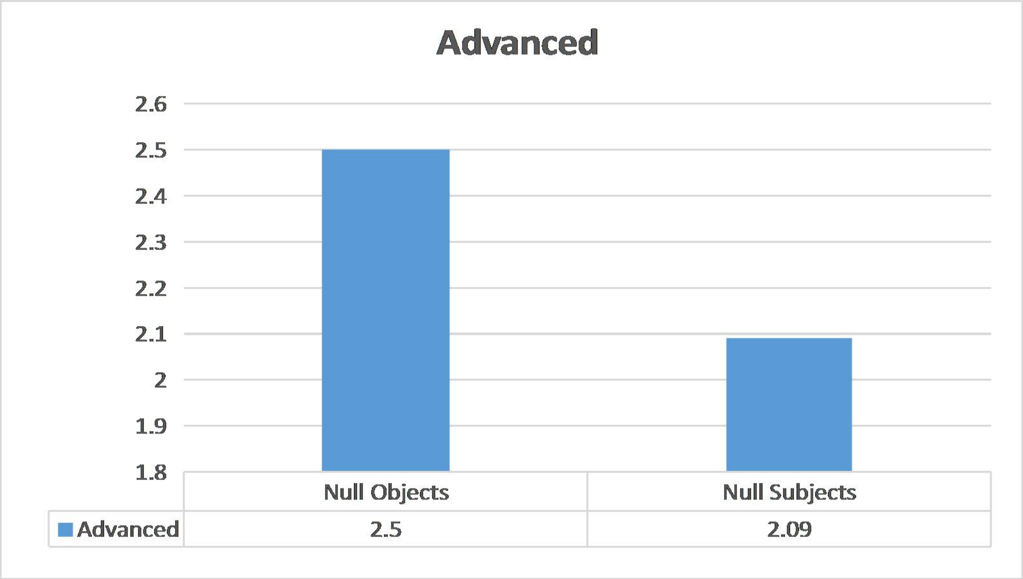

Figure 3 Mean Scores of Judgements on Null Objects and Null Subjects of the Advanced Group

Figure 4 shows that, native English speakers, as expected, successfully rejected sentences with null subjects and null objects. And it is obvious that there was symmetry in their performance.

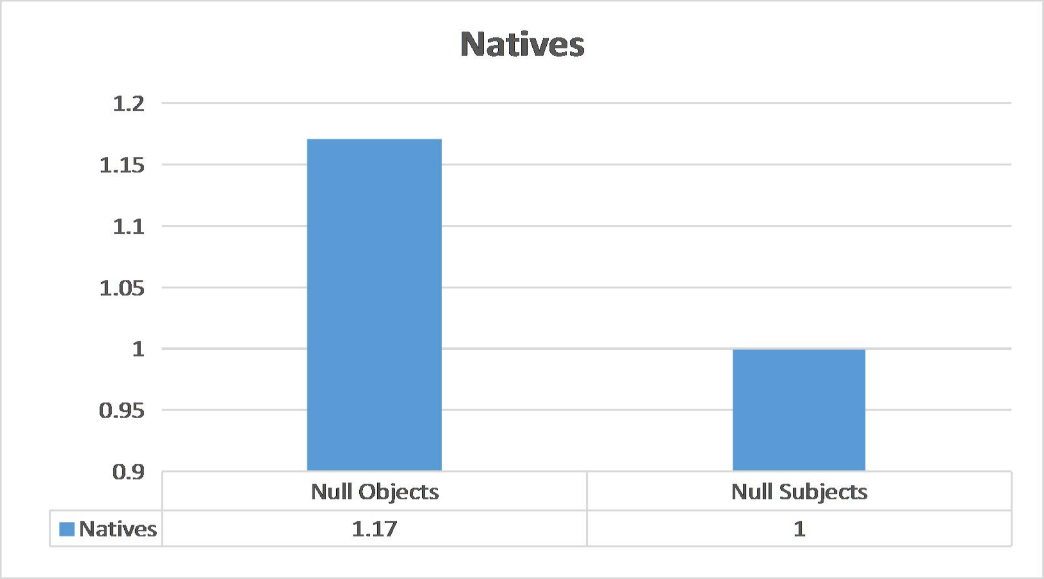

Figure 4 Mean Scores of Judgements on Null Objects and Null Subjects of the Control Group

To briefly summarize, the three experimental groups altogether had difficulty rejecting null objects, and all of them did not have the near-native performance in rejecting null subjects and null objects. While it is certain that the elementary group still have the Chinese parameter setting for null objects, it is also clear that the advanced group have the English parameter setting for null subjects. An asymmetry was only found in the intermediate group between unlearning null subjects and null objects statistically.

