



universität  
wien

# DIPLOMARBEIT

Titel der Diplomarbeit

„Child Second Language Acquisition: Acquisition of  
Functional Categories - A Case Study“

Verfasserin

An-Yu Lee

angestrebter akademischer Grad

Magistra der Philosophie (Mag. phil.)

Wien, 2008

Studienkennzahl lt. Studienblatt:

A 328

Studienrichtung lt. Studienblatt:

Allgemeine / Angewandte Sprachwissenschaft

Betreuerin / Betreuer:

Ao. Prof. Dr. Chris Schaner-Wolles



# Contents

1.	Introduction .....	1
1.1.	The definition of child L2 acquisition.....	1
1.2.	The Critical Period Hypothesis .....	2
1.3.	The importance of child L2 acquisition .....	3
1.4.	The questions dealt with in this research .....	3
1.5.	The outline of the study.....	4
2.	The special attributes of child L2 acquisition .....	5
2.1.	The similarities and differences in child L1 acquisition, child L2 acquisition and adult L2 acquisition.....	5
2.2.	Dissociation between acquisition of syntax and of morphology.....	7
3.	Typology of the source language and the target language .....	8
3.1.	Typology of Chinese .....	8
3.1.1.	Syntax.....	8
3.1.2.	Morphology.....	10
3.2.	Typology of German language.....	10
3.2.1.	Syntax.....	10
3.2.2.	Morphology.....	12
4.	Acquisition of functional categories .....	14
4.1.	Weak Continuity Hypothesis.....	15
4.1.1.	Minimal Trees Hypothesis .....	15
4.1.2.	Weak Transfer / Valueless Features Hypothesis.....	17
4.2.	Strong Continuity Hypothesis .....	19
4.2.1.	Full Transfer / Full Access Hypothesis .....	20
4.2.2.	Missing Surface Inflection Hypothesis .....	21
4.3.	Acquisition of word order in German .....	22
4.4.	Acquisition of inflectional morphology .....	26
4.4.1.	Root infinitives in the L2 .....	26
4.4.2.	Aspect Hypothesis.....	26
4.4.3.	The Acquisition Sequence of Tense and Agreement.....	28

5.	The setting and approach of the data collection.....	29
5.1.	Data collection.....	29
5.2.	The coding.....	30
6.	Data analysis .....	31
6.1.	The overview of the language acquisition stages.....	31
6.2.	Acquisition of functional categories .....	39
6.2.1.	Interrogative sentences .....	39
6.2.2.	The modal verbs .....	40
6.2.3.	The auxiliaries .....	43
6.2.4.	The copula .....	45
6.2.5.	The negation.....	47
6.2.6.	The determiner phrase .....	48
6.2.7.	The embedded sentence .....	50
6.3.	Acquisition of verbal inflection.....	53
6.3.1.	Inflectional morphology of agreement.....	54
6.3.2.	Inflectional morphology for tense .....	57
6.3.3.	The nominal inflection: acquisition of gender, case, and plural.....	58
6.3.4.	The adjective inflection.....	61
6.4.	Acquisition of word order .....	62
6.5.	The individual features.....	64
6.5.1.	The question sentences.....	65
6.5.2.	The declarative sentences with subject verb inversion .....	66
6.6.	The distribution of infinitives, stems and finite verbs.....	68
6.6.1.	The infinitives vs. the verb stem .....	68
6.6.2.	The verb stem vs. the finite verb .....	70
6.7.	The interference of L1 .....	72
6.7.1.	Word order.....	72
6.7.2.	The omission of topic elements.....	74
6.7.3.	The use of bare nouns.....	75
6.8.	A short summary .....	77
7.	Discussion .....	78
7.1.	Acquisition of functional categories .....	78
7.1.1.	In view of the Weak Continuity Hypothesis .....	78
7.1.2.	In view of the Strong Continuity Hypothesis.....	81

---

7.2. Alternative explanations.....	84
7.3. The role of transfer and input.....	86
7.4. Comparison of child L1, L2 and adult L2 acquisition .....	88
7.4.1. Comparing child L1 and child L2 acquisition.....	89
7.4.2. Comparing child L2 and adult L2 acquisition.....	91
8. Conclusion.....	93
9. Prospects for the future research .....	95
References .....	97
Appendix .....	103
Summary .....	108
Zusammenfassung.....	110
Lebenslauf.....	112



# 1. Introduction

Second language acquisition research has traditionally focused on adults. In the past, it was believed that the acquisition of a second language (abbr. L2) was based on the knowledge of the first language (L1) and its positive or negative influence on acquiring a new language. Different from the L1 acquisition, it was assumed that people acquiring a second language (L2er) do not have access to universal grammar (UG). The UG theory postulates that people are able to acquire any arbitrary language irrespective of their environment or the poverty of input. Analysis of L1 acquisition found that the acquisition process follows its own rules, independent of the acquirer's environment, which confirms the UG theory.

Yet, lately researchers also found that there exists a natural sequence of language development among the L2ers independent of their L1, an indication that both child and adult acquirers have access to UG. However, it is also apparent that the L2ers generally cannot attain the same linguistic level as their native speaker counterparts do. In order to understand the role UG plays on adult L2ers, it is believed that child L2 acquisition is the key to it, because child L2 acquisition exhibits a nature which is both similar to the L1 acquisition and the adult L2 acquisition.

The following paper will discuss second language acquisition in children and present a case study. The case study will focus on a child with Mandarin Chinese as the first language and German as the second language. Given the wide range of linguistic aspects which are relevant to this topic, this paper only focuses on one aspect, namely the acquisition of functional categories.

## 1.1. The definition of child L2 acquisition

To define the term Child L2 Acquisition, I adopt the definition from Schwartz (2003a:1): "I define 'L2 child' as a child whose initial exposure to the non-native language is between the ages of, approximately, 4 and 7."

By the age of four, the acquisition of the L1 grammar is principally established. Therefore, the acquisition of a new language is distinct from the so-called bilingual language

acquisition, which is characterized by simultaneous or sequential acquisition of the grammar systems of two different languages. The upper limit is set for the age of onset at seven, because according to studies on age and L2 attainment (DeKeyser 2000; Johnson & Newport 1989, 1991), the child L2ers with initial exposure to the L2 before the age of 8, perform various grammatical tasks similarly to native speakers. For this reason the acquisition process is comparable to the L1 acquisition.

The theoretical background of the nature of child L2 acquisition could also be traced to the Critical Period Hypothesis first introduced by Lenneberg (1967).

## **1.2. The Critical Period Hypothesis**

The Critical Period Hypothesis was first proposed by Lenneberg (1967), who argued for a biologically determined time-frame for language acquisition. Due to the functional changes in the human brain such as lateralization, he believed that after this critical period, language acquisition was no longer possible. Following this theory, weaker versions of this hypothesis were established.

The central idea was that after the critical period the language acquisition process became irregular and the attainment of native-like ability was not possible. This critical period was believed to last until puberty; recent studies, however, have shown that the critical period terminates much earlier (e.g. Johnson & Newport 1989).

The best known case which supports the weak version of this hypothesis is the case of Genie (Curtiss 1977), who did not have any language input until the age of thirteen. After her exposure to human language, she indeed acquired some English. However, her language ability was very peculiar in nature, especially in regards to syntax and morphology.

For this reason, it is assumed that children, who are exposed to the L2 during the critical period, can acquire the L2 as native speakers do. Therefore, according to this hypothesis, the child L2 acquisition is comparable with the L1 acquisition.



### **1.3. The importance of child L2 acquisition**

Child L2 acquisition has received increasing attention, because it is believed to be an interface between the child L1 acquisition and adult L2 acquisition. Unlike L1 acquisition, the child L2 acquisition is barely influenced by non-linguistic maturation factors, such as short-term memory and attention span, because, as the L2 children are older, they are also cognitively more mature. Therefore, studying the child L2 acquisition enables us to distinguish factors that are linguistically based from those which are cognitive-developmentally driven.

Furthermore, since the child L2 acquisition is believed to be governed by UG, by comparing the developmental course of L2 children with L2 adults, we could get a clearer picture of the role that UG plays in the adult L2 acquisition. If the child L2ers share the same developmental course with the L2 adults, we could infer that the adult L2 acquisition is constrained by UG as well.

### **1.4. The questions dealt with in this research**

In the present study, the following questions regarding the nature of child L2 acquisition and the acquisition of functional categories will be addressed:

- What are the similarities and differences between child L2 acquisition, L1 acquisition and adult L2 acquisition?
- What is the nature of the initial state of interlanguage grammar?
- Are the functional categories directly transferred from the L1 or are they sequentially acquired over time?
- What is the acquisition sequence of the inflectional morphology?
- What is the initial word order and how is it changed over time?
- What role does “transfer” play?

## **1.5. The outline of the study**

This paper is subdivided into two parts: the first part, from chapter 2 to chapter 4, is an overview of the theoretical background of this study and the second part, from chapter 5 to chapter 7, is the empirical part of this study.

Chapter 2 elaborates upon the nature and the special attributes of child L2 acquisition, which so far lack consensus in literature.

Chapter 3 deals with a typological comparison of the source language – Mandarin Chinese and the target language – German. This will allow for a better understanding of the case study.

In chapter 4, different hypotheses and language acquisition models regarding the acquisition of functional categories, word order and inflectional morphology are going to be explored in detail.

Chapter 5 is an overview of the case study: the subject, the process and the research methods will be introduced.

Chapter 6 presents extensive data analyses focusing on different grammatical aspects: syntax, inflectional morphology, word order, and other individual features.

Based on the findings analyzed in chapter 6, the earlier questions will then be discussed in detail in chapter 7.

Finally, the tentative conclusion of this study is presented in chapter 8, and chapter 9 intends to depict the future perspective of child L2 acquisition research.

## **2. The special attributes of child L2 acquisition**

Second language acquisition in children has been receiving more and more attention, because the nature of the acquisition exhibits several interesting properties, which provide us with a better insight into language acquisition. First, children who acquire a second language already have the knowledge of their first language and are, therefore, subject to L1 transfer. However, the degree of transfer may not be as high as it is in adult L2 acquisition. Secondly, as research shows, children learning a second language are cognitively more mature than younger children, who acquire their L1, but less mature than adults. Moreover, it is assumed that child L2 acquisition is guided by UG as well as L1 acquisition, and the ultimate attainment of the language ability of these two acquisition types are similar (Schwartz 2003a).

Regarding this particular nature of child L2 acquisition, an important question arises: does child L2 acquisition resemble L1 acquisition or rather adult L2 acquisition? A number of studies addressing this question have been conducted, yet they lead to different opinions and results. The following section provides a more detailed discussion of these studies.

### **2.1. The similarities and differences in child L1 acquisition, child L2 acquisition and adult L2 acquisition**

According to Schwartz (2003b), there are two seemingly contradictory positions explaining the similarities and differences of the three different acquisition types.

The first one was claimed by Schwartz (1992), which states that child L2 acquisition and adult L2 acquisition share similar developmental courses, and are distinct from the L1 acquisition. Regarding the ultimate language attainment however, there are differences between the L1 acquisition and at least the adult L2 acquisition. The end state of child L2 acquisition is somewhat unclear.

The second position, offered by Weerman (2002), claimed the opposite: Child L2 acquisition is developmentally similar to L1 acquisition, and both are distinct from the adult L2 acquisition. On the other hand, when it comes to the ultimate achievement, these three acquisition types are distinct from one another as well.

Both positions are empirically supported by some L2 acquisition studies. An example which supports the first position is the longitudinal study from Haznedar (1997a, 1997b), who studied a Turkish speaking child acquiring English as a second language. He found that in early stages of acquisition, sentences were consistently verb final, which reflects the head-final position in Turkish. Such examples of transfer can also be found among other adult speakers acquiring German as a second language (e.g. Vainikka & Young-Scholten 1994). Moreover, it is also clear that L1 acquirers of English never undergo such a verb final stage. This is, thus, evidence that child L2 acquisition and L1 acquisition follow distinct developmental courses.

Unsworth (2004), who compares the acquisition of scrambling in Dutch between child L2, adult L2, and L1 acquisition, performed another study, which also supports this position. It was found that adult and child L2ers passed through the same stages in acquiring the scrambling of definite DP (Determiner Phrase) (see chapter 4) and specific indefinite DP objects in the negation context. Both adult and child L2ers show evidence of transfer in the earliest stage, which differs from the L1 acquisition. Besides, in the L1 acquisition, there is a correlation between the (non-) scrambling and the use of bare nouns (Schaeffer 2000). This correlation cannot be found in the adult and child L2 data.

A different study done by Weerman (2002), which focused on the acquisition of adjectival inflection of Dutch, indicates that child L2 and L1 acquisition have a similar developmental profile. This is a comparative study between L1 children, L2 children, and L2 adult acquirers. The attributive adjectives in Dutch must be inflected with a schwa except in the case of neuter nouns in the singular indefinite form. Predicative adjectives, on the other hand, are never inflected with a schwa. The results of this study show that both child L1 and L2 acquirers know that attributive adjectives in Dutch must be inflected and always inflect them, contrasted to the adult L2 acquirers, some of whom do not have any adjective inflection at all.

All three groups show an overgeneralization of the inflected form to the neuter nouns where they should not have been inflected. However, only adult acquirers also overgeneralize the uninflected form to those cases which should be inflected. This bi-directional overgeneralization shown by the adult acquirers illustrates the qualitative differences of

acquisition between the adult and the child groups. Additionally, a slight difference was found between the child L1 and the child L2 acquirers regarding the ultimate achievement. The overgeneralization described above disappears among native speakers, mostly at the age of five, whereas among the L2 group, this phenomenon continues.

This study, therefore, supports the second position that, regarding the developmental course, L1 and L2 children acquirers exhibit similarities, but the ultimate attainment differs among all three groups.

## **2.2. Dissociation between acquisition of syntax and of morphology**

Addressing these two essential opposite conclusions, Schwartz offers an explanation. He argues that the acquisitions of syntax and of morphology are asymmetrical. In the realm of syntax, child L2 acquisition resembles adult L2 acquisition, whereas in regards to inflectional morphology, child L2 acquisition and L1 acquisition exhibit similarities. This dissociation marks the asymmetrical feature of L2 acquisition by adults. According to Schwarz, “L2 adults asymmetrically acquire grammar, such that inflectional morphology typically lags behind syntax, sometimes even dramatically.” (Schwarz 2003b: 46)

However, it is questionable whether the asymmetry between the acquisition of syntax and of inflectional morphology is also found in child L2 acquirers. Assuming that, unlike adult acquirers, child L2 acquirers are able to acquire the complete inflectional morphology during the course of second language acquisition, then how are the acquisitions of these two linguistic domains related to each other temporarily, if the acquisition course of syntax resembles adults L2 acquisition and that of morphology resembles L1 acquisition? This question will be examined more extensively in the case study later on.

### **3. Typology of the source language and the target language**

In this chapter, a typological comparison of Mandarin Chinese and German is presented. The following sections describe the syntax and the morphology of these two languages in regard to phrase structure, word order, information structure, and inflectional morphology.

#### **3.1. Typology of Chinese**

##### **3.1.1. Syntax**

###### **Basic Word Order**

Greenberg (1963) describes the typology of basic word order by examining the phrase combinations in different languages world-wide. Utterances in all languages are composed of a combination of the following phrases: the subject, object and verb phrase. Despite all six logically possible combinations, he found that the most common combination types were SVO, SOV and VSO language types. In addition, he found universal language properties, which correlate to the basic word order. These properties are named “implicational universal”. For example, languages with dominant VSO order are always prepositional. Languages with normal SOV order are overwhelmingly postpositional.

However, it is difficult to classify Chinese according to this criterion, because in Chinese, the noun phrase (NP) is different from the verb phrase (VP) and the prepositional phrase (PP). Noun phrases are head-final, which means that the modifier precedes its head, whereas verbs and prepositions assign cases to the right, which are therefore head-initial (Huang 1982).

Some scholars believe that Chinese underwent a change of basic word order from SVO to SOV and that modern Chinese is a SOV language (Tai 1976, Li & Thompson 1976). However, other scholars argue against this position on the basis of plenty of written and spoken texts (Sun & Givón 1985), and some based on the structure of relative clause<sup>1</sup>. Shi (2002) claims that the default word order of modern Chinese is still SVO.

---

<sup>1</sup> Shi (1998) discovered that in modern Chinese, only SVO word order is permitted inside the relative clause.

## Verb Movement

Verb movements in Chinese are believed to be distinct from that of languages like French or English in that the verb does not extend beyond the VP boundary to a higher functional category (Huang 1991, 1992, 1994). Instead, the movement is restricted within a powerful VP shell introduced by Larson (1988). Despite some counter arguments (cf. Paul 2000), it is generally assumed that verbs in Chinese remain in situ in the VP and are checked by LF lowering.

As for interrogative sentences, there is no overt raising of the *wh*-elements in the *wh*-questions. In the yes/no questions there is no subject verb inversion; instead, a question particle “*ma*” is inserted at the end of the sentence.<sup>2</sup>

## The informational structure

In contrast to most European languages, the Chinese syntax emphasizes the informational structure rather than the grammatical structure. The notion of subject is structurally not well defined, and the word order is governed largely by meaning rather than by the grammatical structure. Regarding these features of word order, Li and Thompson (1976) proposed a different typological partition of languages with regard to their informational structure into “topic prominent language” and “subject prominent language”.