Figure 5 is the overall performances of all the three experimental groups. As we discussed in chapter three, there are two types of null subjects: null referential subjects and null expletives. Hereby in the following figure, null subjects were divided into two types.

As we can see, it is clear that the three experimental groups showed improvements with their advances in English proficiency level.[23] The results of Independent Sample T test[24] provided supporting evidence for the assumption.

While the elementary group, with a mean score of 3.86, certainly can not reject null objects, the intermediate group and the advanced group scored quite randomly on them. It implies that with their improvements in English competence, the participants became more certain about the ungrammaticality of null objects. It is safe to draw the conclusion that the elementary group still have the Chinese parameter setting and the intermediate group were less sure about the Chinese parameter and it is possible that they have unconsciously started to reset the topic-drop parameter. The advanced group, unsurprisingly, were very close to abandon the Chinese topic-drop parameter and apply the English parameter setting for null objects.

Second, as discussed before, the elementary and intermediate group scored the null subject sentences quite randomly, both of them seemed to be unsure about whether null subjects are allowed in English or not. Nevertheless, the results of Independent Sample T test showed that there was significant difference between elementary and intermediate group.

Third, all the three experimental groups performed best at rejecting null expletives. Though both the elementary and intermediate group were still uncertain about the Chinese or English parameter setting, they still performed significantly different from each other. As we discussed about Figure 3 that asymmetry in unlearning of null objects and null subjects was not found in the advanced group, but if we run the t test on null objects and null expletives, the result is different(t=3.351, P=0.008 < 0.05). An asymmetry was found between unlearning null objects and null expletives.

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[23] The control group rejected all the ungrammatical sentences with null subjects, null objects and null expletives and their performances will not be discussed in detail in this part.

[24] See Appendix II for detailed statistics.

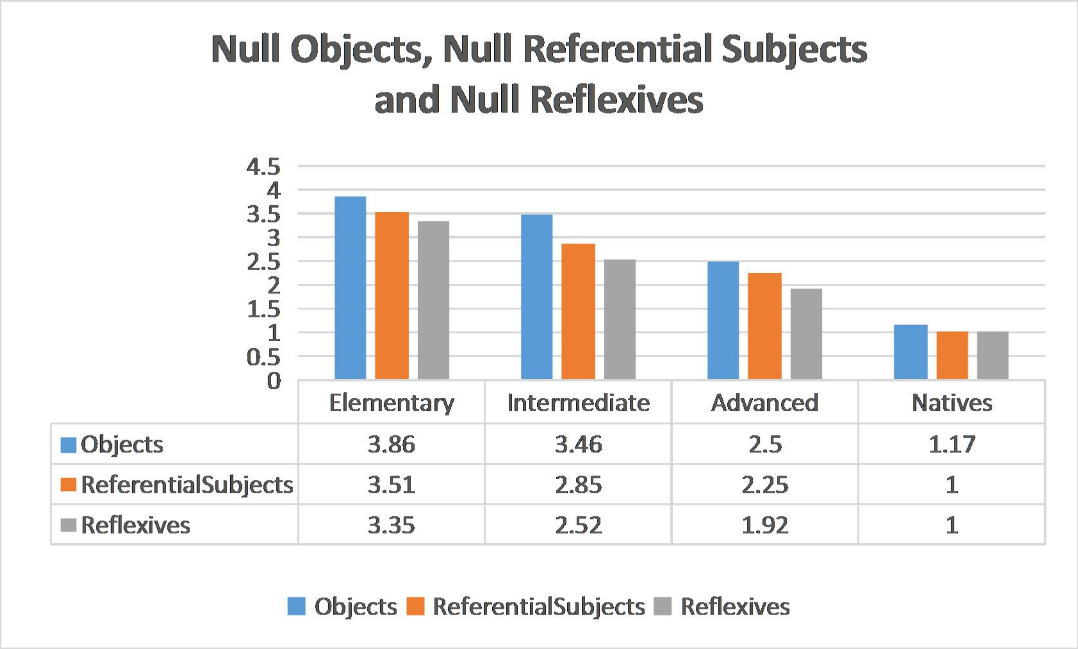
In the following section of the results description, the participants' performance will be discussed within the group.