According to them, a topic prominent language has a surface coding for topic, but not necessarily for subject. Passive constructions, therefore, seldom occur in a topic prominent language, but are common in a subject prominent language. Since the subject is not necessarily coded in a topic prominent language, dummy subjects can only be found in a subject prominent language.

The basic sentence type of topic prominent languages is the so-called topic-comment structure. This kind of structure can also be found in a subject prominent language, which is the so-called topicalization.

Furthermore, Chinese is also a topic drop language, which allows a topic to be deleted if it is identical to the topic in the previous utterance.

---

<sup>2</sup> An alternative of yes/no question structure is formed by reduplicating the verb (or only the first syllable of it) with a negative morpheme inserted between the two verbs.

### 3.1.2. Morphology

The Chinese language approaches the isolating language type, even though modern Chinese is much less isolating than classical Chinese. In classical Chinese, monosyllabic words were dominant, while in modern Chinese, disyllabic words dominate, as a result of the emerging new grammatical morphemes, such as auxiliaries and modality expressions.

The grammatical morphemes are mostly bound. They exist as a form of suffix or of particle which exhibit different degrees of bondage. For example, *-men* is a plural suffix, whose application is nevertheless not obligatory; *-ma* is a question particle to be applied at the end of a question sentence and is obligatory.

Opposed to most European languages, there is no morphological distinction for gender and case in Chinese. The plural marking is only restricted to animate beings, and the application is optional, depending on the communicational intention. There is no article system in Chinese. Similar to the use of articles is the use of classifiers in Chinese, which are attached to numbers. Furthermore, there is no adjective inflection either.

Tense is not morphologically marked, but aspect is. The most frequently occurring grammatical aspects are the perfective aspect *-le*, the imperfective aspect *zai* (progressive), *-szhe* (durative), and the experiential aspect *-guo*<sup>3</sup>. The temporal relation is expressed by adverbs or simply through contexts. There is no agreement of verbs between person and number.

## 3.2. Typology of German language

### 3.2.1. Syntax

#### Word order and phrase structure

According to the criteria of Greenberg, German is a language with SOV word order, which means that the head is at the right of the modifier. This underlying SOV word order however, obscures the fact that German, being a V-2<sup>nd</sup> language, requires finite verbs to be in the

---

<sup>3</sup> According to Li (1990), it is unclear whether this suffix marks aspect ('experiential', c.f. Li & Thompson, 1981) or tense ('indefinite past', c.f. Chao, 1968)



second position. It is generally assumed that the finite verb of German must be moved to the  $C^0$  position, under the condition that no other element, such as a complementizer, occupies this position. The finite verb movement therefore yields to a seeming SVO word order in a pragmatic neutral situation. For example:

- 1) Der Mann liest gerade eine Zeitung.  
 the man reads just now a newspaper  
 “The man is reading a newspaper.”

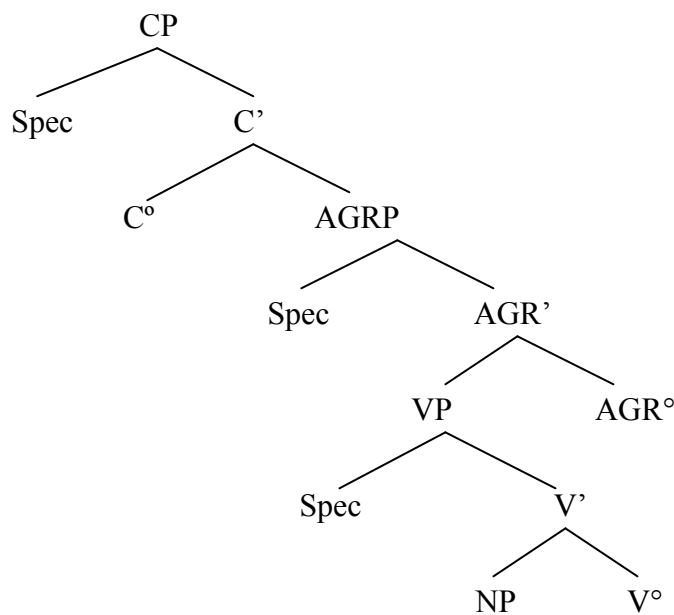


Figure 1: The common assumption of German phrase structure tree

The movement of finite verbs as described above accounts for an asymmetry between the placement of the verb in the main clause and in the subordinate clause, which often causes confusion in the L2 acquisition. In the case of subordinate clauses with overt complementizers, the verbs in the main clause are moved to the second place, while the verbs in the subordinate clause remain at the sentence final position because the  $C^0$  position is occupied by the complementizer. For example:

- 2) Ich glaube, dass ich Maria gesehen habe.  
 I believe that I Maria seen have  
 “I think that I have seen Maria.”

In sentences with auxiliaries or modal verbs, the finite auxiliaries are also raised to the C° position and the infinite verbs or participles stay at the final position. For example:

- 3) Ich möchte dir eine Geschichte erzählen.  
 I want-1p-sg you a story tell-inf  
 “I want to tell you a story.”

Different from a real SVO language, the subject in German does not have to precede the verb. The Spec CP position in German is a topic position, which can be filled by a constituent of any arbitrary element, depending on the conversational intent. If the Spec CP position is occupied by a non-subject element, the subject is raised to the Spec AgrP position. Hence, the subject and the verb undergo an inversion. For example:

- 4) a. Gestern hat der Mann das Buch gelesen.  
 yesterday has the man the book read  
 b. Das Buch hat der Mann gestern gelesen.  
 the book has the man yesterday read  
 “The man (has) read the book yesterday.”

In the question sentences, the wh-element obligatorily occupies the Spec CP position. In a yes-no question, subject and verbs are inverted.

### 3.2.2. Morphology

German is an inflectional language with inflectional paradigms of nouns, pronouns, verbs, articles, and adjectives.

Nouns are inflected for number and case. Singular and plural form is distinguished morphologically. The distinction of gender and case is carried by articles.<sup>4</sup>

Verbs are inflected for tense—present and past, mode—indicative and conjunctive, and agreement. Besides, the verbs in German can be divided into three classes in terms of inflectional markings: regular weak verbs, strong verbs, and irregular verbs. The morphological markings of tense and agreement are sometimes, however, not transparent for

<sup>4</sup> In a few cases, the nouns also carry a morphological ending, such as in the case of dative plural and genitive singular for masculine and neuter gender.

language acquirers. The markings of tense and agreement are merged into suffixes which are directly added to the stem form. The first and third person plural forms always have the same ending, which is also identical to the infinitive form (stem –en). In colloquial German, the verb form for first person singular is identical to the stem form. In many cases, the marking for first person singular shares the same form as that for third person singular.

Furthermore, there are two participles (present and past) and two imperative forms. Note that in Austria, the past participles, which are commonly marked as perfective, are used colloquially instead of the imperfective past form.

As opposed to Chinese, German does not have morphological markings for aspect.

## 4. Acquisition of functional categories

Every natural language contains both lexical and functional categories. While the lexical categories describe the lexical content of a language, the functional categories express the grammatical function of this language. The lexical categories include verb (V), noun (N), adjective (A) and preposition (P), while the functional categories include inflection (I), complementizer (C), and determiner (D). According to common theories, each of the categories mentioned above heads its maximal projection as VP, NP, AP, PP, and IP, CP, and DP respectively.

No agreement has been reached on how these functional categories are acquired by children. Early language in children has been found to consist mainly of lexical thematic elements; therefore, it is believed by some researchers that the functional categories are absent in the early stage of language acquisition. The early developing language consists solely of the lexical categories (Guilfoyle & Noonan 1992; Lebeaux 2000; Radford 1990). For example, Radford (1990) claims that the functional categories mature around the age of 20 months. However, researchers who hold the position of the Continuity Hypothesis oppose this claim. They believe that the functional categories are available from the very beginning of the acquisition process.

In L2 acquisition research, issues concerning the availability of functional categories are debated similarly.

The theoretical background of the acquisition of functional categories by L2 acquirers is mainly concerned with one central question: to which extent is grammar development in the L2 acquisition process constrained by the “principles of Universal Grammar (UG)”, first introduced by Chomsky (1981).

The role of UG parameters in the second language acquisition process is extensively discussed by researchers; especially how parameter setting and resetting take place (White 1989; Lakshmanan 1994; Hoekstra & Schwartz 1994; Flynn 1998). Within this framework, it is debated whether the knowledge of functional categories is available to L2 acquirers, because of their first language knowledge or whether it has to be relearned.

To explain L2 acquisition of functional categories, there are two distinct positions

regarding the initial state of the L2 grammar and the role of UG: 1) there is a limited transfer at an early stage according to the Weak Continuity Hypothesis, and 2) the complete grammatical knowledge is transferred from the first language at the initial stage according to the Strong Continuity Hypothesis.

## **4.1. Weak Continuity Hypothesis**

### **4.1.1. Minimal Trees Hypothesis**

Vainikka and Young-Scholten (1994) examined the acquisition of German by Turkish and Korean native speakers. Based on their results, they proposed that the initial stage of the interlanguage grammar consists only of lexical projections, which are transferred from L1, along with L1 headedness. Yet, the headedness of functional projections is not transferred.

The findings were based on cross-sectional data from 11 Turkish and 6 Korean adult speakers. In both the source languages and in the target language, the word order in the VP was head final. However, unlike in Turkish and Korean, the finite verb in the matrix sentence in German is raised to the head-initial COMP position.

In this study, it was attempted to determine whether the finite verbs had been raised to a higher functional head (INFL or COMP) or whether they remained in the final position in VP. The results showed that all the speakers, regardless of their competence level, had acquired the verb final VP rule. Also, the raising of the verb to the head initial position correlates with the overt subject usage. Based on this cross-sectional data, Vainikka and Young-Scholten set up the following implicational scale for the developmental stages of L2 acquirers:

**“Agreement / Obligatory V-Raising / Non-pro-drop → Optional V-Raising / Filled Spec-FP → Head-final VP”**

#### **The VP stage:**

The first stage was the VP stage. Word order in the VP was transferred from Turkish/Korean into German, so that the verb was always placed at the sentence final position. Note that Vainikka and Young-Scholten (1996) also studied Spanish and Italian speakers, which are

head-initial languages. Additionally, it was found that, at an early stage, the Romance speakers also transferred the head-initial word order into German.

At this stage, the functional projection is absent in the learners' interlanguage grammar. None of the speakers at this stage productively used the German agreement paradigm. Both the Turkish and the Korean speakers produced verbs with the default suffix –n most of the time, regardless of the person or number agreement. Although Turkish displays a subject verb agreement paradigm, this did not give the Turkish speakers any advantage over the Korean speakers.

Additionally, there were hardly any instances of modals or auxiliaries, nor cases of embedded clauses with an overt complementizer. Furthermore, the speakers produced neither wh-questions with a fronted wh-element, nor yes/no questions with a fronted verb. Besides, in the VP stage subjects were optional.

### **The FP stage:**

At the next stage, the learners developed an underspecified functional projection called FP, which stands for Finite Phrase and was first suggested by Clahsen (1991). The Korean and Turkish speakers optionally moved verbs to the head initial position. However, those raised verbs appeared mostly either in the default –n form or in bare stem form. Some finite phrase filled the Spec-FP position, but this element was not necessarily the subject. Furthermore, modals and auxiliaries were found at this stage. Nevertheless, at this stage the wh-movement and the overt complementizer were still absent.

### **The AGRP stage:**

At this stage, the underspecified FP is developed into a specified AgrP. The agreement paradigm in German is productively used by the learners. Verbs are frequently raised and overt subjects are obligatorily produced; the null subject parameter is therefore, fully set. Wh-questions and yes/no questions are found in this stage, which indicates the CP projection. However, very few embedded clauses with over complementizers were found, and the finite verbs in the embedded clauses were verb initial.

It was concluded in this study that the second language acquirers initially transferred the lexical projection VP from their L1. Their early grammar consisted only of lexical projections, whereas the functional categories were not transferred to the target language. “the learners determine the headedness of functional projections and the characteristics of the specifier position based on the input and on syntactic principles such as X'-theory and the Full House Principle.” (Vainikka & Young-Scholten 1994: 293) The learners always projected the minimal tree that is needed for analyzing the structure. UG was used as a guideline for the language acquisition.

Yet, researchers prevalently criticize this hypothesis arguing that the functional categories do transfer and thus are available to L2 from the beginning. Details of this theory are going to be discussed in chapter 4.2.

#### **4.1.2. Weak Transfer / Valueless Features Hypothesis**

The Weak Transfer Hypothesis (Eubank 1993/94, 1994, 1996) is similar to the Minimal Trees Hypothesis in that both positions assume the partial transfer of L1 in the L2 acquisition. However, unlike the Minimal Trees Hypothesis, Eubank holds the view that both lexical and functional projections do transfer, but the strength of inflection associated with the functional heads does not transfer. Here the strength of inflection is determined by the morphology. For example, a language may have strong tense and strong agreement features, or weak tense and weak agreement features, depending on the overt morphological marking<sup>5</sup>.

Eubank studied the interlanguage of French native speakers acquiring English as a L2, particularly in the areas of verb position in relation to sentence-medial adverbs, questions and negators. The finite verbs in French have a strong feature, and were therefore moved from V to I, whereas the verbs in English remained in situ in the VP at S-structure, because of their weak feature (Pollock 1989; Chomsky 1991; Wexler 1994). Therefore, a sentence with an adverb preceding the thematic verb in French is ungrammatical, since the verb is raised to the higher position, but stays grammatical in English. For the same reason, thematic verbs in

---

<sup>5</sup> According to Rohrbacher (1994), the features of INFL are strong if and only if in the most common verbal paradigm, in at least one number, the verb forms for first person and second person are, first of all distinct from each other, secondly distinct from the form for third person, and furthermore, distinct from the infinitive.

French are raised through the negator “pas”, whereas in English, the thematic verbs are positioned following the negator “not”. Eubank found in early data that an adverb may either precede or follow the thematic verb, which is a counter argument against transfer. Different data shows that the negator “not” does not follow the thematic verb as it does in French, and there is no subject auxiliary inversion in question sentences.

Therefore, he concluded that at the first stage, the L2ers have neither verb movement nor overt morphological markings evincing the functional projection in their grammar. These findings were evidence supporting the claim that the strong feature in French, which is responsible for verb raising, were not transferred to English.

Schwartz and Sprouse (1996) argued against the theoretical basis of this hypothesis. They criticized the seeming correlation between feature strength and verb movement. This correlation, occurring in most of the Germanic languages, was only a coincidence. As a further example, they pointed out the Scandinavian dialect Kronoby Swedish (see Platzack & Holmberg 1989), which has a verbal inflection paradigm like Swedish and yet exhibits verb raisings.

Furthermore, they argued against this correlation in terms of the acquisition sequence. The study of Verrips and Weissenborn (1992) showed that, in the language acquisition by French and German speaking children, the development of verb movement was much further ahead of the development of the morphological agreement. The same divergence in the acquisition sequence was demonstrated by the L2ers.



## 4.2. Strong Continuity Hypothesis

The “Strong Continuity Hypothesis” postulated by Epstein, Flynn & Martohardjono (1998) argues that both lexical and functional syntactic categories are available to L2 learners at all stages. Their theory challenges the Minimal Trees Hypothesis. They decline the developmental stages offered by Vainikka and Young-Scholten, claiming that the production data shown in their studies did not indicate the grammar knowledge of the L2 learners, but merely the deficiencies in production or performance. Furthermore, the absence of certain grammatical elements could also be explained by some lexical or phonological factors, rather than by syntactic knowledge as assumed by the Weak Continuity Hypothesis.

Another methodological problem criticized by Epstein, Flynn & Martohardjono is the use of percentages as an indication of whether the syntactic knowledge was acquired or not. The percentage of producing certain constructions was used to determine the developmental stages of L2ers, even though no single subject exclusively produced the syntactic constructions which belong to the accordant stage. Given that the developmental stages of the L2ers were not clearly depicted, Epstein, Flynn & Martohardjono argue against the existence of the IP stage (or the FP stage). Furthermore, another theoretical problem arises regarding the IP stage: if INFL is empty, one cannot explain the forced V-raising that has to take place at this stage, which would be inconsistent with UG.

To solve this problem, they suggested that, “the central property of the IP-stage grammar, namely the existence of V-raising to I, can be explained by assuming that the L2er’s grammar is capable of generating an agreement affix in INFL, which, by virtue of universal principles, can and must be associated with a verb. [...] the absence of agreement at the IP stage in fact concerns morphophonetic agreement, not the syntax of inflectional morphology.” (Epstein, Flynn & Martohardjono 1998: 74) In other words, the functional categories, namely the IP and the CP, are available to the L2ers from the early stages of acquisition.

### 4.2.1. Full Transfer / Full Access Hypothesis

The Full Transfer / Full Access Hypothesis (FTFA) offered by Schwartz & Sprouse (1994, 1996) also rejects the argument of Vainikka and Young-Scholten that the initial state of the L2ers' grammar only consists of lexical categories, while the functional categories do not transfer. According to Schwartz and Sprouse, the initial state of L2 acquisition is determined completely by the end state of L1 knowledge, which means that the functional categories are also carried over from the L1 to the L2. If the input could not be processed by this grammar, this initial state of the L2 grammar would be forced to change after being exposed to the target language input. The restructuring of the interlanguage grammar is claimed to be drawn by the UG options.

Furthermore, the L2ers only rarely reach the target grammar. The end stage of L1 and L2 acquisition would have to differ. To explain this difference, in addition to the fact that L2ers begin at a different starting point, the following reasons further contribute to the complexity. Either the negative data, which forces a restructuring of the interlanguage grammar, does not exist, or the positive input data that does exist is highly complex or rare.

However, Schwartz and Sprouse argue that, in spite of the difference of starting and end state between the two acquisition types, the cognitive process underlying L1 and L2 acquisition are nevertheless similar. Namely, both types of acquisition are governed by UG.

To support this claim, Schwartz and Sprouse (1994) studied a Turkish speaking adult, Cevdet, who acquired German as a L2. They generated the grammar development of Cevdet into three stages regarding the position of subjects and verbs and the production of overt complementizers. In the first stage, subjects always preceded the verbs, and the adverbs were sometimes fronted to the sentence initial position (XSV sentence type), which resulted in ungrammatical sentences in German. There were no complementizers present. In the second stage, both sentence types with the subject and verb inverted (XVS) and not inverted (XSV) existed, while the inverted subjects were predominantly pronouns. In the third stage, subject and verb were mostly inverted (XVS).

With the complete functional categories present in the initial interlanguage grammar, Schwartz and Sprouse assumed that the verb occupies C° position, and the subject was raised to Spec CP. Adverb fronting was explained as a free adjunction to CP. Because the Spec CP

was occupied by the subject, an overt complementizer did not exist at this stage. At the second stage, one could find XVS sentences with subjects being pronominal. They explained such asymmetry between pronominal and non-pronominal subjects based on the analysis of French inversion from Rizzi and Roberts (1989). At this stage, the pronominal subjects were analyzed as clitics and were incorporated to the verb in the C°. At the third stage, the inverted subjects were no longer restricted to pronouns. The subjects were believed to be moved to Spec IP position, governed by the verb in C° to get its case.

This study shows that, despite the apparent similarities of the sentence production in different stages, the grammar in each stage can be explained by a different nominative case checking system, all of which are compatible with UG.

#### **4.2.2. Missing Surface Inflection Hypothesis**

If, according to the FTFA hypothesis, the functional categories are available to the L2ers from the beginning, and the L2ers have the highest functional projection, why then is morphosyntax in the L2 acquisition always extremely problematic?

The Missing Surface Inflection Hypothesis accounts for this problem by claiming that the problem lies in the difficulty of mapping between the abstract feature and the morphophonological representation of the surface morphology (Haznedar & Schwarz 1997; Lardiere 1998a, 1998b, 2000; Prévost & White 2000; Haznedar 2001). Lardiere (1998a, 1998b, 2000) studied a Chinese-speaking adult who acquired English as a L2 and found that, in spite of the low realization of overt morphology, a great variety of syntactic structure was shown. This led her to the argument that there is a distinction between the abstract morphosyntactic feature and the morphophonological representation of it. The study of Haznedar and Schwarz (1997) and Haznedar (2001) on a Turkish child L2er also agreed with this finding. The seeming nonfinite verb form frequently found in the interlanguage grammar is, according to them, in fact a non target finite form, substituted for the target finite form, because of the complexity of the target morphosyntactic paradigm.

Paradis, Le Corre and Genesee (1998) have pointed out a problem with this hypothesis. They argue against the assumption that the absence of overt agreement and tense morphology do not account for deficits in the underlying syntactic structure because, if this were the case,

one would not expect a sequence in the emergence of morphological markings for tense and agreement in the interlanguages. Instead, the deficit in the inflectional morphology should be explained by other extra-grammatical factors, such as frequency of exposure or individual differences. They criticized this view as being of limited explanatory value. “By eliminating an observable source of evidence about L2 learners’ grammatical competence, their account becomes compatible with a broad range of empirical findings, and thus its ability to explain those findings is diminished.” (Paradis, Le Corre and Genesee 1998: 231)

Furthermore, they empirically challenged this hypothesis by studying the sequence of acquisition in morphological markings. They examined the spontaneous production of English-speaking children who acquire Quebec French as L2. A general picture of the following acquisition sequence was observed: First of all, agreement emerged before tense; secondly, the use of tense distinction was acquired before the use of third person plural morphology; finally, the acquisition of the past tense preceded that of the future tense. This developmental profile was believed to reflect the changes in learners’ underlying competence, rather than the influence of extra-grammatical factors, as assumed by Full Transfer/Full Access Hypothesis.

### **4.3. Acquisition of word order in German**

In the previous section, the role which UG plays in L2 acquisition was extensively discussed. Each model conceptualizes a different initial state of the L2 interlanguage, and explains the grammar development according to UG constraints and target language input. Regarding the development of word order, it is a shared belief that the L2ers bring the word order (the headedness of either only lexical or also functional projections) from their L1 to L2. This initial word order changes through the target language input interacting with UG constraints, resulting in different stages of interlanguage grammar.

Clahsen, Meisel and Pienemann (1983) study the language acquisition of adult Romance language native speakers who acquired German as a L2. Based on both longitudinal and cross-sectional studies, the so-called ZISA data generated the following stages of interlanguage grammar regarding word order.

### Stage X: canonical order

At the initial stage, the Romance language speakers start out with a SVO word order in German, which is transferred from their L1.

### Stage X +1: adverbial fronting

Adverbial includes adverb and prepositional phrase. At this stage, adverbials are often fronted to the sentence initial position, without changing the order of subject and verbs. For example,

- 5) da Kinder spielen  
there children play (Concetta)

This results in deviant word order structure, because in standard German, verbs must occupy the second position.

The application of adverb fronting is pragmatically motivated. Since sentence initial position is perceptually more salient, this means it is communicatively more effective.

### Stage X+2: verb separation

As mentioned in chapter 3.2.1, the verbal elements in German have a discontinuous structure; namely, the finite verbs always occupy the second position, whereas the infinite verbs, participles, and verbal prefixes stay in the final position.

After the L2ers arrive at the previous stage, they begin to separate the verbal elements, for example, in a sentence with finite auxiliary and infinite thematic verb:

- 6) kann ich selber kaufen  
can I self buy (Candi S.)

### Stage X+3: subject verb inversion

Those speakers, who have already acquired the adverbial fronting rule, begin to apply the subject verb inversion rule at this stage, so that their word order complies with the standard German grammar. In standard German, subject verb inversion is obligatory in the following contexts:

- if the object NP is topicalized to the sentence initial position
- if the adverbial is fronted to the sentence initial position
- in the case of interrogative sentences
- if the embedded clause is fronted to the initial position

For example:

- 7) Französisch kann ich auch noch heute  
 French can I also still today (Pepe S.)

Different from the adverbial fronting rule, this rule requires language specific knowledge, in this case that finite verbs in German must take the second position.

#### **Stage X+4: adverbial in the sentence internal position**

At this stage, the L2ers acquire the rule that adverbials, if not fronted, are placed between the verb and the object. For example,

- 8) ich habe nur ein kleine Weintraube  
 I have only one small grape (Toni I.)

#### **Stage X+5: verb-end position in subordinate clause**

This study concludes that in contrast to L1 acquisition, the use of the subordinate clause does not correlate with the development of word order in German ( cf. Limber 1973). Learners in different developmental stages produce subordinate clauses to similar extents. However, some speakers who produce a subordinate clause do not differentiate the verb position from that in the main clause. For example,

- 9) un (und) dann is (ist) schlecht wenn eine mädchen muß alleine...  
 and then is bad if one girl must alone (Eliseo I.)

Finite verbs in embedded sentences like that in example 9 should be placed at the end position of the sentence. Only those speakers who have arrived at this stage have differentiated word order in the main clause and in the subordinate clause regarding the verb position.

Among these developmental stages, the adverbial fronting stage and the inversion stage are extensively discussed with regards to the UG constraint (duPlessis, Solin, Travis & White 1987; Tomaselli & Schwartz 1990; Schwarz & Sprouse 1994) (see also chapter 4.2.1). While it is generally assumed that the adverb initial uninverted utterances precede the inverted utterance, it is confirmed in Clahsen (1984) that these two stages overlap, which means that there exists a period when the inversion is optional.

To account for this optional inversion, Eubank (1994) refers to Wexler's (1994) analysis of optional verb finiteness in the L1 development. He holds that the positively specified tense feature is absent in child grammar, so if the language exhibits the strong agreement feature, such as in German or French, the verb would be optionally raised, whereas the non-raised verb (which involves I-to-V lowering) appears to be infinite. If the language exhibits the weak agreement feature, verb movement would be prohibited, and the verbs could be either in agreement or infinite. Therefore, in the child grammar of a V-2 language like German, the agreeing verbs are placed consistently on the left of the complement whereas the infinite verbs are on the right (see also Clahsen 1988). Note that strong agreement does not result in mandatory verb movement<sup>6</sup>; only when the tense feature is acquired will the verb movement become obligatory.

Similar to this account, Eubank assumes the uninverted sentences to have the verb in situ in the VP position, while the verb in inverted sentences is in COMP, the initial adverb in Spec-CP, and the subject in Spec IP position. In other words, the uninverted sentence does not involve verb movement, whereas the inverted sentence does. Eubank therefore examined the ZISA data, tabulated and analyzed by Clahsen (1984) and Meisel (1987), and found that the result confirms this hypothesis: The appearance of agreement morphology coincides with verb raising. Furthermore, during the optional inversion period, tense has not yet been fully acquired. The acquisition of tense, marked by the appearance of preterit, coincides with the obligatory verb raising.

---

<sup>6</sup> It is suggested by Rohrbacher (1992) and Meisel (1993) that a morphological distinction of at least two persons correlates with the onset of verb raising while both occur before the acquisition of tense.

## **4.4. Acquisition of inflectional morphology**

### **4.4.1. Root infinitives in the L2**

In the L1 acquisition, there often exists a period, in which children across languages produce finite and non-finite verb forms alternately, known as the optional infinitive stage. Furthermore, the usage of infinitives (or non-finite form) does not exist alone, but correlates with other grammatical phenomena, such as null subject and sentence external negation. There are numerous and diversified explanations to this phenomenon, such as the absence of tense in the early phase (see Wexler 1994, 1998), truncation underneath CP (Rizzi 1994), or the Null-Aux hypothesis (Boser, Lust, Santelmann & Whitman 1992).

In L2 acquisition, there also often exists a stage (usually a much longer period), when non-finite forms are used in contexts where finite forms are required. Regarding the nature of such non-finite use, and whether it is similar to that in the L1 acquisition, some disagreements exist among scholars. As mentioned in sections 4.1 and 4.2, the non-finite usage can be explained by the absence of higher functional categories, which is concordant with the truncation hypothesis. This means the L1 and the L2 acquisitions follow a similar course; namely that in both cases the acquirers undergo the optional infinitive stage (Prévost 2003). The other explanation is, according to the Missing Surface Inflection Hypothesis, that the non-finite form is used as a substitute for the finite marker, due to mapping difficulties between syntax and morphology. This also means that an optional infinitive stage does not exist in L2 acquisition.

### **4.4.2. Aspect Hypothesis**

To explain the problem of deficiency in the development of inflectional morphology, some scholars also look at the semantic aspect, trying to find a relationship between the form—the morphological coding, and the meaning—the inherent verb semantics.

The Aspect Hypothesis represents the view that for both L1 and L2 acquisition, the pathway to absolute tense marking begins with markings based on the semantic aspect (Andersen 1991, 1993, 2002; Andersen & Shirai 1994, 1996). In the acquisition of tense and aspect markers, the learners are first influenced by the inherent lexical aspect of verbs, which,



according to Vendler (1957) can be categorized into four semantic types: states, activities, accomplishments, and achievements.

Stative verbs depict situations or actions as homogeneous and unchanging without natural beginning or end points, such as *have* or *love*. Activity verbs encode processes following one another in time with arbitrary beginning and end points such as *run* or *swim*. Accomplishment verbs also depict processes following one another in time, but unlike activity verbs, they encode an inherent end point. Thus they belong to telic verbs, such as *draw a picture* or *build a house*. Achievement verbs are punctual events in that the beginning and the end points are the same, such as *break* or *arrive*.

The Aspect Hypothesis predicts that punctual and telic events will receive past markings earlier than the stative events. Atelic verbs (states and activities) rarely appear in the past contexts, and if they do, they mostly remain uninflected (Andersen & Shirai 1994:138,144; Shirai & Kurono 1998:248). The perfective markings will appear initially on achievement verbs, then on accomplishment verbs, and later on, activity verbs. Finally they spread to stative verbs. The imperfective markings will develop in the inverted direction (Andersen 1991:314).

It is, however, argued by some scholars that, in the L2 acquisition, these predictions only hold to be true to varying degrees. Rohde (1996) studied German children who acquired English as L2. The spontaneous production of these children shows that, whereas the inflected verbs seem to be in accordance with the lexical aspect, the non-target-like use of inflections cannot be accounted for by the Aspect Hypothesis. “Thus, the distribution of target-like verbal inflections does not necessarily reflect the absence or misformation of verbal inflections [...] A number of factors such as individual variation and L1/L2 combination are suggested to determine the degree to which learner data comply with the predictions of the hypothesis” (Rohde 2002: 200). According to Rohde, some other learner’s internal and external factors are also responsible for the non-target-like verbal inflections: learner age, the acquisition type, the time of exposure and input.

#### **4.4.3. The Acquisition Sequence of Tense and Agreement**

As mentioned in chapter 4.3, Wexler (1994) and Eubank (1994) hypothesized the relationship between verb raising and the emergence of aspect and tense. This hypothesis also assumes that the acquisition of agreement appears before tense. To examine the acquisition sequence of tense and agreement, Paradis, Le Corre and Genesee (1998) studied English native speaking children who acquire Quebec French as L2 (see also chapter 4.2.2). The agreement in French is marked by pronominal clitics which is attached to a verbal host. Quebec French has both simple and composite (past and future) verb tenses. Besides the composite past tense, imperfect past tense was also used by the subjects. The results revealed that the AgrP and TP emerged sequentially in the learners' grammar; namely, agreement features appeared before tense feature.

## **5. The setting and approach of the data collection**

Josephine is a Mandarin Chinese native speaking girl who was born in Singapore and grew up in Taiwan. Both her parents speak Mandarin Chinese with her. Her whole family moved to Vienna, Austria when she was at the age of six. Several months later, (in May) she began to visit a German speaking kindergarten, where she had her first contact with the German language. At that time, she was at the age of 6; 7.

She attended kindergarten three hours everyday until the end of July. In August she had a one month break. Outside of the kindergarten, she had almost no contact with other German speaking people. Therefore, her only German input at that time was in kindergarten. In September, she began to visit a primary school in Vienna.

Besides Mandarin, Josephine also speaks a little English, taught by her mother, who is from Singapore.

### **5.1. Data collection**

The data collection began two and a half months after her first contact with the German language. The spontaneous speech recordings took place in Josephine's home every two to three weeks, and lasted for 10 months. The spontaneous speeches were completely audio tape-recorded, and transcribed with the CHAT transcription system (MacWhinney 2000). There are 18 sessions in total. The date of each recording is given in the following table.

Sample	Date of Recording	Sample	Date of Recording
Jos1	12.07.2007	Jos10	07.12.2007
Jos2	25.07.2007	Jos11	28.12.2007
Jos3	08.08.2007	Jos12	11.01.2008
Jos4	21.09.2007	Jos13	01.02.2008
Jos5	03.10.2007	Jos14	20.02.2008
Jos6	19.10.2007	Jos15	06.03.2008
Jos7	31.10.2007	Jos16	19.03.2008
Jos8	14.11.2007	Jos17	03.04.2008
Jos9	29.11.2007	Jos18	21.05.2008

Table 1: The date of each recording session

According to Schwartz and Sprouse (1994), longitudinal study has the advantage that the communicational intent rather than the reflection of grammatical knowledge is stressed. Besides, longitudinal data can reveal the change in syntactic patterns over time, which suggests the development of grammatical knowledge. However, it also bears the risk of underestimating the L2ers' underlying competence, because language production does not necessarily equal their language competence.

In the beginning of the data collection, because very little German was spoken, a sentence repetition task was additionally conducted at each session.

## 5.2. The coding

Since the main focus of this study is on functional categories and verbal inflection, the following morphological features are coded in the transcription: Lexical verbs are marked for person and number, stem, infinitive, imperative or participle. This coding is also applied for copula verbs, auxiliaries, and modal verbs. Additionally, morphological errors and overgeneralization are coded. Because of the acoustical similarity, the gender and case of nouns are disregarded.<sup>7</sup> As for word order, the following two sentence types are specially marked: adverbial fronting without inversion and sentences with subject verb inversion.

<sup>7</sup> In German, gender and case are marked by the ending of the articles. For example: the indefinite article "eine" (feminine nominative or accusative); "einen" (masculine accusative), "einer" (feminine dative or genitive).

## **6. Data analysis**

There are some general notes regarding the methodology of this study. Imitation, repetition, citation and unclearly pronounced endings are excluded in the data analysis. Since the first person singular present form in colloquial German is identical to the stem form, it is also excluded from the analysis of verb stem form.

### **6.1. The overview of the language acquisition stages**

This longitudinal data shows the systematical changes in the interlanguage over time. However, it is difficult to strictly categorize the used grammars into stages. The borderline of these is too hard to determine. Therefore, the following section will depict a general profile of Josephine's language development.