To start with, the data show that, the elementary group, with a mean score of 3.86, were not aware that they should reject null objects, and they seemed to still have the Chinese parameter setting for them. With a mean score of 3.51, though they had lower mean scores, the elementary group still can not reject null subjects and it is likely that they still haven't reset their parameter setting and kept their Chinese parameter setting. And things started to change when it comes to null expletives. This group seems to be less sure about their Chinese parameter setting though they still scored sentences with null expletives quite randomly and were unsure about whether null subjects are allowed in English or not.

The intermediate group, with advances in English proficiency level, scored the sentences with null objects quite randomly while they knew clearly that null subjects and null expletives are not allowed in English. It seems that for intermediate speakers, the Chinese parameter setting for null arguments were less solid than that of elementary speakers.

The advanced learners, with more exposure to English, can successfully reject all the sentences with null subjects, null objects and null expletives. But we can not ignore the fact that their performances were also best at rejecting null expletives and worst at rejecting null objects.

To briefly summarize, first, an asymmetry has been found between unlearning of null subjects (null expletives included) and null objects which is in accordance with the studies of Yuan (1997) and Kong (2005). Second, the three experimental groups showed improvements in rejecting null arguments with advance in English proficiency level, but even the advanced group did not show near native competence of English.



	Elementary	Intermediate	Advanced	Natives
■ Objects	3.86	3.46	2.5	1.17
■ ReferentialSubjects	3.51	2.85	2.25	1
■ Reflexives	3.35	2.52	1.92	1

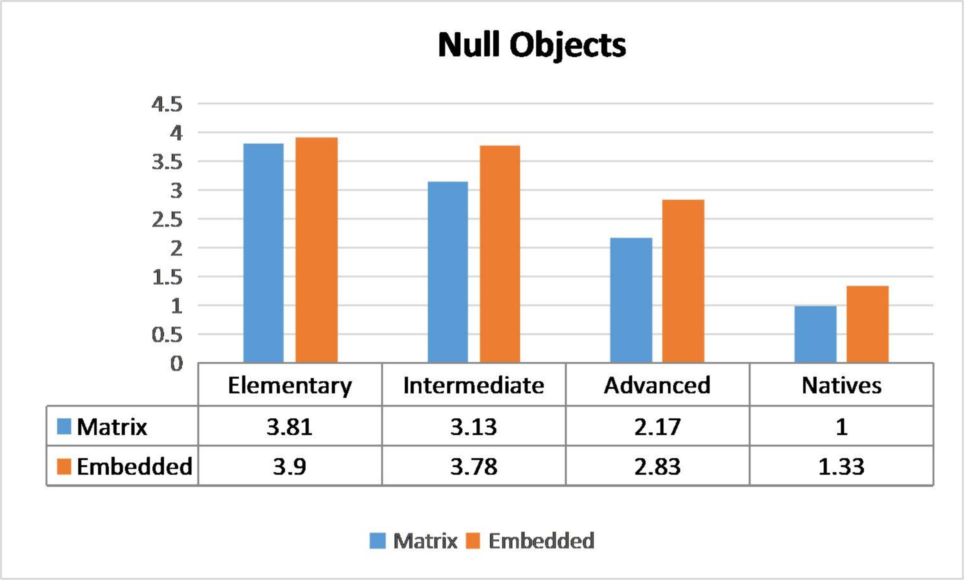
Figure 5 Overall Performances of the three experimental groups and the control group

5.3.2 Null Arguments in Embedded and Matrix Sentences

Despite the fact that all three experimental groups failed to reset the [+topic-drop] parameter to [-topic-drop] for null objects, Figure 6 shows that the situation is more complicated than that.

As expected, the elementary group scored null objects both in embedded and matrix sentences below chance and they still have the Chinese parameter setting for both of them. However, the intermediate group showed some difference. The data showed that when they scored matrix sentences with null objects, they were not sure about the Chinese or English parameter setting. But they failed to detect the ungrammaticality of null objects in embedded sentences. As for the advanced English learners, they scored the successfully detected that null objects are not allowed in matrix sentences while they were still uncertain whether they are allowed in embedded sentences.

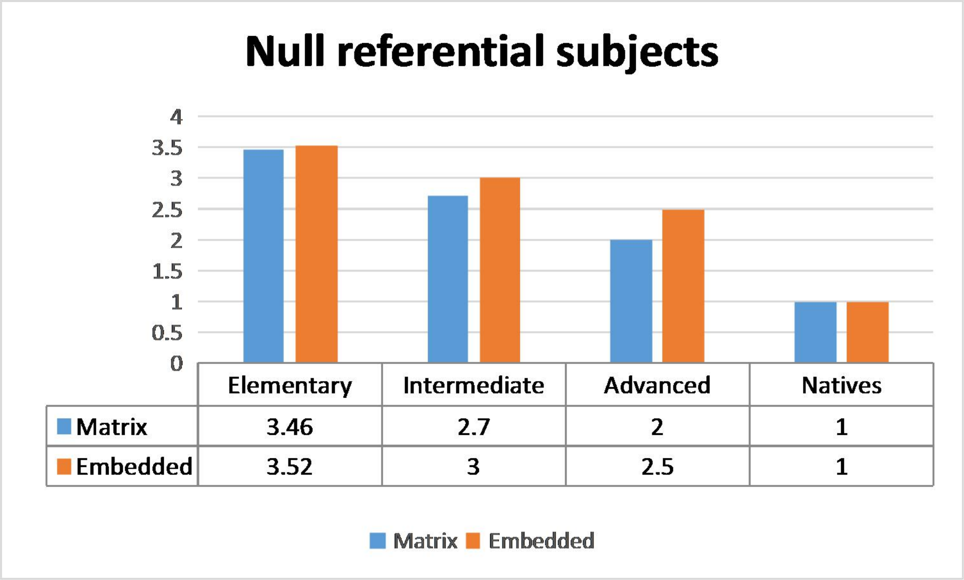
The results of t test showed that there is significant difference between unlearning of null objects in matrix and embedded sentences for advanced learners (t=-2.158, p=0.025<0.05).



	Elementary	Intermediate	Advanced	Natives
Matrix	3.81	3.13	2.17	1
Embedded	3.9	3.78	2.83	1.33

Figure 6 Mean scores of judgements on null objects in matrix and embedded sentences

According to the data in Figure 7, the elementary group did not show much difference in judgment between null referential subjects in embedded and matrix sentences. They still behaved quite poorly at rejecting them. As to the advanced group, while having the English parameter setting for null referential subjects in matrix sentences, were still on the edge of confusing the parameter setting in embedded sentences. The results of the t test did not show an asymmetry between the unlearning of the two types of null arguments in all the three experimental groups.



	Elementary	Intermediate	Advanced	Natives
🟦 Matrix	3.46	2.7	2	1
🟧 Embedded	3.52	3	2.5	1

Figure7 Mean Scores of Judgements on Null Subjects in Matrix and Embedded sentences

As we described before, all the three experimental groups were best at rejecting null expletives. According to Figure 7, it is for sure that the advanced group have the English parameter setting for null expletives, and they behaved very close to the native speakers in rejecting null expletives in matrix sentences.

According to their mean scores, it is obvious that all the Chinese speakers found it easier to reject null expletives in matrix sentences. The results of the t test show that the difference in the judgment between null expletives in matrix and embedded sentences is statistically significant for the advanced group ($t=-2.236$, $p=0.049<0.05$).

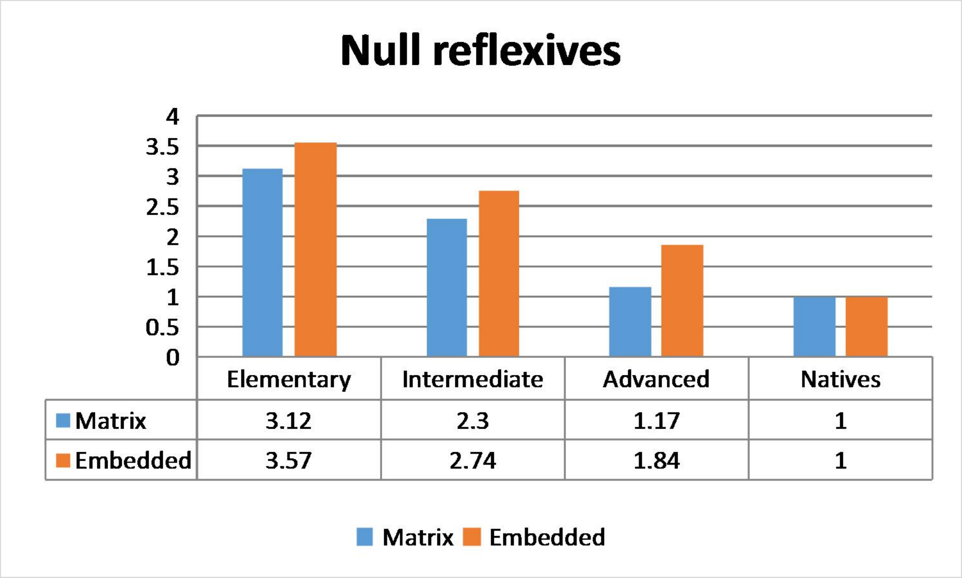


Figure 8 Mean Scores of Judgements on Null expletives in Matrix and Embedded Sentences

In general, all the three experimental groups performed better at rejecting null arguments in matrix sentences, though some of the differences were not statistically significant.