#### **i. For the first three recording sessions:**

##### **- Utterances consist predominantly of nouns**

While Josephine was still in kindergarten, her progress in the first three months was very slow. This could be due to her lack of interaction with other children in her kindergarten. She hardly spoke any German in the first three interview sessions except for some single words, which were predominantly nouns such as names of animals and common phrases such as "ich weiss nicht" ("I don't know").

In the sentence repetition tasks, she copied the sentence word for word without understanding the meaning. Her intonation identically reproduced the way the sentences were spoken to her. This showed her sensitivity to the change of tone, which is prominent in Mandarin Chinese. Furthermore, word-final consonants, especially the plosive -t, were often omitted, as there is no consonant final sound in Chinese.

## ii. From jos4 to jos7:

From the fourth session onwards, after Josephine started to attend school, she became very communicative and made noticeable progress at each recording session. During this period, Josephine's interlanguage exhibited the following characteristics:

### - Sentences with SVO word order

The first spontaneous verb produced in the data is in infinite form.

10) \*ANU:<sup>8</sup> und was machst du morgen?

“and what are you doing tomorrow?”

\*JOS: essen.

eat- inf

(jos4)

“(to) eat.”

At this stage, the utterances are mostly complete sentences with the pragmatical neutral SVO word order. This tendency can be illustrated by the sentence repetition task:

11) \*ANU: nachher spiele ich mit dir.  
afterwards play-1p-sg I with you.

\*JOS: ich spiele mit dir.  
I play-1p-sg with you.

(jos4)

### - Early emergence of question sentences

In sharp contrast to the study done by Vainikka & Young-Scholten (1994), who claim that their subjects scarcely produced any question sentences at the beginning of their developmental stages, Josephine, from the beginning, produced plenty of well-formed question sentences with finite inflected verb forms.

12) \*JOS: oh brauchst du Jacke?

oh need-2p-sg you jacket

(jos4)

„Oh, do you need a jacket? “

---

<sup>8</sup> \*ANU is the coding for the interviewer and \*JOS is the subject Josephine.

- 13) \*JOS: magst du Blume?  
           like-2p-sg you flower (jos4)  
           “Do you like flower?”

#### - Early emergence of copula

The copula verb was also already available at a very early stage. In the fourth session, the third person singular form “ist” is repeatedly used.

- 14) \*JOS: dann ist rot # nein # da(s) ist sechs ok?  
           then is red no This is six ok (jos4)

- 15) \*JOS: so du bist des [: der] Bruder?  
           so you are the brother (jos6)

#### - The use of modal verbs and auxiliaries

Along with the early appearance of the copula, modal verbs and auxiliaries also emerge notably early. Before the sixth recording, Josephine already used different forms of modal verbs, including “können (can)”, “mögen (want)”, and “müssen (must)”. Sometimes she omitted the main verb, which could be due to the fact that she did not know the verb in German. For example,

- 16) \*ANU: zeig mir wie man schwimmt.  
           „Show me how to swim.“  
       \*JOS: du muss [\*]<sup>9</sup> so &brunnn und +...  
           you must-stem-sg so and (jos6)  
           “You have to (do) so...brunnn”

Here the sound “brunnn” refers to jumping into water. The marking stem singular used in the example above is the basic form marked for 1st and 3rd person singular of modal verbs. The singular stem differs from the stem in that it undergoes a vowel change. For example: for the word “müssen”(must): “müss” is the stem, and “muss” is the stem for singular.

In other cases, she also produced modal verbs with the main verb in infinite form at

<sup>9</sup> The asterisk [\*] here is used to depict ungrammatical construction.

sentence final position, which complies with the standard German form. For example,

- 17) \*JOS: mas [: magst] du spielen? (jos6)  
 want-2p-sg you play  
 “Do you want to play?”

However, the verbs, lexical as well as modal, in declarative sentences, were often used in stem form. That is, the inflectional endings for person and number were frequently omitted. This tendency lasted for a very long time, almost pervading the whole period of the observation. Yet, in sharp contrast to the declarative sentences, verbs in interrogative sentences always appear in finite form. This peculiar phenomenon will be further discussed in the following chapter.

- **The emergence of a negator**

In addition to copulas and modal verbs, sentence internal negation can also be found at this stage of development. Josephine first acquired the negator “nicht”, putting it in front of the elements that were to be negated. For example,

- 18) \*JOS: ich habe nicht Schule.  
I have-1p-sg not school. (jos6)  
„I don't have school.“
- 19) \*JOS: ich bin nicht Papagei.  
I am not parrot (jos6)  
“I am not a parrot.”

The target form of the negated determinator “kein” was acquired much later.

- **Production of non-target subordinate clauses**

The use of subordinate clause began very early; however, it remained the non-target form through out the whole observation period. For example

- 20) \*JOS:   aber   ich   weiss                 wo   ist   es   hab. [?]  
            but    I    know-1p-sg   where   is   it   have-stem                                 (jos6)

This sentence probably means “but I know where it is.”



### iii. From jos8 to jos12:

From this stage onwards, her vocabulary developed very rapidly, as did her grammar. However, the sentences she produced exhibited very great structural variation. She had a strong intent on communication. Yet her numerous sentences were lacking clear structure, which ultimately could not be analyzed. In spite of this, one can observe a gradual and systematical grammar development.

#### - The emergence of (deviant) past participle construction

In the eighth interview session, the first marking for a past event appeared. The deviant past participle construction occurred twice in this session; both were used to mark aspects:

21) \*JOS: frau lehrerin hat nicht (ge)sag(t).  
 Ms teacher has not said (jos8)  
 “The teacher has not said.”

22) \*JOS: ich hab (ge)sag(t) ist [\*] meine Freunde.  
 I have said is my friends (jos8)  
 “I have said, (that) is (from) my friends”

In the examples 21 and 22, the past participle construction is not used to stress the temporal relationship between the action and the speech time, but the completion of the action “sagen” (say).

In the following interview session, the past participle construction was used to mark past tense (instead of aspect):

23) \*ANU: was hast du heute in der schule gemacht?  
 “What did you do today at school?”  
 \*JOS: ich hab sing [\*].  
 I have sing-stem (jos9)  
 “I sang.”

24) \*JOS: wir hab [\*] gespielt.  
 we have-stem played (jos10)  
 “We played.”

### - Adverb fronting without subject verb inversion

From this stage onwards, her utterances were no longer restricted to the canonical SVO word order. For the sake of effective communication, adverb and preposition phrases were fronted to the sentence beginning. At this stage, subject and verb were not yet inverted, which resulted in ungrammatical sentences.

- 25) \*JOS: in die [\*] Schule wir spielen. [\*]<sup>10</sup>  
           in the school we play-1p-pl. (jos8)  
           “At school we play.”

- 26) \*JOS: morgen ## Pooh kann nicht geh zu Schule. [\*]  
           tomorrow Pooh can-3p-sg not go-stem to school (jos8)  
           “Tomorrow, Pooh cannot go to school.”

### - Modal verbs are used together with main verbs; however the position and the form of the main verb are varied.

- 27) \*JOS: ah du kann [\*] nicht schlafen!  
           you can-stem-sg not sleep-inf (jos8)  
           “You should not sleep! “

- 28) \*JOS: magst du sitz da? [\*]  
           like-2p-sg you sit-stem there (jos9)  
           „Do you want to sit there? “

- 29) \*JOS: wir muss [\*] essen Katanja [: Kastanien] . [\*]  
           we must-stem-sg eat-inf chestnut (jos10)  
           “We want to eat chestnut.”

### - Very complex sentence constructions

The subordinate clause-like construction had appeared in the previous stage. In this stage, Josephine produced different kinds of embedded clause frequently, such as relative clause and conjunctive clause.

---

<sup>10</sup> The first asterisk marks the wrong case of the article, and the second one, which is at the end of the sentence, marks the grammatical error of the sentence.

- 30) \*JOS: wir gehen zu shop wo hab Hofer. [\*]  
 we go-1p-pl to shop where have-stem Hofer (jos8)  
 “We go to Hofer shop”.

Note that Josephine always used the verb “have” to mean “there is”. Therefore, in this case she probably wanted to say “we go to a shop where there is Hofer.”

- 31) \*JOS: Kinder wenn du muss [\*] Eis du komm da. [\*]  
 children if you must-stem-sg ice cream you come here (jos10)  
 “Children, if you want ice cream, come here.”

- 32) \*JOS: du hab [\*] noch Eis <du mag> [//]  
 you have-stem still ice cream you want-stem-sg  
 wenn du mag [\*].  
 if you want-stem-sg (jos10)  
 “You can have more ice cream if you want. “

- 33) \*JOS: er hat gesagt # hm# muss schneller  
 he has said must-stem-sg faster  
 geh zu hause. [\*]  
 go-stem to home (jos12)  
 “He said, (he) has to go home quickly.”

As shown in the examples above, the various forms of the embedded sentences are deviant from the target form. The development of the embedded clause will be specified in chapter 6.2.7.

#### - Appearance of different agreement endings

In the previous stages, the verbs were mostly uninflected. Until this stage, the stem or singular stem form was still used a lot in different contexts, yet one begins to observe the emergence of different agreement endings. The 1<sup>st</sup> person singular ending –e, 2<sup>nd</sup> person singular ending –st, and the 1<sup>st</sup> person plural ending –en were produced increasingly.

#### - Emergence of different morphological endings for adjectives.

The adjective inflection in German depends on gender (of the noun, which is to be modified),

case and article. At this time, Josephine had not yet acquired the gender and case systems in German. Yet she tried out different adjective endings, for example:

“grosses Bruder“ (big brother),

“das kleine, das grosses“ (the small one, the big one).

#### - **Acquisition of negator “kein”**

In the 10<sup>th</sup> recording, Josephine began to use the negative indefinite article “kein” to negate indefinite nouns. For example:

- 34) \*JOS: ich hab kein [\*] Schule.  
           I have no school. (jos10)  
           “There is no school today.”

### **iv. From jos13 to jos17:**

#### - **Optional subject verb inversion**

From this stage onwards, the subject verb inversion in the case of adverbial fronting or topicalization is attested. In accordance with the findings of Clahsen (1984), the inversion rule is optional.

- 35) \*JOS: in Taiwan hab ich das gelernt.  
           in Taiwan have-1p-sg I this learned. (jos14)  
           “In Taiwan, I (have) learned this.”

#### - **Inflection for verb agreement is not yet mastered**

Except for 2<sup>nd</sup> person plural, all the other inflectional endings of the agreement paradigm were used productively. It is unclear whether the 2<sup>nd</sup> person plural ending was acquired or not, because this context was never available in the recording sessions. Despite the productive use of the inflectional paradigm, the stem form could still be observed from time to time, especially among modal and auxiliary verbs such as “müssen” (must) and “haben” (have), which occur overwhelmingly in stem form.

## **v. The 18<sup>th</sup> sample:**

- **The acquisition of verb second rule has been completed.**

The optional subject verb inversion period lasted for less than four months. From this stage onwards, inversion became obligatory and the verb (almost) always occupied the second position.

- **The finite verbs are overwhelmingly inflected.**

## **6.2. Acquisition of functional categories**

In this chapter, we are going to look at Josephine's development of the following aspects of functional categories: interrogative sentences, modal and auxiliary verb constructions, copula, negation, determiner phrases, and subordinate clauses.

### **6.2.1. Interrogative sentences**

As mentioned in the previous chapter, the emergence of interrogative sentences begins very early. The second spontaneously produced verb in the data is found in a question sentence. In contrast to the findings of Vainikka & Young-Scholten (1994), question sentences not only appeared early, they were also used extensively and correctly in Josephine's interlanguage.

In the second stage, as Josephine began to speak German spontaneously, there were 19 instances of yes/no questions and 8 instances of wh-questions. The first usage of a yes/no question was in sample 4. Most of the yes/no questions began with "magst du..." (do you want/like...) or "hast du..." (do you have...). The first usage of wh-question was also found in the 4<sup>th</sup> sample, where she produced wh-element "was" (what). In sample 6, other wh-elements such as "wie" (how) and "wo" (where) were used repeatedly. The wh-element was raised to the sentence initial position, which corresponds to the target form in German. The in situ wh-element, as expected in Mandarin Chinese, was not attested even in the beginning. For example:

36) \*JOS: wo ist meine Schultasche?  
           where is my bag? (jos6)

37) \*JOS: wie alt ist sie?  
           how old is she? (jos6)

Furthermore, it is an odd contrast to the affirmative sentences produced by Josephine that the verbs in question-sentences received the correct morphological endings from the beginning. More details regarding the inflectional endings are shown in chapter 6.3 and 6.5.

### 6.2.2. The modal verbs

In the L1 acquisition of German, modal verbs appear generally later than lexical verbs, due to the cognitive and syntactic complexity of their nature.<sup>11</sup> A striking difference, which was found in the L2 acquisition data from Josephine, was characterized by the early, extensive and variable use of modal verbs.

The first spontaneously produced modal verb is found in the 5<sup>th</sup> recording. There were overall 36 tokens of modal verbs in the second stage. Of these 36 tokens, 3 types of modal verbs were observed: können (can), mögen (want), and müssen (must). In the earliest examples, the main verbs were always omitted. In the second stage, only 10 examples were found in which the modal verbs were followed by main verbs, which indicates 28% of application. Yet, the omission of the main verb does not necessarily indicate a grammar deficiency in German. Besides the elliptical usages, the omission of main verbs in certain contexts can often be heard among German native speakers. For example,

38) \*JOS: sie kann Deutsch.  
           she/they can-3p-sg German (jos5)  
           “She (or they) can (speak) German.”

Yet, in addition to these target-like uses of modal verbs, there did exist some non-target-like omission of main verbs in Josephine’s speech. For example,

---

<sup>11</sup> The syntactic complexity in German is especially high, because of the non-linear nature of the modal verb construction.

- 39) \*JOS: ich muss eine [\*] Hase.  
           I must-1p-sg a bunny (jos6)  
           “I want to have a bunny.”

This fact, however, does not necessarily indicate a deficit of the interlanguage grammar at this stage; instead, the missing of the main verbs could be due to her lack of vocabulary, as shown in this example:

- 40) \*JOS: und Ich kann so &you &yong.  
           and I can-1p-sg such &you &yong (swim) (jos6)  
           “And I can ‘you yong’ (swim).” (Josephine used the Chinese word of swim.)

From the third stage onwards, with the growth of her vocabulary, the modal verbs were mostly followed by main verbs. It is noticeable, however, that the form and the position of the main verbs varied. In addition to the target form, where the main verbs remain infinite at the sentence final position, Josephine seemed to generate an additional grammar rule that allowed the main verb to be in the sentence medial position, whereas the main verb was in stem form. For example,

- 41) \*JOS: so ich muss schau ne [: eine] Buch. [\*]  
           so I must-1p-sg look-stem a book. (jos8)  
           “So I have to look at a book.”

- 42) \*JOS: magst du sitz da? [\*]  
           want-2p-sg you sit-stem there (jos9)  
           “Do you want to sit there?”

The following table shows the incidences of three types of structures with modal verbs found in Josephine’s interlanguage in each stage (except for the 1<sup>st</sup> stage). The first type is the target structure with main verbs in infinitive form at sentence final position; the second type is the structure described above; the third one is also deviant in that the infinite verbs take the sentence medial position.

	<b>modal verb</b>	<b>Modal+ Infinite final</b>	<b>Modal + Stem medial</b>	<b>Modal+ Infinite medial</b>
<i>Stage 2 (jos4-jos7)</i>				
Token	36	6	3	1
<b>Percentage<sup>12</sup></b>		<b>60 %</b>	<b>30 %</b>	<b>10 %</b>
<i>Stage 3 (jos8-jos12)</i>				
Token	198	73	43	3
<b>Percentage</b>		<b>61.3%</b>	<b>36.1%</b>	<b>2.5%</b>
<i>Stage 4 (jos13-jos17)</i>				
Token	296	115	53	5
<b>Percentage</b>		<b>66.4 %</b>	<b>30.6 %</b>	<b>2.9 %</b>
<i>Stage 5 (jos18)</i>				
Token	59	28	7	0
<b>Percentage</b>		<b>80 %</b>	<b>20 %</b>	<b>0%</b>

Table 2: The tokens and percentages of different types of modal verb construction in each stage

The percentage of the target form (modal verb + sentence final infinite verb in each recording is shown in the figure below. For details of each recording, see Appendix A.

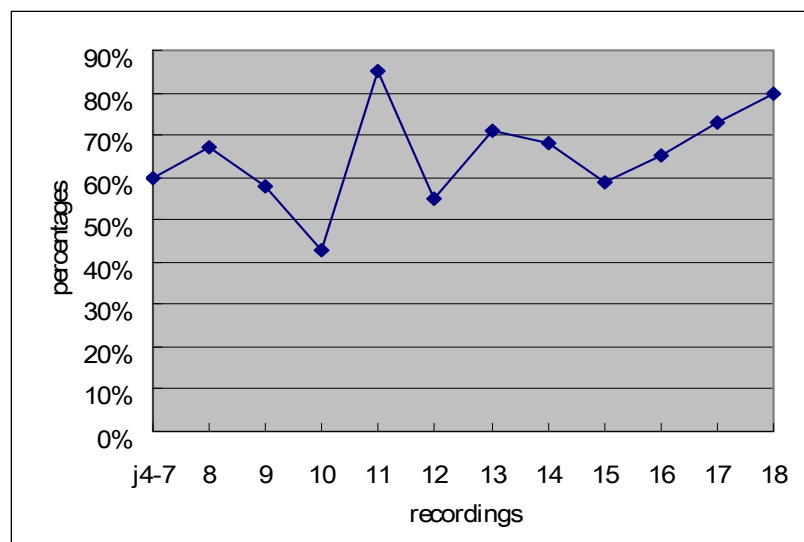


Figure 2: The percentages of the use of modal verbs together with sentence final infinite main verbs

The numbers of tokens in the 2nd and in the 5th stage are small and might affect the import of the percentage. Yet, of these three types, the target form is still the most frequently used

<sup>12</sup> Because the application of the modal verb together with the main verb is still relatively low, to calculate the percentage of the three kinds of structure, the incidences of modal verbs without main verbs are disregarded, so that the comparison between stages is made easier.



form throughout the whole observation period. The significance of the structure with infinite verbs in sentence medial position is marginal, since there are merely 9 incidences in total. As for the second type with main verbs in stem form, this makes up almost one third of the total usages. Comparing the production of this type in different stages, one can see the slight decline of the frequency over time. Nevertheless, it remains evident through out the whole observation period.