Chapter 6

Discussion and Conclusive Remarks

6.1 Brief review of the empirical study

In the previous chapter, an empirical study was carried out to investigate the unlearning of null subjects and null objects in second language acquisition. The test was conducted in the form of a questionnaire, all the 53 participant were asked to do a scalar grammaticality judgement task with correction. A total of 42 sentences were used in this test including 26 ungrammatical sentences without subjects or objects and 16 fillers (including grammatical sentences and ungrammatical sentences with other types of mistakes), the participants were asked to judge whether the sentences are grammatical or not. The judging system is scalar and consists of 5 levels, 3 is considered as the dividing line in individual's judging system since they have to correct the sentence if he/she scores it under 3. Considering the factors that might influence the results, in (24) a scale was proposed as a standard to discuss whether the participants have the English or Chinese parameter setting.

6.2 Detailed discussion on findings in the experiment

6.2.1The difference between experimental groups and the control group

Actually, when we discuss the difference between the experimental groups and the control group, we intend to discuss the difference between L1 and L2 acquisition. As we discussed in Chapter 2, native language acquisition is divergent from SLA in many ways. The most debated difference being discussed about is the L1 transfer.

The results presented in chapter 5 indicate that, Chinese speakers have difficulty in judging the sentences with null subjects as well as null objects ungrammatical. Even the advanced group did not have near native competence of English. Second, an asymmetry was found in the experimental groups in unlearning null subjects and null objects, the same asymmetry was not found in the natives' judgement.

It is expected that the Chinese speakers perform differently from the natives in this task, and this results further proved the assumption. And this could be considered as the evidence showing that most L2 learners can not achieve near native performance. But it is true that with more exposure to English, and advanced group performed better than the intermediate and elementary group. They even had very close mean scores on judging the ungrammaticality of null expletives in matrix sentences.

I assume that, based on the divergence between natives and L2 learners, L1 grammar interferes with L2 acquisition. And different from L1 acquisition, L2 is acquired explicitly, and L2 leaner do not have enough positive evidence or linguistic input helping them acquire their L2. With different initial states, it is expected that L1 and L2 acquirers will reach different final states. Though it is hard to say that the advanced group have reached the final state of L2 acquisition or whether they have exposed to enough linguistic input, based on what we found in the empirical study, L2 learners behave differently from natives speakers, and they have difficulty completely abandoning the Chinese parameter setting.

6.2.2 The asymmetry between unlearning null subjects and null objects

Chinese, as discussed before, is a topic-oriented language. The difficulties the Chinese speakers encountered in unlearning null subjects and null objects could be considered as the evidence showing that L1 grammar transfers into and interferes with L2 learning. To discuss the asymmetry between unlearning null subjects and null objects is to investigate that what properties influence L2 acquisition, that is, what triggers the unlearning and what hinders the unlearning.

The study supports the findings in Yuan (1997) and Kong (2005) that there is an asymmetry between the unlearning of null subjects and null objects. The reason why L2 learners unlearn null subjects easier than null objects will be discussed in this part.

First, the convenient assumption would be that if the asymmetry can also be found when Chinese learners acquire their native language. Wang et al (1992) conducted a study on 5 adult Chinese speakers to find out if any asymmetry of null subjects and null objects exists in Chinese grammar. The result showed that on average, the null subject rate was 46% while the null object rate was 40%. The study reported the contrast was statistically significant, which indicates that in adult Chinese grammar, the learners tend to drop subjects more often than they drop objects. This asymmetry, however, is opposite to what was found in L1 Chinese learners' L2 English.

Then is there any asymmetry to be found when children acquire English as their native language? According to Hyams and Wexler (1993), children tend to omit subjects more often than objects. The asymmetry is the same as what was found in adult Chinese grammar but opposite to what we found in this study. Thus it lacks support to assume that the Chinese learners tend to have less difficulty unlearning subjects than objects in the acquisition of English as a second language results from the asymmetry observed in Chinese adult grammar and when children acquire English as their native language.

As we discussed in chapter 2, L1 acquisition is different from L2 acquisition in many ways. With the equipment of L1 grammar, it is expected that adult L2 learners would behave differently from native speakers. This asymmetry could be considered as evidence further proving the difference between L1 and L2 acquisition.

The following part will discuss the possible reason why Chinese speakers find it easier to unlearn null subjects and more difficult to unlearn null objects respectively.