This peculiar structure described above is unheard of in German native speaking children and, therefore, characterizes a qualitative difference between the L2 acquisition of Josephine and L1 acquisition. The reasons for these quantitative and qualitative differences between the two acquisition types will be further discussed in chapter 7.

### 6.2.3. The auxiliaries

In standard German, the past participle (PP) construction and the future tense construction require the use of auxiliaries. The PP construction is marked either by the auxiliary “haben” (have) or the auxiliary “sein” (be). The application rule of these two auxiliaries is however, intransparent. It is generally agreed that, verbs which involve a change of states, such as *go*, *fall*, *happen* etc. receive the auxiliary “sein”. The rest of the verbs are combined with “haben”. For example,

- 43) Er ist nach Wien gefahren.  
       he is to Vienna drive-pp  
       “He has gone to Vienna / he went to Vienna.”

The future tense is formed by auxiliary “werden” together with infinite verbs.

The auxiliaries emerged after the modal verbs. As mentioned in the previous chapter, the first past participle with auxiliary construction appears in the 8<sup>th</sup> sample. The PP construction was mostly formed by the auxiliary “haben”, but there were also a few tokens of the deviant use of the auxiliary “sein”.

- 44) \*JOS: ich bin geschlafen. [\*]  
           I am sleep-pp (jos8)  
           I (have) slept.”

From the 10<sup>th</sup> recording onwards, the PP construction became productive. In this session she used PP to express both telic and atelic events with achievement verbs such as “vergessen” (forget) and activity verbs such as “malen” (paint) and “spielen” (play). With the increasing number of past references, the frequency of PP construction escalated enormously from the 12<sup>th</sup> recording onwards. However, even though the past references were almost obligatorily marked, various deviant forms were observed.

Presumably due to the obscurity of the application of “haben” and “sein”, Josephine often mixed up these two verbs. For example,

- 45) \*JOS: aber ich hab [\*] mit meine freundin geh. [\*]  
           but I have with my friend-fem. go-stem (jos16)  
           “But I went/have gone with my friend.”

- 46) \*JOS: ist [\*] alle Kinder fertig schreiben@m?<sup>13</sup> [\*]  
           is all children finished write-pp (jos17)  
           “Have all the children finished writing?”

The confusion about these two verbs is even overgeneralized to the copula construction. For example,

- 47) \*JOS: aber da hab nur ein bisschen lang. [\*]  
           but that have-stem just a bit long (jos16)  
           “But that is just a bit long.”

It is notable that, before the emergence of PP construction, Josephine had never used “haben” instead of “sein” in the copula construction.

Regarding the lexical aspects of verbs, even though the first two occurrences of PP construction are used with achievement verbs, the distribution of activity verbs and achievement / accomplishment verbs in the PP construction was relatively even. In the third stage, as the first PP construction appeared, there were 40 tokens of PP construction. From these 40 examples, 19 were composed with an achievement verb, 4 with accomplishment verbs, and 17 with activity verbs. Thus, in spite of the belief that Chinese speaking children

<sup>13</sup> The symbol “@m” marks morphological errors.

are sensitive to verbal aspects, especially the perfective aspect (Li 1990), the prediction of the Aspect Hypothesis was not attested even in the earliest stage.

#### 6.2.4. The copula

The use of copula has a purely grammatical function, namely to link the relation between a subject and its predicate. In sentences where the predicates are not verbal, copula verbs are required to carry tense and agreement features. The copula verb “sein” in German is used to connect the subject with nominal, locative, adjectival and particle predicates. Unlike German, Chinese does not have morphological markings for tense and agreement, which presumably constitutes the different nature of copula.

In Mandarin Chinese, only nominal predicates require a copula, whereas the locative and the adjectival predicate do not, since the grammatical relation is already expressed semantically. For example,

- 48) a.   ta    hen    gao.  
          he   very   tall.
- b.   didi                zai   xuexiao  
          young brother   at   school

In the L1 acquisition, copula occurs quite early and frequently, even though its function is purely grammatical. Unlike the lexical verbs, moreover, the copula almost always appears in finite form (Becker 2000a, 2000b; Poeppel & Wexler 1993). Researches have shown that the copula is frequently omitted by young children in certain contexts, depending on the types of predicate. The copula is mostly present in combination with nominal predicates, whereas in the context of locative predicates, it is frequently omitted (Becker 2000a, 2000b). This phenomenon is, however, only attested by those children of L1, where root infinitives are also observed (Cztinglar, Katičić, Köhler & Schaner-Wolles 2006).

Similar to German native speaking children, Josephine’s use of copula also began very early and always appeared in finite form. The first use of copula occurred in the 4<sup>th</sup> recording, where the third person singular form “ist” was used repeatedly. By the time of the 6<sup>th</sup> recording, different agreement forms appeared, which include: first person singular “bin”,

second person singular “bist”, third person singular “ist” and first person plural “sind”. There were sometimes occurrences of a mismatch between the agreement forms, which could be explained by production error. The infinite form in root position never occurred. The only incidence of the infinite form throughout the whole period is in the last recording:

- 49) \*JOS: weil dann kann ich die ganze Marienkaefer sein.  
 because then can I the whole ladybug be (jos18)  
 “Because, then I can be the complete ladybug.”

Regarding the copula omission of Josephine, unlike what is found among German native speaking children, the omission does not systematically correlate with the types of predicates. There were in total 429 tokens of copula, and 58 incidences of copula omission. The omission rate is therefore 12 %. The rate of omission is fluctuant, yet the omission does not decrease with time. Of these 58 cases of omission, 48 % are with nominal predicate, 45 % are with adjectival predicate, and 7% are with locative predicate. This shows that, even though in Mandarin Chinese only a nominal predicate requires a copula, this does not influence the overtness of the copula in nominal contexts.

Another remarkable aspect of Josephine’s copula omission is that, of these 58 incidences of copula omission, 50 incidences (which make up 86%) are of one kind of structure, namely “das X” (this X). The X element can be a nominal, adjectival or locative predicate. Note that in a study of L1 acquisition of German, the pronoun “das” is overwhelmingly followed by an overt copula (Cztinglar, Katičić, Köhler & Schaner-Wolles 2006). This “das X” construction, therefore, characterizes Josephine’s individual variant. From the remaining 8 tokens of copula omission, 2 are with a nominal predicate, 3 with an adjective predicate, and 3 with a locative predicate. (See Appendix B for more details.)

The omission of the copula by Josephine therefore neither conforms to the L1 acquisition of the copula nor does it comply with the grammar of her L1.

### 6.2.5. The negation

The acquisition of negation by German native speaking children is a dynamic process which is believed to be interacted with verb movement and root infinitive. The acquisition process is long, and the form of negation is diversified. Different patterns of negating form, both grammatical and ungrammatical, co-exist during the acquisition period (see Schaner-Wolles 1995-96). Unlike with German native speaking children, the emergence of negation in Josephine's data was early and the pattern stayed consistent.

The first negator appeared in the 4<sup>th</sup> recording, which was a simple negation phrase without a verb: "nicht das" (not this). The first negating sentence was found in the 6<sup>th</sup> recording. The negator "nicht" (not) was the only negator used by her in the beginning. In the whole observation period, the negator was consistently placed directly after the verb. The most common negation structure was: Verb-Negator-(Predicate)

- 50) \*JOS: aber er kann nicht.  
but he can not (jos6)

The exceptions occurred in those cases where the object was scrambled through the negator. In these cases, the sentence had the following structure: Verb-Object-Negator, such as:

- 51) \*JOS: ich weiss es nicht.  
I know-1p-sg it not (jos6)  
"I don't know."

In the beginning, object scrambling was only restricted to this fix phrase ("I don't know"). Excluding this phrase, the first production of object scrambling was in sample 16.

- 52) \*JOS Ich brauche das nicht.  
I need-1p-sg this not (jos16)  
"I don't need this."

Since the emergence of topicalization in the 4<sup>th</sup> stage, the Object-Verb-Negator structure also occurred.

- 53) \*JOS: weil da(s) brauche ich nicht zu viel.  
because this need-1p-sg I not too much (jos16)  
“Because I don’t need too much of this.”

All these three types of structure mentioned above are consistent with the German target form. There are scarcely other deviant structures as it is found in the native speaking children’s data.

In addition to the negator “nicht”, there is another negator in German: “kein”, which is used to negate indefinite NPs. The first occurrence of this negative indefinite article was found in the 10<sup>th</sup> recording. From that time on, Josephine systematically distinguished the negators “nicht” and “kein”, even though the overgeneralization of “nicht” to the negation contexts with indefinite NP could be observed at times. Overgeneralization in the other direction was never attested.

#### 6.2.6. The determiner phrase

Chinese is a language without an article system; nouns often exist in isolated form. German, on the other hand, has a complex article system, which includes the marking of three genders and four cases. For this reason, it was found that the L2ers of German with L1 Chinese used significantly more bare nouns than native speakers do (Hendriks 2003). It was therefore interesting to see how the determiner phrase developed in Josephine’s data.

In the first three recordings, utterances consisted primarily of bare nouns. There were no determiners found in this early stage. The first occurrence of determiner was in the 4<sup>th</sup> recording, where 2 incidences of the possessive determiner “mein” (my) were found. Nevertheless, 85 % of the nouns were still bare nouns. In the 4<sup>th</sup> and the 5<sup>th</sup> recording, besides the possessive determiner, Josephine used some article-like placeholders, such as “a [: ein] hund” (a dog), and “du bist des [: der] bruder” (you are the brother.). The percentage of bare nouns was still very high in the 5<sup>th</sup> recording (78%), however, the use of bare nouns dropped significantly from the 6<sup>th</sup> recording onwards, and the application of different determiners increased over time. Until the last recording, most of the nouns were preceded either by an article, a number or an adjective. There were still exceptions regarding the cases

in which nouns were used together with prepositions and an incarnated preposition was expected<sup>14</sup>. In the figure below, we can see the increase of the determiner phrase over time. See Appendix C for more details.

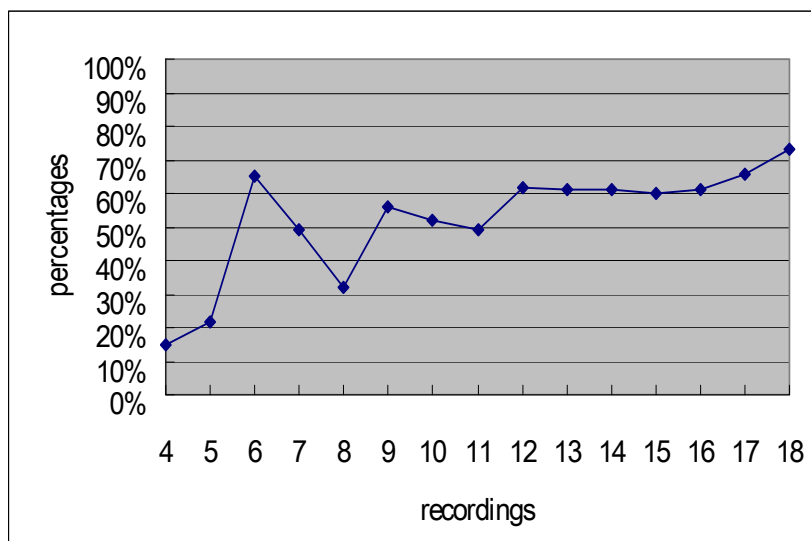


Figure 3: The percentages of the use of DP

The first indefinite article “eine” (one: feminine) occurred in the 5<sup>th</sup> recording, and the first definite article “die” (the: feminine) was found in the 7<sup>th</sup> recording. In comparison to the possessive determiner and the indefinite article, the definite article was rarely used. In the 7<sup>th</sup> recording, there were only two tokens of the definite article; both were used to mark proper names. This shows that Josephine did understand the definite nature of the article, which is not available in Chinese. Note that unlike English, the application of definite articles to proper names is quite common in colloquial Austrian German. In the 8<sup>th</sup> recording, Josephine also used definite articles on nouns which were not proper names, such as “in die schule” ( in the school).

The early determiners were overwhelmingly feminine, even in those cases, in which the biologically masculine gender was marked. For example: “die Pooh komm da” (Pooh, come here). In the sentence repetition task, Josephine also replaced the masculine article with the feminine one repeatedly. For example,

<sup>14</sup> In prepositional phrases in which a preposition is followed by a definite article, the definite article is often incarnated into the preposition. For example, “in dem” (in the) becomes “im” and “zu dem” (to the) becomes “zum”.

- 54) \*ANU: hier wohnt der Doktor.  
           \*jOS: hier wohnt eine Doktor.  
                   here lives the-mas. doctor (jos8)  
                                   a-fem.

At this time, Josephine was probably still not aware of the gender distinction in German. Since the feminine form is acoustically more salient and it occurs more frequently (because the plural definite article also shares the same form), it became the single form used by Josephine. In the 9<sup>th</sup> recording, the neuter definite article “das” also emerged: “das Brot” (the bread) and “das\* Karte” (the card). However, the gender distinction was never completely acquired during the case study, and the feminine form still remained the most frequently used form of determiner. The acquisition of gender will be further discussed in chapter 6.3.3.

### 6.2.7. The embedded sentence

Another remarkable difference between Josephine’s L2 acquisition and the L1 acquisition was the early occurrence and the late consolidation of the subordinate clauses. According to Limber (1973), the subordinate clause does not emerge before children have acquired the word order rules for the main clause. This means that the German speaking children would begin producing embedded clauses, after they had acquired the V-2<sup>nd</sup> rule. Rothweiler (1993) depicted the early structure of the embedded clause produced by German speaking children as follows: The complementizer is missing and the finite verb is placed at clause final position.

Contrary to native speaking children, there was almost no time lag between the acquisition of the main clause and that of the subordinate clause. As soon as Josephine had acquired enough vocabulary, she began to produce very complex sentences. For example,

- 55) \*JOS: aber ich weiss wo ist es hab. [?]<sup>15</sup>  
           but I know where is it have-stem (jos6)  
           “‘But I know where it is.”

---

<sup>15</sup> Here Josephine probably wanted to say either “aber ich weiss wo ist es” or ‘aber ich weiss wo es hab’. The combination of the two sentences, thus, results in such a peculiar sentence.



- 56) \*JOS: und wenn du Esspause fertig du musst essen  
 and when you lunch break finished you must eat  
 und musst Wasser. [\*]  
 and must water (jos8)  
 “And when you finish your lunch break, you must eat and drink water.”

However, deviating from the target form, her production of the main clause and the embedded clause were undifferentiated. We can observe the parallel development of the main clause and the embedded clause. For example, the adverbial fronting, the inversion, etc. were also applied to both clause types.

- 57) \*JOS: wenn du geh [\*] zu Schule und du kann [\*] weiss es. [\*]  
 when you go-stem to school and you can-stem-sg know-stem it (jos10)  
 “When you go to school, then you will know it.”

- 58) \*JOS: wenn willst du noch was, muss [\*] noch  
 if want-2p-sg you still what must-stem-sg still  
 Fische schau [\*] geh. [\*]  
 fish-pl look-stem go-stem (jos14)  
 “If you still want something, (you) still have to go looking for fish.”

A different explanation to the example 58 above is also possible. In this example, two different structures are allowed in German: One is “wenn du noch was willst...”, and the other is “willst du noch was...” Here Josephine might be influenced by both structures, and hence, it resulted in an ungrammatical sentence.

- 59) \*JOS: weil da(s) brauche ich nicht zu viel.  
 because this need-1p-sg I not too much (jos16)  
 “Because I don’t need too much of this.”

In example 59, topicalization of the object occurs in the embedded clause, whereas the finite verb remains in the 2<sup>nd</sup> position.

Throughout the complete observation period, the word order in the subordinate clause remained in the sentence medial position. This result was consistent with the study done by Vainikka and Young-Scholten (1994), in which the Korean and Turkish speaking subjects

exhibited verb final grammar in the beginning, yet after they began to move the finite verb, they also placed the verb in the 2<sup>nd</sup> position in both the main clause and the embedded clause.