The longitudinal study carried out by Laksmannan (1991), which was described in chapter 4, found out that one of the subject, Uguisu, did not drop any subjects in her acquisition of English, and she had a poor performance on English verb inflections. Laksmannan assumed that the use of subject pronouns was because of the saliency of subjects. It was proposed that while English is a sentence-oriented language in which subjects and objects are not allowed to be dropped, Japanese is discourse-oriented and licenses null subjects and null objects. This cross-linguistic variation may result in blocking L1 transfer into L2. It is true that English and Chinese are different in such a way, however, as we discussed in chapter 3, there are two types of null subjects: null referential subjects and null expletives and they bear different properties. It would be unreasonable and ambiguous to discuss them altogether and draw a conclusion.

To be more specific, the study finds out that Chinese learners have the least difficulty in unlearning null expletives, and the advanced group for sure have the English parameter setting for them and the mean score they got is very close to that of the natives. This implies that advanced group have reached the natives' competence in rejecting null expletives.

Considering these facts, I assume that first, the Interface Hypothesis briefly introduced in chapter 4 seems to be appropriate to explain. The overt expletives are the easiest to acquire because they are pure syntactic language structures and do not involve an interface between syntax and other cognitive domain.

Hyams (1986) suggested that it is the expletives that trigger the resetting of pro-drop parameter from［+pro-drop］to［-pro-drop］when children acquire English as their native language.

Comparing the status or properties of null objects and null subjects, it is true that we do not have the corresponding part for expletives *there* and *it* in Chinese. Applying the assumption proposed by Lakshmanan (1991) again, *when the L1 and is typologically very different from the L2, transfer of the L1 is blocked*. (pp. 407-408) These two theories and what we found in this study seem to support the assumption that it is the null expletives that trigger the unlearning of null arguments.

Yuan (1997) proposed the following example (25) to illustrate though Chinese do not have the counterpart for null expletives, in weather-predicates in English, *it* serves as a structural subject while in Chinese the subject does not always have to be null.

(25) (tian) yao qing le
(sky) will sunny PART
(The sky) is going to be sunny./ It is going to be sunny.

As shown in (25), Yuan assumed that the subject *tian* does not necessarily have to be null, and it does not change the meaning of this sentence. If this knowledge is transferred into English, it is assumed that the participants tend to consider the dropped subjects as referential pronouns.

I argue that though (25) is possible in Chinese, but it does not mean that the participants would consider it as a referential pronoun. A dropped referential pronoun needs to be identified with discourse topics, though (25) is perceived as a sentence without subject drop, no topic is required to identify it. We do not need any context to understand this sentence. Then I assume the dropped tian in (25) would never be treated as a referential pronoun.

For the fact that all three experimental groups had the lowest mean scores in unlearning null expletives, I assume that it implies that it is the expletives that trigger the process of unlearning arguments; and overt expletives are easier to acquire is because they are purely syntactic and typologically different from Chinese.

This theory, however, could not account for the asymmetry found in this study. Why overt objects are difficult to acquire even for the advanced group?

Unlike null subjects, when we discuss the status of null objects in chapter 3, it was found out that it is quite difficult to have unanimous understanding of their properties. Despite the examples with Chinese expletives *ziji,* it is quite reasonable to say that null objects construction in Chinese and VP-Ellipsis in English have common points. The most significant one is, they both need to be identified. I argue it is the similarities that encourage L2 learners to transfer L1 grammar into L2 and thus hinder the parameter resetting.

In brief, the asymmetry found in unlearning null subjects and null objects proves that, first, L1 grammar transfers into L2 and interferes with L2 acquisition; Second, null expletives trigger the unlearning of null arguments; Third, the more L1 and L2 are typologically different from each other, the easier it is for L2 learners to unlearn L1.

6.2.3 The asymmetry between unlearning null arguments in matrix and embedded sentences

According to Kong (2005), there is an asymmetry between unlearning null arguments in matrix and embedded sentences. The present study provided a similar but not the same result. It is true that all the Chinese speakers performed better at rejecting null arguments in matrix sentences, but for the elementary group, the difference was not statistically significant.

To account for the finding that the elementary group did not show significant difference in unlearning null arguments in embedded and matrix clauses/sentences, I argue that based on the fact that this group did not show much difference in unlearning null subjects and null objects, and they were very close to accept null subjects in Chinese, their unlearning of null arguments has just been triggered, and they did not have enough linguistic knowledge of the target language and kept their L1 grammar. As we expected, with the L2 learners' proficiency level advance, they start to realize that their L1 grammar does not accommodate to L2, and in the process of resetting the parameter, the asymmetry will be found.

The main difference between null arguments in matrix and embedded sentences is whether they appear at the sentences/clause initial positions, and this difference does not change the property of null arguments or the way to identify them. It is proposed by Wang and Wu (2012) that it is because embedded clauses in syntax is lower than that of matrix clauses. The embedded clauses are in a subordinate position in semantics, syntax and discourse.

According to the findings in the present thesis, it is true that even the advanced group showed asymmetry in unlearning null objects and null subjects. The advanced group, while successfully acquiring overt subjects, still have the residue of their L1 grammar for null objects. And though the development is gradual, it is hard to say that they would arrive at the same steady state of L2 as the natives do.

I assume that these findings support the the FA/FT Hypothesis. First, the fact that the elementary group have difficulty in unlearning both null subjects and null objects seem to support the assumption that the initial state in L2 acquisition is the entire L1 grammar. Second, the asymmetry was not found in the elementary group also proves that with exposure to L2 input, restructuring to the L1 grammar can take place when it fails to accommodate L2. That is, the development of L2 in UG-constrained. Third, the fact that advanced learners have difficulty resetting the parameter for null objects could be explained by the assumption that though the cognitive processes underlying L1 and L2 acquisition are constant, their final states are different as a result of the differences in their initial states.

6.2.4 The relationship of second language proficiency level and native language transfer

In the study, it is found out that with improvement in second language proficiency, the experimental groups had better performance in rejecting null subjects and null objects. As discussed in chapter 3, the assumption that second language proficiency level is closely related to native language transfer has been discussed for a long time. The data collected in this study show that with improvement in English proficiency, the mean scores on judgement decrease.

First, it is clear that the more proficient the Chinese learners are, the easier they find in rejecting the ungrammatical sentences. Second, the elementary group always have the highest scores on judgement which indicates that they find it most difficult in rejecting the ungrammatical sentences. Though Taylor (1975) conducted a quite different study from this one, his proposal is still useful. To account for the finding that the elementary group always have the highest mean scores on judgement, applying Taylor's proposal, I assume that it is because the participants elementary group have less linguistic knowledge of the target language that they tend to rely more on their native language. To conclude, I agree with the assumption that negative transfer interferes with L2 acquisition, L2 proficiency level is closely related to L1 transfer, with improvement in L2 proficiency level, the learners rely less on their native language. In addition, L1 transfer does take place and the influence of native language is the most significant on elementary learners because they lack knowledge of the target language and have to transfer from their L1 to fill in the gap in L2.

6.2.5 Conclusive Remarks

In conclusion, this empirical study is capable of answering the research questions asked in chapter 1.

First of all, it is obvious that first language transfer takes place in second language acquisition; and negative transfer interferes with and hinders L2 acquisition;

Second, L2 proficiency level is closely related to L1 transfer, with improvement in L2 proficiency level, the influence of L1 decreases, but even the advanced group did not show near native performance;

Third, there is an asymmetry of unlearning null subjects and null objects, the fact that Chinese learners find it easier to unlearn null subjects could be the evidence showing that it is the expletives that triggers the unlearning of null argument.

At last, there is also an asymmetry of unlearning null arguments in matrix and embedded sentences. This asymmetry, together with the other findings in the present thesis, support the FT/FA Hypothesis.

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Appendix I

Questionnaire / 问卷

Age ______________

下面一共有 42 个英文句子。其中有些包含语法错误。请仔细阅读这些句子之后，用 5 标记，如果你认为这个句子语法上**完全**正确；用 4 标记， 如果你们认为这个句子语法上**可能**正确，用 3 标记，如果你认为这个句子可能不正确；用 2 标记，如果你认为这个句子**很有可能不正确**，用 1 标记，如果你确定这个句子在语法上**完全不正确**。如果你对一个句子的判分低于等于 3，请对包含语法错误的部分进行划线并改正错误。请在 30 分钟内完成。

Discretion: Some of the following sentences numbered from 1 to 42 are grammatical while others are not. You are required to judge the ungrammaticality of them within a scalar of 1 to 5, with 1 means the least acceptable and 5 means the most acceptable. To be more specific, 1 means the you are confident that the sentence is ungrammatical and can underline and correct the ungrammatical part. 5 means you find the sentence grammatical and can be accepted. And if you grade a sentence under 3 (including 3), you have to underline the ungrammatical part and correct it. Please finish this task with 30 minutes.