Some types of complementizers occurred in Josephine's data. The earliest occurrence of a complementizer was the relative pronoun "wo" (where) in the 6<sup>th</sup> recording. Other relative pronouns such as "warum" (why), "was" (what) and "wie" (how) occurred a bit later in the data. The first overt complementizer in a conjunctive clause was "wenn" (if or when), which first occurred in the 8<sup>th</sup> recording and was used very frequently thereafter. The "wenn" was also frequently used to substitute another complementizer "weil" (because), which first appeared in the 15<sup>th</sup> recording. The complementizer "dass" (that) never occurred in her data. In cases where "dass" was required, she used the null complementizer instead. For example,

- 60) \*JOS: meine frau Lehrerin sag [\*] muss schreiben. [\*]  
           my Mrs. teacher-fem. say-stem must-stem-sg write-inf. (jos10)  
           "My teacher say(s), (we/you) have to write."

Notwithstanding the observed quantitative and qualitative differences described above, the acquisition of the complementizer by Josephine shares some similarity with German native speaking children, in that the complementizer "wenn" and "weil" are acquired earlier than "dass" (Schaner-Wolles, pers. comm.), presumably because "dass" is semantically empty.

### **An alternative explanation**

According to the classical account regarding the V-2<sup>nd</sup>/ V-final word order in German, finite verbs must be moved to the C° position unless this position is occupied by an overt complementizer. Applying this model to the embedded clauses produced by Josephine, the V-2<sup>nd</sup> structure of the embedded clause in the context of the missing complementizer "dass" is hence comprehensible. However, it fails to explain why the verbs are not in the final position with the presence of the complementizer "wenn" or "weil". Furthermore, it cannot explain the structure of topicalized objects in the embedded clauses produced by Josephine.

In addition to the present explanation that Josephine produced undifferentiated word order in the main clause and embedded clause, we could adopt an alternative model - the

Remnant Movement Account, proposed by Hallman (2004).

Hallman compares the verb position in German with that in Yiddish; a V-2<sup>nd</sup> language in which the first constituent is also to be filled by a topic element. Hence, these two languages exhibit very similar syntactic features. However, unlike German, the verbs in the embedded clause also occupy the 2<sup>nd</sup> position, irrespective of the presence of an overt complementizer or not. He argues against the classical account, saying that, according to this account, German and Yiddish exhibit a very different syntactic structure, even though the difference between the two languages is only minimal.

The alternative model suggests that, unlike the classical account, the finite verb is *always* raised to the 2<sup>nd</sup> position, which is the position between C and the canonical position of the subject named “Fin(ite)P”. The subject occurs in a position under FinP, labeled IP by Hallman. The V-final structure in German is generated by raising the entire IP element into the preverbal position, leaving the finite verb in the final position. The determining factor, which distinguishes German from Yiddish, is the lexical combinatorial property of the complementizer. Only the complementizer in German attracts IP movement.

Applying this account, we could suggest that in the interlanguage grammar of Josephine, the complementizer has the property of Yiddish in that it does not attract IP movement. Therefore, the finite verb always occupies the 2<sup>nd</sup> position and topicalization inside the embedded clause can occur.

### 6.3. Acquisition of verbal inflection

In the previous chapter, we have looked at several aspects of syntax from Josephine’s language development. Recalling Schwartz (2003b) in chapter 2.2, the hypothesis assumes a dissociation between the development of syntax and morphology by L2ers. Therefore, in this chapter we are going to look at the parallel morphological development of Josephine. The following two aspects of verbal inflection will be discussed in detail, namely the acquisition of agreement, and tense. The development of gender, case, plural and adjective inflections are not the focus of this study and these aspects will therefore only be examined broadly.

### 6.3.1. Inflectional morphology of agreement

As mentioned in chapter 4.4.1, the frequent occurrence of non-finite verb forms was explained in different ways by two main hypotheses. To examine the applicability of these hypotheses, one has to look at the relationship of the parallel development of the inflectional morphology and other grammatical features, such as verb movement.

In the case of Josephine, both hypotheses predicted her use of the non-finite form in the beginning. According to the Minimal Trees Hypothesis, functional categories are missing at the initial state of acquisition; therefore, the infinite/non-finite form is expected. The Full Transfer/Full Access Hypothesis assumes the full transfer of the end state grammar from the L1, which predicts the use of the stem form from L2ers, because it lacks inflectional endings in Chinese.

Josephine's early utterances contained very few spontaneously produced verbs, and even fewer lexical verbs. Most of the sentences consisted of copula or modal verbs, whereas the main verbs – which are supposed to accompany modal verbs – were omitted. Similar to native speaking children, the copula was always finite. The modal verbs appeared mostly in singular stem form, which is the target form for the 1<sup>st</sup> and 3<sup>rd</sup> person singular. Therefore, to examine the finite/non-finite distinction, lexical verbs are a better index. Furthermore, because the verb inflection in sentences which involve subject verb inversion is significantly different, they will be analyzed separately in chapter 6.5. In this chapter, we will look only at verbs in declarative sentences.

Until the 5<sup>th</sup> recording, there were only two cases of spontaneously produced lexical verbs. The first lexical verb occurred in the 4<sup>th</sup> recording, which was in the infinite form:

61) \*ANU: was machst du morgen?

“What are you doing tomorrow?”

\*JOS: essen.

eat-inf.

(jos4)

In the next recording, Josephine used the stem form of a lexical verb “gehen” (go):

62) \*ANU: gehst du zu Fuss in die Schule oder fährst du mit dem Bus?

“Do you go to school on foot or do you go by bus?”

\*JOS: geh zu Fuss.

go-stem at foot

(jos5)

“Go on foot.”

The use of lexical verbs increased in the 6<sup>th</sup> sample. The verbs were either in the infinite or in stem form. Because both the colloquial 1<sup>st</sup> person singular form and the imperative form are identical to the stem form in German, it was sometimes not possible to distinguish the real stem form. The utterances with verb stems were with or without subjects, but no utterance with an infinite verb occurred with a subject. In other words, if the subject was available, the verbs were never infinite. (There are only 5 cases of infinite form with subject in the entire data; these verb forms could also be seen as 1<sup>st</sup> or 3<sup>rd</sup> person plural form. Given this marginal amount, they could be explained by performance error.)

The use of the infinitive disappeared in the next recording, but the agreement morphology had not yet occurred. The verbs were predominantly in stem form. There was one token of the finite verb “hat” (has) though; however, this verb did not have a regular agreement ending because it involves a change of stem (“hat”, instead of “habt”). The emergence of the finite verb with a finite agreeing ending was found in the 8<sup>th</sup> recording. At this time, the 2<sup>nd</sup> person singular ending –st, and the 1<sup>st</sup> person plural ending –en, were produced repeatedly.

To see the application rate of agreement endings, I looked at the lexical, modal and auxiliary verbs which were preceded by pronouns for 2<sup>nd</sup> person singular and 1<sup>st</sup> person plural, and those verbs which were also preceded by nouns for 3<sup>rd</sup> person plural. As for 3<sup>rd</sup> person singular, I only looked at the lexical and auxiliary verbs which were preceded by either pronouns or nouns. Modal verbs were excluded because the target form was identical to the singular stem form. For the same reason, the 1<sup>st</sup> person singular form was excluded. Note that there were a great number of cases in which the subjects were omitted. In these cases, the verbs occurred overwhelmingly in stem form. These incidences were also excluded in the analyses because the subjects were sometimes unidentifiable, and the great

number of stem form usage might have distorted the general picture of her acquisition of agreement endings.

The following figure shows Josephine's development of finite agreeing verbs over time. Generally speaking, the rate of application of agreement endings increased over time. The finite agreement ending emerged between the 6<sup>th</sup> and the 7<sup>th</sup> recording. From that time onwards until the 13<sup>th</sup> recording, the rate of finite marking swayed greatly. The percentage ranged between 10% and 72%, probably due to the small number in the sample, (because the subjects were frequently omitted). From the 14<sup>th</sup> recording onwards, the application rate increased steadily, from 21% to 47% in the 17<sup>th</sup> recording. In the last recording, the rate of finite markings suddenly reached 82%. There were only three incidences of stem form. For the detailed number of each recording see Appendix D.

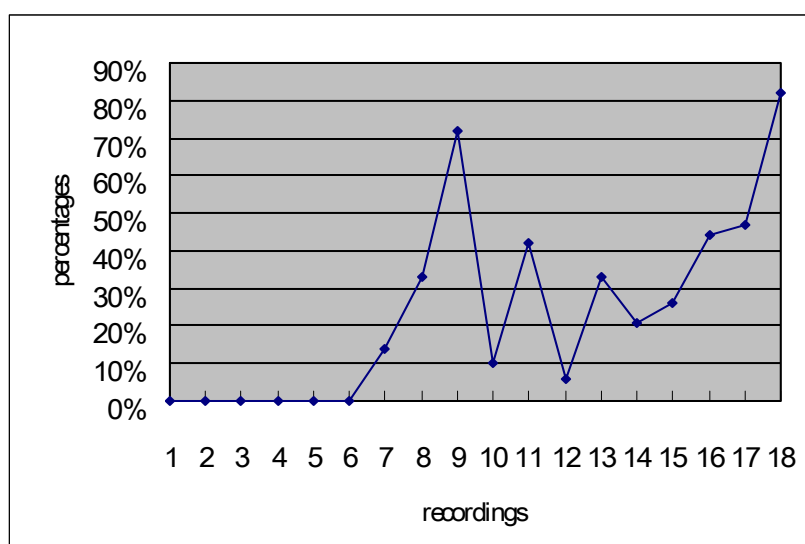


Figure 4: The percentages of the use of finite inflected verbs together with overt subjects

If we look at each agreement ending separately, the application rate of the 2<sup>nd</sup> person singular and 1<sup>st</sup> person plural is higher than that of the 3<sup>rd</sup> person singular –t. Regarding the 3<sup>rd</sup> person singular form, except in the case of “hat”, most of the verbs remained in stem form. The application rate of the 3<sup>rd</sup> person plural ending is, given the small number of tokens, hard to determine.

### 6.3.2. Inflectional morphology for tense

In German, past tense is inflected morphologically. There are two ways to mark past events, either with the preterit or with the past participle. Unlike English or some Romance languages, using the past participle does not express aspectual meaning in German. Both forms are used to express temporal reference. The preterit is seldom used in the spoken language in Austria; therefore, the past participle is the common form used for past tense. The only exception is the preterit form of the copula “sein”, which is commonly used by native speakers in Austria. The default rule for forming the past participle is to add the circumfix *ge-* and *-t* to the stem. However, there are a lot of irregular verbs for which the past participle form is marked through the circumfix *ge-* and *-en* or, additionally, with a change of stem.

As mentioned in chapter 6.1 and 6.2.3, the past participle form emerged in sample 8. However, instead of the target participle form, Josephine used the stem as a substitute form in the earlier recordings. For example,

- 63) \*JOS: Ich hab sing [\*].  
           I have sing-stem (jos9)  
           “I sang.”

From the 10<sup>th</sup> recording onwards, the substitute form disappeared, and Josephine began to produce target PP construction. In this recording, she used the regular form “gemalt” (painted), “gespielt” (played), and the common irregular form “geschlafen” (slept), and one without the prefix *ge-*: “vergessen” (forgot). In the later recordings, Josephine also produced participles which involved change of stem, such as “gefunden” (found), infinite “finden”, or verloren (lost), infinite “verlieren”.

There are also cases of overgeneralization. However, Josephine did not overgeneralize the default form “*ge-* *-t*” to the irregular verbs, instead she most likely overgeneralized the infinite form with *ge-* prefix to both regular and irregular verbs. For example, she used, for regular verbs, “gelernen” instead of “gelernt” (learned), “gespielen” instead of “gespielt” (played), and for the irregular verbs, “geessen” instead of “gegessen” (eaten), “getrinken” instead of “getrunken” (drunk) and “gebringen” instead of “gebracht” (brought).

Compared to the acquisition of agreement or other aspects of the inflectional morphology, Josephine acquired the inflectional morphology for the past participle within a very short time period and without much difficulty. On the other hand, however, the preterit form of the copula “sein” was never used.

### **6.3.3. The nominal inflection: acquisition of gender, case, and plural**

Gender and plural are two aspects of German that are especially difficult for L2ers because they are not rule-based. The gender of each noun belongs to lexicon, which cannot be derived from the word ending as it can be in the Romance languages. The language acquirers have to learn the gender of each word by rote. Therefore the acquisition of gender belongs to acquisition of lexicon. For this reason, the acquisition of gender is not necessarily relevant to this study. However, for child L2ers of German with Chinese as L1, it is interesting to see how the L2er discovers the gender distinction in the target language.

As already mentioned in chapter 6.2.6, Josephine did not have gender distinction before the 9<sup>th</sup> recording. All definite, indefinite and possessive articles were marked with the feminine ending. From the 9<sup>th</sup> recording onwards, articles of different genders appeared, however, they were used randomly. The possible clue for gender distinction for Josephine might have been the biological gender, since she later began to say “der Bub” (the-‘masculine’ boy) and “die Mädchen” (the-‘feminine’ girl). The grammatical gender of the word “Mädchen” is however, neuter. Josephine even corrected me as I used the neuter article “das”, saying that it should be “die Mädchen”.

There are 4 grammatical cases in German, the nominative, the dative, the accusative, and the genitive, which are marked through articles and pronouns. The case of articles is marked by adding a suffix, the rule of which also involves gender. In this study, we only look at the case of pronouns because this does not necessarily require the knowledge of gender.

Given that case distinction is not morphologically marked in Chinese, but merely through word order, one would expect Josephine to overgeneralize the nominative case to other cases in the beginning. This assumption, however, was not confirmed. Josephine scarcely used the nominative case in the wrong context, with the exception that she sometimes used the 3<sup>rd</sup> person singular or 1<sup>st</sup> person plural nominative pronoun “er”(he),



“sie” (she) and “wir” (we) for the genitive case, such as “sie name” instead of “ihr name” (her name). Given the high frequency of the use of the genitives “mein” (my) and “dein” (your), the overgeneralization could be explained by the lack of vocabulary in her lexicon.

Furthermore, some case errors which are rather German language specific can be found. For example, for answering the question “wie geht’s?” (how are you), she used the nominative case “gut, und du?” (good, and you) instead of the dative “und dir”, or “wir ist gut” (we is good), which is supposed to be “uns geht es gut”. Also, she said “ich bin kalt” (I am cold) instead of the dative “mir ist kalt.” These case errors should rather be attributed to incorrect semantics instead of to morphological errors.

For pronouns of the 1<sup>st</sup> and 2<sup>nd</sup> person singular, different cases emerged very early. The dative pronoun “mir” appeared regularly since the 6<sup>th</sup> sample, such as:

- 64) \*JOS: meine Freunde [\*] gib<sup>16</sup> mir.  
           my friend give-stem-sg me (jos6)  
           “My friend gives me.”

- 65) \*JOS: kannst du mir diese halten?  
           can-2p-sg you me this hold-inf (jos16)  
           “Can you hold this for me?”

- 66) \*JOS: aber meine [\*] Bruder kann helf mir. [\*]  
           but my brother can help-stem me (jos17)  
           “But my brother can help me.”

In addition, when combining pronouns with prepositions, Josephine always applied the correct case. For example,

- 67) \*JOS: oder meine Freunde hab [\*] Brot für mich.  
           or my friends have-stem bread for me (jos11)  
           “Or my friends have bread for me.”

<sup>16</sup> The word “gib” comes from “geben”, which is in fact not a real stem form, because it involves a change of stem. Josephine always used “gib” instead of “geb” systematically. To simplify it, I also counted it as a verb stem.

- 68) \*JOS: dann helfen [\*] Kinder komm [\*] zu dir.  
 then help-inf children come-stem to you. (jos15)  
 “Then the helping children come to you.”
- 69) \*JOS: ja meine[\*] Bruder hat noch mehr von mir.  
 yes my brother has still more from me (jos18)  
 “Yeah, my brother has even more (of this) from me.”

In contrast to the random use of the gender and case ending of the determiner, the early and correct use of the pronominal case could be explained by the acoustic saliency in the input.

Similar to the acquisition of gender, the development of the plural form was also somewhat behind other types of inflectional morphology. The development of the plural morphology is not only strenuous for L2 learners, but even for native German speaking children. There are many different plural suffixes, depending on the gender and the vowel of the singular stem: the –e, –(e)n, –er, –s, –Ø, and Umlaut plus –Ø, –er or –e. Researchers claim that only the –s suffix is the default form (Clahsen, Rothweiler & Woest 1992). Considering the complexity of the plural forming rules, the L2ers almost have to learn the plural forms by heart.

The plural can also be marked morphologically in Mandarin Chinese, namely by adding the suffix –men. However, unlike in German, the application of the plural suffix in Chinese is not mandatory. It has a purely semantic rather than a grammatical function. Therefore, regarding the L1 influence, the early emergence and slow development of the singular plural distinction was expected from Josephine.

There was no singular plural distinction in the earlier recordings of Josephine’s data. Some words always appeared in plural form, such as “Kinder” (children) and “Freunde” (friends) and others in singular. Those plural forms were used for both the singular and the plural contexts. The first possible singular plural distinction was in the 12<sup>th</sup> recording, in which the plural form of “Tag” (day) appeared: “alle Tage” (all the days). Afterwards, there was still a lot of confusion between the singular and the plural form. Not until the 14<sup>th</sup> recording did she begin to systematically distinguish between the singular and the plural form, such as “ein Fisch” (one fish) and “viele Fische” (many fish) in the 14<sup>th</sup> recording, or “Ei” (egg) in the 15<sup>th</sup> and 18<sup>th</sup> recording, and “Eier” (eggs) in the 16<sup>th</sup>, 17<sup>th</sup>, and 18<sup>th</sup>

recording.