Examples:

A. They flying kites in the park now. 1 are flying kites
B. She is good at math. 4
C. She don’t like that dress. 1 didn’t/ doesn’t

1. They couldn’t speak to Mr. Smith today. They hope it will be possible to speak to him tomorrow.
2. If you do not like this jacket, then do not buy.
3. Parties has never liked.
4. She was in the office, but he said he did not see there.
5. It has been snowing for a whole week, I hope will stop snowing tomorrow.
6. She picked up a coin and put in her pocket.
7. There are three new students this term.
8. It took him two hours climb the mountain.
9. Tom is due to arrive at 5 p.m. I hope you can meet at the station.
10. My husband is coming back from Chengdu tomorrow, I have to pick up at the airport.
11. Mary’s car broke down yesterday, I would repair for her.
12. I bought a new book yesterday, was very interesting.
13. She met her high school classmate, was very happy.
14. I watched a movie yesterday, was very fun.
15. It snowed last night.
16. She is looking for the key, she remembers she put on the table yesterday.
17. I can’t find my key, I think I lost it.
18. Mary is a new student, I think the teacher should introduce before class.
19. I lost my wallet last week, but the police said they have found for me.
20. She visited Tokyo last week. She said was very beautiful.
21. Alice is go to leave after lunch.
22. His fight took off two hours ago. I think has already landed.
23. Lucy could not sleep last night. I guess is sleepy now.
24. What a lovely day. Is sunny outside.
25. Seems that she misunderstood what I said.
26. The ground is wet. I think rained last night.
27. I did not help preparing dinner, she did.
28. She always borrows books from his neighbors. I think they are very good to her.
29. The flowers are blooming in the garden, are so beautiful.
30. She likes her aunt, but her sister does not like.
31. The sun is back, are several birds singing in the tree.
32. He had an exam yesterday. He thought was difficult.

33. Julie is very angry and refuse to talk to anyone.

34. Today is so warm, are some boys swimming in the river.

35. Jim said were beautiful flowers in his garden.

36. I visited that city last summer, I remember was a red house around the corner.

37. The new year is coming. We will celebrate it very soon.

38. She said she read the book twice, but she still could not understand it.

39. The class starts at 9, I have to go.

40. Mary likes swimming, but I do not.

41. She said the movie was boring. I agreed.

42. I heard there was an accident yesterday.

Appendix II

Independent Sample T-test between each of the two experimental groups in judging the 6 types of sentences

		Elementary group and Intermediate group	Elementary group and Advanced group	Intermediate and Advanced group
Null Subjects	Null Referential subjects in Matrix Sentence	T= 3.058 (p=0.002)	T=7.875 (p=0.000)	T= 3.62 (p=0.001)
	Null Referential subjects in Embedded Sentence	T= 2.984 (p=0.008)	T=7.524 (p=0.000)	T= 2.152 (p= 0.007)
	Null expletives in embedded sentences	T=3.145 (p= 0.003)	T=6.366 (p=0.000)	T= 3.184 (p=0.003)
	Null expletives in Matrix sentences	T= 5.273 (p=0.001)	T=8.926 (p=0.000)	T= 5.581 (p=0.000)
Null Objects	Null Objects in Matrix Sentence	T= 3.070 (p= 0.006)	T= 6.892 (p=0.000)	T= 4.875 (p=0.000)
	Null Objects in Embedded Sentence	T= 2.209 (p=0.032)	T=3 .701 (p=0.003)	T=3.669 (p=0.0032)

Appendix III

Independent Sample T-test between each of the experimental groups and the native speaker group in judging the 6 types of sentences

		Elementary group and native speaker group	Intermediate group and native speaker group	Advanced group and native speaker group
Null Subjects	Null Referential subjects in Matrix Sentence	T= 11.654 (p=0.000)	T=7.647 (p=0.000)	T= 3.101 (p=0.004)
	Null Referential subjects in Embedded Sentence	T= 12.983 (p=0.000)	T=6.487 (p=0.000)	T= 3.616 (p= 0.001)
	Null expletives in embedded sentences	T=9.883 (p= 0.000)	T=7.151 (p=0.000)	T= 2.56 (p=0.009)
	Null expletives in Matrix sentences	T= 11.212 (p=0.000)	T=6.839 (p=0.000)	T= 2.011 (p=0.000)
Null Objects	Null Objects in Matrix Sentence	T= 9.699 (p= 0.000)	T= 7.271 (p=0.000)	T=2.85 (p=0.008)
	Null Objects in Embedded Sentence	T= 8.472 (p=0.000)	T= 5.724 (p=0.000)	T=3.225 (p=0.003)