Nevertheless, overgeneralization of one form to the other was still observed from time to time. For example: “eine Wörter“ (a words), or “Da sind alle meine Hausübung.“ (that are all my homework) in the 17<sup>th</sup> recording. However, the overgeneralization of one type of plural morpheme to a different class was never attested, which shows that the plural forming morphology might not be productive in Josephine’s grammar.

Generally speaking, given the existence of the plural morphology in Chinese, the emergence of the singular plural distinction began rather late. Further more, because of the complexity of the plural morphology in German and the L1 influence, the use of plural form developed slowly and the application was optional for a long time.

#### **6.3.4. The adjective inflection**

Unlike the plural morphology, the adjective inflection in German is indeed rule-based. However, the rules for adjective inflection are extremely complicated. The attributive, but not the predicative adjective, has to be agreed with the noun head by receiving an agreement ending. The application of the agreement endings depends on the configuration of the following elements: gender, number, case, and the type of article (definite, or indefinite). The combination of different values of the elements above can result in the same ending. For example, the suffix –er can be the adjective ending agreeing to: 1) the masculine singular nominative noun with indefinite article, 2) the feminine singular dative or 3) genitive noun without article, or 4) the plural genitive noun without article.

For this reason, to apply the correct adjective agreement ending demands complex cognitive ability of the speakers. Before assigning the correct ending, one has to have the prerequisite knowledge of gender, case and determiner. As mentioned in the previous chapter, the acquisition of gender and case took place rather late in Josephine; nevertheless, her development of adjective inflection does not wait for the acquisition of these other elements, but either precedes or is parallel to them.

Even though there is no adjective inflection in Chinese, Josephine seemed to be able to distinguish between the predicative and attributive adjectives from the earliest utterances on. In the beginning, she inflected the attributive adjective with an undifferentiated ending –e:

for example: “kleine Hause” (small house) in sample 3, with the exception of a single occurrence of the ending –es in “so grosses Haus.” (so big house). The predicative adjective on the other hand, was never inflected, for example, “das (ist) gut” (this is good) in sample 6.

Before the 11<sup>th</sup> recording, only two kinds of adjective ending were observed: the –e and the –es, however, the –es ending was restricted to a single adjective “gross” (big). From the 11<sup>th</sup> recording onwards, the –es ending was also used on other adjectives, and even on a noun, which was misclassified as an adjective: ein kreises [\*] Tuch (a circle cloth). The other types of endings such as –er, –en, and –em were scarcely used (one token of –en and two tokens of –er), probably because of the acoustic difficulty from both sides. Comparable to the vast use of the feminine gender, the –e ending also makes up the majority of adjective endings.

## 6.4. Acquisition of word order

As described in chapter 6.1, Josephine’s development of German word order was consistent with that observed by Clahsen, Meisel and Pienemann (see chapter 4.3). The initial SVO word order reflected the transfer of the head value from Chinese. This was an analogue to the initial state of word order observed by Romance native speakers (Clahsen, Meisel & Pienemann 1983; Vainikka and Young-Scholten 1996), but contrasting to that observed by Turkish or Korean speakers (Vainikka and Young-Scholten 1996) (see chapter 4.1.1).

From the 8<sup>th</sup> recording onwards, the so-called adverbial fronting stage with XSV word order was attested by Josephine. For the purpose of more effective communication, the adverbs or the preposition phrases were often fronted to the sentence initial position. This discourse strategy is similar to topicalization, which involves the fronting of the topic element in the sentence initial position. Since Chinese is a “topic prominent language” (see chapter 3.1.1), the strategy of adverbial fronting or topic fronting was especially often applied by Josephine. Besides the adverbials, the objects were sometimes fronted to sentence initial position, too, which also resulted in the XSV word order. For example,

- 70) \*JOS: diese Seite # wir hab [\*] auch gelernt. [\*]  
           this page we have-stem also learnt (jos14)  
           “This page, we have studied, too.”

According to the development stage of word order from Clahsen et al., the stage following the adverbial fronting is verb separation. For Josephine, however, this stage occurred much earlier. If we exclude the question sentences involving modal verbs and main verbs, in which the verbal elements are always separated, the first case of verb separation occurred in the 8<sup>th</sup> recording, simultaneous to the occurrence of adverbial fronting. Nevertheless, before and after this point in time, a small number of cases existed in which the verbal elements were not separated. Due to the overlapping of both separate and connected verbal phrases throughout the whole observation period, it was unclear when and whether the verb separation was completely acquired. It is also questionable if this stage existed in Josephine's interlanguage at all.

Returning to the adverbial fronting construction, the subject and verb remained uninverted in the earlier recordings, which lead to ungrammatical sentences. The first appearance of the inverted sentence with XVS word order was in sample 13. From this time onwards, the rate of subject verb inversion increased steadily. The following figure shows the percentage of the XVS word order in comparison to the XSV word order. For the absolute tokens of each word order type see Appendix E.

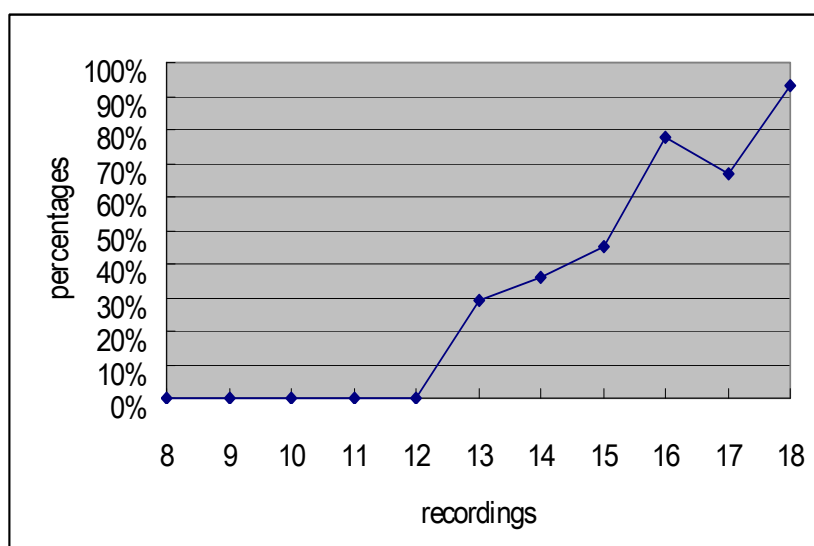


Figure 5: The percentages of the use of subject verb inversion structure

With the increasing frequency of XVS word order, Josephine even overgeneralized the subject verb inversion to cases in which the first element was not counted as a constituent in

German, such as conjunctions. For example,

- 71) \*JOS: und hab ich Schokolade. [\*]  
           and have-1p-sg I chocolate (jos13)  
           “and I have chocolate.”
- 72) \*JOS: ja hab ich schon Geld im da. [\*]  
           yes have-1p-sg I already money in the there (jos15)  
           “yes, I already have money inside there.”

In the last recording, with over 90 % of the subject verb inversion, Josephine arrived at the subject verb inversion stage. The following stage described by Clahsen et al. is the stage with an adverb in a sentence internal position. Yet, looking at the adverb position in Josephine’s data, the adverbs, when not in the sentence beginning position, were almost always in the correct sentence internal position. Thus, this so-called “stage” is not really to be observed in Josephine’s recordings.

The final stage is characterized by the verb final position in a subordinate clause. As described in chapter 6.2.7, even until the last recording, Josephine still produced undifferentiated word order in the main clause and the embedded clause. Hence, at the time of the last recording, she had not yet arrived at this stage.

Even though not every stage predicted by Clahsen et al. is to be observed in Josephine’s language data, her general profile of word order development does give evidence to the sequential intermediate stages of word order in the German interlanguage.

## 6.5. The individual features

In the previous chapter, we reviewed the language development profile of Josephine in different aspects of syntax and inflectional morphology. In this chapter, we are going to observe some individual features of Josephine, which are especially noticeable in her language development. There are some fields in which her grammar behaves differently than in others, as if they belonged to different stages. These include question-sentences and sentences involving subject verb inversion. In the following two sections, we are going to

focus on the verbal inflections in these special contexts.

### 6.5.1. The question sentences

Josephine's early and correct use of question-sentences marks a sharp contrast to her declarative sentences. In early recordings (e.g. jos4), while she was still producing utterances with the canonical SVO word order with verbs either in infinite or stem form, she already used both *wh*- and *yes/no* questions productively. Furthermore, her first question sentences already involved the raising of a *wh*-element, as well as subject verb inversion, even though in Chinese there is no change of word order in question sentences.

More striking was the frequent use of finite verbs in the question sentences in comparison to the slow development of agreement morphology in declarative sentences. As stated earlier, the rate of finite marking in declarative sentences ranges from 10% to 80% throughout the whole observation period. This value even excludes the cases of stem form use in which the subjects are not present. If we look at the question sentences in the earliest recording (jos4), there were 4 tokens of question-sentences, all of which were marked finite.

There were a total number of 240 question sentences. Only 19 of these question sentences contained verbs in stem form in the root position, which makes up 8%. However, if we look at these 19 cases, 14 of them were sentences without subject verb inversion. For example,

- 73) \*JOS: du hab [\*] kein Haus ja?  
           you have-stem no house yeah? (jos10)  
           “You don't have a house, right?”
- 74) \*JOS: ok wer geh [\*] zu Singschule?  
           ok who go-stem to sing shool. (jos17)  
           “Ok, who goes to sing school?”

Of the rest of the cases with verbs in stem form, 4 were questions beginning or ending with “weiss du” (do you know...), instead of “weisst du”. However, since the syllable following the [-st] is a [d], it is unclear, if the missing [t] is phonologically conditioned. Therefore, there is in fact only one single case of the question sentences with inversion, in which the

verb appeared in stem form.

- 75) \*JOS: und weisst du was hab [\*] wir gespielt in Schule? [\*]  
 and know-2p-sg you what have-stem we played in school (jos15)  
 “And you know what we (have) played at school?”

### 6.5.2. The declarative sentences with subject verb inversion

In the last section, I noticed a significant difference in the finite markings of verbs between the inverted and uninverted sentence types in question-sentences. To confirm this correlation between finite marking and inversion, we should also look at the verb inflection in declarative sentences with inversion.

In total there were 98 tokens of inverted sentences. Of these 98 tokens, there were 6 cases in which the verbs were in stem form. Yet, if we look at these 6 tokens, 2 of them were without a real subject. Instead, German offers the so-called dummy subject “es”, which is a semantically empty subject with only syntactic function. One of the most common uses for this dummy subject is “es gibt...” (there is...). The use of a dummy subject is probably unfamiliar to Josephine, since Chinese is not a subject prominent language. In Josephine’s interlanguage, instead of the common phrase “es gibt”, she often used the verb “haben” (have) without a subject in the sentences. This unusual semantical use of “haben” could also be explained by transfer because in Chinese, both “there is” and “have” are expressed by the same word “you”. Since the subject is not present in the sentences, the verb appears mainly in stem form. The two tokens of non finite verbs in sentences with fronted adverbials as mentioned above belong to this kind of sentence.

- 76) \*JOS: im [\*] da hab eine so. [\*]  
 in the there have-stem one so. (jos14)  
 “There is such one over there.”

If we exclude these 2 tokens, only 4% of the verbs in the inverted contexts are non-finite. For example,



77) \*JOS: da hab [\*] wir gesungen.  
 there have-stem we sing-pp (jos14)  
 “There we sang.”

78) \*JOS: wenn muss [\*] geh [\*] dann muss [\*] sechs Kinder geh. [\*]  
 If must-stem-sg go-stem then must-stem-sg six children go (jos14)  
 “If (he) has to go, then all six children have to go together.”

Note that in the example 78, the post verbal subject is not a pronoun. There is another case in which the verb stem was used together with a nominal subject in an inverted sentence. On the other hand, no finite marked verb was found in such a context in Josephine’s data. That is to say, the correlation found here only applied to pronominal subjects.

Considering the percentage of finite verbs in question and inverted sentences together, I can conclude that the application of agreement inflection of verbs is then obligatory, if the pronominal subjects appear in the post verbal position. More examples from Josephine can support this evidence.

79) \*JOS: du kann [\*] schau [\*] welche glaubst du ich  
 you can-stem-sg look which suppose-2p-sg you I  
 mache.  
 make-1p-sg (jos14)  
 “You can look which one you think is the one I make.”

80) \*JOS: und sie heiss +/.  
 and she “be called”- stem  
 \*ANU: Anyu.  
 \*JOS: Anyu heisst sie.  
 Anyu “is called”-3p-sg she (jos16)

In the example 80, the subject in the first utterance was preverbal, and the verb appeared in stem form. In the next utterance, the object was topicalized to the sentence beginning; the subject was, therefore, post verbal and the same verb received the finite ending this time.

## 6.6. The distribution of infinitives, stems and finite verbs

In the previous chapters, I realized that context plays a crucial role in regard to verbal inflection. Therefore, I would like to take a further look at the context in which different verb forms occur and the verbs which appear in such forms. By examining the contexts in which the infinitives, the stems, and the finite verbs occur, we can hopefully gain insight into the distribution of these verb forms by Josephine.

### 6.6.1. The infinitives vs. the verb stem

When dealing with the ‘optional infinitive’ phenomena, researchers often tend to discuss the non finiteness of verbs. The non finite verb form can either be the real infinite form, for example, with the –en suffix in German, or a substitute form, such as the stem form. Depending on speakers, some language acquirers use the infinite and some the substitute form in the root position. What is questionable is whether the surface infinite and the substitute forms used by different speakers are ultimately the same or whether they are different.

Both infinite and stem forms appeared in Josephine’s data. If we look at the contexts of these two verb types, we can find that these two types were not used randomly, but rather systematically in different sentence positions.

In the beginning, both the infinite and the stem form appeared in the root position. But the infinite form never occurred in sentences together with a subject, which means that the infinite form is never used to substitute an agreeing verb. Later, only the stem forms appear in the root position. The infinite could only be found together with modal verbs. This shows that Josephine did distinguish between the finite and non finite verb form, even though the stem form was used. The stem form thus can be explained as a substitute for the finite form.

However, as can be seen in many examples, the stem form was also used to substitute for the infinite form, which is rather obscure, since she had obviously acquired the infinite form previously. There is a significant number of such cases even until the last recording. It is thus interesting to examine whether the stem form also systematically substituted for the finite form in certain contexts.



- 86) \*JOS: magst du sitz da dann schlafen? [\*]  
 want-2p-sg you sit-stem there then sleep-inf (jos11)  
 “Do you want to sit there and then sleep?”

The stem form of main verbs, therefore, can be explained as a substitute for infinite verbs in the more complicated sentences with modal verb construction. Recollecting chapter 4.3’s description of the acquisition of word order, the separation of verbal phrases is considered to be cognitively more complicated, and therefore, occurs after the adverbial fronting. Hence, instead of using the infinite verb in the sentence final position, Josephine used a head initial verbal phrase with a non agreeing verb stem. In this way, the verbal phrase remained complete. If the cognitive complexity of the modal verb construction was the answer to such obscure use, why is it then not observed in native German speaking children? I will try to address this in terms of interference from her L1 Chinese in chapter 6.7.

Yet, why did Josephine use verb stems instead of infinitives in the sentence medial position? I believe that Josephine was aware of the nature of infinitives in German. The infinite verb with –en suffix is not allowed to appear in the sentence medial position. Further evidence is found in the last recording, in which she used the infinite form of the copula “sein” together with a modal verb.

- 87) \*JOS: weil dann kann ich die ganze Marienkaefer sein.  
 because then can I the whole ladybug be (jos18)

Therefore, we can conclude that at the time she began to spontaneously produce sentences, there already existed a finite/infinite distinction.

### 6.6.2. The verb stem vs. the finite verb

As mentioned in the previous section, Josephine used verb stems as a substitute for finite or infinite verbs to reduce the cognitive complexity. Nevertheless, the use of verb stems, overall, did not make up the majority of the verb forms used. The use of finite marking in the root position increased with time, yet some verbs still remained in stem form in the later stage. In this chapter, I would like to analyze whether certain groups of verbs are more likely to

appear in stem form.

Looking at the verb stems and the finite verbs used by Josephine, the verb stems are indeed restricted to a small number of verb types, whereas other verbs appear mostly in finite form. There are in total 606 tokens of verb stem, which belong to merely 31 types. This makes up the type/token ratio value: 0.051. The most frequently occurring stems were: *muss* (must), *kann* (can), *mag* (like), *hab* (have), *geh* (go), *komm* (come), *gib* (give), *schau* (look), and *weiss* (know). There were also verbs which always occurred with finite marking, such as: *kosten* (cost), *spielen* (play), *lernen* (learn), *stehen* (stand), and *brauchen* (need).

The tendency to use the stem form for some verbs and not for others was not coincidental. As can be seen in the examples above, the modal verbs tend to appear in stem form, and to be precise, they all appear in stem singular form. The stem singular form of modal verbs presumably occurs very frequently in the input because they are used to mark both the 1<sup>st</sup> person and the 3<sup>rd</sup> person singular. Other verb stems such as “*geh*”, “*komm*”, “*gib*” and “*schau*” are probably often found in the input, too, since these verbs are commonly used in imperative form. The only obscure use of the verb stem among these examples was the stem “*hab*”, which can only occur together with the 1<sup>st</sup> person singular pronoun “*ich*” as “*ich hab*” in colloquial German. Thus, the frequent occurrence of it cannot be explained in terms of input. This stem was not only used together with different personal pronouns by Josephine, but also often occurred without a subject, as the substitute for the phrase “*es gibt*” (see chapter 6.5.2).

This is probably for the same reason why some other verbs never occurred in stem form. The verb “*kosten*” was primarily used together with 3<sup>rd</sup> person singular subjects. Except for “*stehen*”, these verbs probably occurred rather seldom as imperative in her input.

To conclude the findings in this chapter, Josephine used the verb stem as a substitute for both finite and infinite forms. The substitution of the finite verbs by some non finite verb forms is well-known among both native and non native speakers, even though explanations are disaccorded. In contrast, the substitution of the infinite verbs by verb stems was idiosyncratic of Josephine. I also found that not every verb was used in stem form. The substitution did not take place by chance. Instead, those verbs which were commonly heard in stem form in the input were more likely to be used as a replacement of other verb forms.

## 6.7. The interference of L1

Thus far, we have had an insight into the general and specific language development of Josephine, in the fields of syntax and inflectional morphology. Some of these properties are comparable with German native speaking children and some are different, if not contrary, to them. Yet the differences found between these two types of acquisition are not surprising, since, in addition to the different cognitive level, Josephine had possessed a L1 before her first contact with the L2, and this L1 indeed had a great influence on her L2 development.

In the previous part of this study, I already addressed many aspects, where the transfer of the L1 took place. These include word order, the omission of topic elements, some verb semantics, the use of verb stems, and the use of bare nouns. In this chapter, we are going to take a closer look at three of these aspects: word order, topic drop, and bare noun usage.

### 6.7.1. Word order

The development of word order is shown extensively in chapter 6.4. Here, I would like to focus on only one aspect, namely the head initial word order both in the early stage and in the modal verb and auxiliary construction, because the use of such structure can be attributed to the interference of the Chinese language.

Despite the surface V-2<sup>nd</sup> word order, the underlying structure in German is head final. Although Chinese exhibits both head initial and head final properties, the basic word order is believed to be SVO (see chapter 3.1.1). Therefore, the surface structure of both German and Chinese are overwhelmingly SVO. However, the underlying structures are completely different: unlike in German, the verbs in Chinese are not raised out of the VP. In Josephine's interlanguage, we can see from the following evidence that the underlying word order is still SVO.

First of all, the initial word order in her first utterances was consistently SVO, as shown in chapter 6.1. At a later stage, when the adverbials were fronted to the sentence initial position, the SVO word order still remained. Only until the first case of inversion can we be sure that the verb raising has taken place.

Secondly, the word order in the subordinate clauses also indicates the head initial phrase

structure Josephine applied. In the beginning, the word order in the embedded clauses was always SVO. With the emergence of inversion some time later, Josephine seemed to overgeneralize the V-2<sup>nd</sup> rule to the embedded clause. The finite verbs never appeared in the sentence final position.

Another striking evidence of the head initial structure was found in the verbal constructions with modal verbs and auxiliaries, in which the non finite verbs preceded the objects and the adverbials, as has been extensively discussed in chapter 6.6.1. Therefore, I would like to suggest another competing phrase structure tree, which might be operating in Josephine's interlanguage grammar:

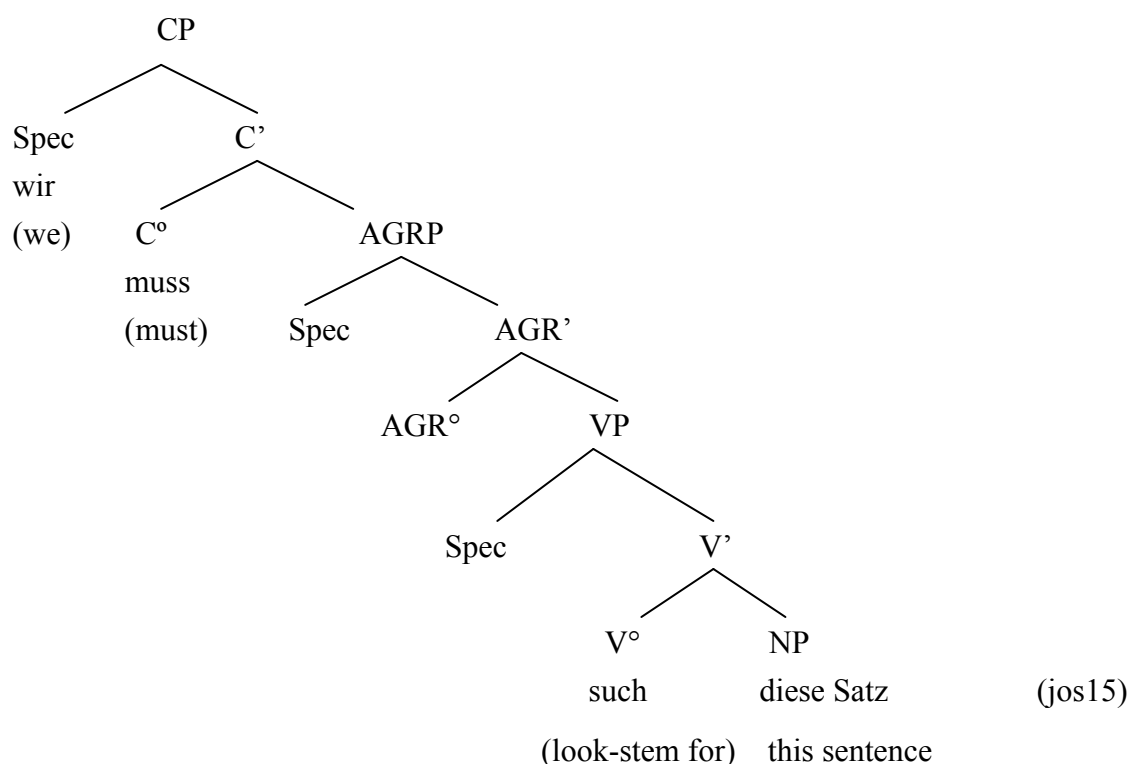


Figure 6: The alternative phrase structure tree of Josephine's interlanguage grammar

The availability of this alternative phrase structure is due to the interference of the Chinese phrase structure. The modal verb construction in Chinese is indeed consistent to this structure tree:

- 88) women    bixū    zhao    zhege    jūzi.  
       we        must   look for   this    sentence

It is assumed that this tree structure is an alternative structure to the target form. In the modal verb and auxiliary constructions, the target form with the non finite verbs in the sentence final position does exist as a major component. The non target form as described above still makes up one third of the occurrences. For this reason, I postulate that this minor yet significant part of her utterances in terms of another competing system resulted from the interference of her knowledge of Chinese.

### **6.7.2. The omission of topic elements**

The omission of topic elements was not idiosyncratic in Josephine's grammar, instead, it is a well known phenomenon observed in children across different languages. Due to the limited processing capacity of children, the information that is assumed to be already known to the conversation participants, tends to be omitted (Greenfield & Smith 1976). In most languages, this omitted element is only or primarily the subject, because subjects most frequently occupy the topic position (see also Hyams & Wexler 1993). In German, on the other hand, the first position, which is also the topic position, is often occupied by other non subject elements, such as objects, and therefore, the subject object asymmetry regarding omission is not as clear.

Although this phenomenon is also observed in German speaking children, I view it in terms of transfer. In spite of many similarities exhibited in Josephine's utterances, there still exist some minor differences to the topic drop produced by native speaking children. In the null subject utterances produced by native speaking children, the verbs can be either finite or non finite. It was found that in sentences with infinite verbs in the root position, the subjects were frequently omitted. This correlation could be explained by the absence of tense (Wexler 1994, 1998) or by truncation above VP (Rizzi 1994). The null subjects also occurred in utterances with finite verbs; in these cases, the omission is believed to be topic drop or truncation above IP.

In Josephine's interlanguage, the omission of elements was pragmatically motivated, as it is in the case of topic drop. Both subject and objects can be omitted, yet most importantly, the omitted element is not necessarily at the sentence initial position. For example,



89) \*ANU: und sollen wir auch Brot kaufen?

“And shall we buy some bread, too?”

\*JOS: ok ich kauf. [\*]

ok I buy-1p-sg

(jos7)

90) \*JOS: und da hab auch ein Haus.

“And there is also a house.”

\*JOS: und da kann essen. [\*]

and there can-stem-sg eat.

(jos9)

“And there, we can eat.”

In the example 89, the object was omitted; however, this omitted object did not occupy the topic position in the sentence beginning. In the example 90, the topic was in fact the adverb “da”, which was fronted to the sentence initial position. The subject of the sentence – “we” was implicit in the conversation, and therefore, was omitted. Sometimes, Josephine even omitted both the subject and the object, which is possible in Chinese but not in German.

91) \*ANU: kann man das essen?

“Can we eat it?”

\*JOS: kann nicht essen.

can-stem not eat.

(jos8)

Unlike native speaking children, who use finite (and non-finite) verbs while omitting the topic elements, utterances with a null subject were always combined with verb stems by Josephine. Such structure is similar to sentences in Chinese, in which the topic elements can be omitted in any position of the sentences, and the verbs do not agree with the subjects.

### 6.7.3. The use of bare nouns

As already discussed in chapter 6.2.6, German is a language with a very complicated article system. Singular nouns almost always require a determiner. Chinese native speakers who acquire German as a L2 tend to use bare nouns extensively, partially due to the absence of definite articles in Chinese, and partially due to their difficulty in acquiring the gender and case in German. We have also seen that the rate of bare noun use by Josephine was very high

in the beginning, yet with the acquisition of determiners, a slight drop of bare noun use over time could be observed. However, even until the last recording, there was still over 20% of bare noun use. The percentage of bare noun use over time is shown in the following figure.<sup>17</sup>

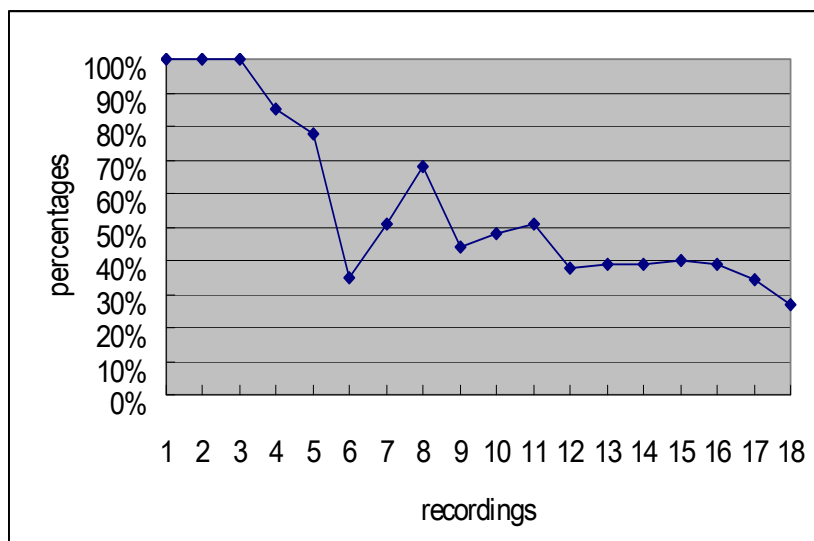


Figure 7: The percentage of bare noun use over time

In early recordings, except for the possessive determiner, the nouns never received other articles. For example,

92) \*JOS: magst du Eis?  
want-2p-sg you ice cream (jos4)

93) \*JOS: kann ich Schokolade?  
can-1p-sg I chocolate? (jos9)  
“May I have a chocolate?”

In question sentences like examples 92 and 93, the nouns almost always appeared as bare nouns. Therefore, we cannot know whether the intended meaning is genetic or existential except from the context. However, this type of question sentence is rather common in Chinese.

In some cases, the use of a bare noun is target-like, whereas in others it is not. Yet, even in the last recording, one can still find some non target-like uses of bare nouns. The

<sup>17</sup> Proper names are excluded in the analysis, even though some of the proper names are also preceded by definite articles.

following are some examples of bare nouns, observed over time in her data.

- 94) \*JOS: ich bin Prince [: prinzessin].  
I am princess. (jos6)
- 95) \*JOS: aber wir hab [\*] Ei.  
but we have-stem egg. (jos15)
- 96) \*JOS: ok da ist Becher.  
ok there is cup. (jos18)
- 97) \*JOS: ich hab noch Geld.  
I have-1p-sg still money (jos18)

## 6.8. A short summary

In this chapter, I exhibited Josephine's general and specific language development. We saw the acquisition of functional categories regarding syntax and inflectional morphology, and word order. We also looked at some specific contexts in which her language development received special attention. Finally, we tried to explain some of these properties in terms of interference from her L1.

Based on these findings, the next chapter will discuss hypotheses dealing with the acquisition of functional categories introduced in chapter 4, the nature of child L2 acquisition, and other factors that influence language acquisition.

## **7. Discussion**

Based on the findings in the last chapter, I am going to examine some hypotheses regarding L2 acquisition and child L2 acquisition provided by other publications. In the first part of this chapter, I would like to discuss the Weak Continuity Hypothesis and the Strong Continuity Hypothesis by looking at the acquisition of each aspect of functional categories exhibited in the last chapter and also the interaction among them. In the second part, two competing factors, which play important roles in the course of Josephine's language acquisition, are going to be discussed in more detail, namely, transfer and input. In the last part of this chapter, I would like to compare Josephine's L2 acquisition with child L1 acquisition and adult L2 acquisition.

### **7.1. Acquisition of functional categories**

Before discussing each hypothesis, let us briefly review the findings regarding development of functional categories in the last chapter:

- Functional categories are available at the very beginning: question sentences, modal verbs, copulas, auxiliaries and subordinate clauses emerge very early.
- Agreement inflection emerges earlier than tense does, but is mastered much later.
- The non finite verb form alternates with the finite verb form. Verb stems, but not infinitives, are used in the root position.
- The inflection of verbs correlates positively with the inversion.
- The acquisition of word order follows the sequences: SVO – XSV – XVS.

#### **7.1.1. In view of the Weak Continuity Hypothesis**

Both the Minimal Trees Hypothesis (see chapter 4.1.1) and the Weak Transfer / Valueless Features Hypothesis (see chapter 4.1.2) assume that the initial state of the L2 grammar does not encompass the complete knowledge of the L1 grammar. Researchers supporting the Minimal Trees Hypothesis believe that the initial state of the L2 grammar consists only of the lexical categories, which are transferred from the L1, whereas the functional categories

are not available in the beginning. On the other hand, those who support the Valueless Features Hypothesis assume that the functional as well as the lexical categories indeed transfer; only the feature value does not transfer.

Following the Minimal Trees Hypothesis, we would expect that the utterances found in early recordings barely consist of VP. The verb should be consistently in non finite form and there should be no higher functional categories available. If we follow the argument of the Valueless Features Hypothesis, we would also expect the non finiteness of verbs, and the corresponding weak feature value, such as the absence of verb raising. Note that Eubank studied the acquisition of a weak value language by native speakers of a strong value language, and found out that the strong value does not transfer. In this study, the target language exhibits a strong feature value whereas the source language has a weak feature. In this case, we would expect the initial state of L2 grammar to exhibit a weak value as well. The difference to the Minimal Trees Hypothesis is that higher functional categories might be present in the data of the early utterances.

Looking at Josephine's L2 data, her early utterances were indeed VP like, because only the SVO word order was attested. Josephine probably transferred the head initial word order of VP from Chinese into German. However, the word order alone does not suffice to prove this claim, because it is unclear if verb raising took place or not, since the SVO word order indeed corresponds to the surface structure in German most of the time. Only in cases where the adverbials were fronted to the sentence initial position and the subject and verb remained uninverted, can we assume that verb movement did not occur. To decide whether the verb was raised out of the VP, we could also look at the verb inflection.

As predicted by both hypotheses, Josephine did not use finite inflected verbs before the 7<sup>th</sup> recording. Unlike the Korean and Turkish speakers studied by Vainikka and Young-Scholten (see chapter 4.1.1), the non finite verbs appeared in stem form instead of in the infinite form. This could be explained by the transfer of the weak feature from Chinese. A stronger supporting argument for the Minimal Trees Hypothesis is the correlation between finite inflection and verb raising. From the 7<sup>th</sup> recording until the 14<sup>th</sup> recording, the percentage of finite verbs highly fluctuated, instead of going steadily upwards. This profile is very similar to the optional infinitive phase, observed in native speaking children (c.f.

Schaner-Wolles 1995-96). Similar to the optional infinitive usage, the non finite verbs did not occur in utterances with subject verb inversion, which is an indication of verb raising. This correlation can be explained by truncation below the CP and IP. This is to say, the earlier utterances were VP like, where neither verb raising nor verb inflection exists.

However, the Minimal Trees Hypothesis's claims that functional categories are not available in the initial state of the L2ers and the acquisition sequence predicted, are highly problematic. As discussed earlier, question-sentences were found in the 4<sup>th</sup> recording, the modal verb first occurred in the 5<sup>th</sup> recording, and the auxiliary in the 8<sup>th</sup> recording. All these are evidence of the existence of CP. Also, the emergence of question-sentences and modal verbs occurred before the first finite inflection in the 7<sup>th</sup> recording. This is contradictory to the acquisition sequence predicted by this hypothesis in that the FP and AgrP should have been acquired before the CP. These problems are often criticized by researchers supporting the Missing Surface Inflection Hypothesis. Furthermore, Josephine systematically distinguished the infinite verb and the verb stem; hence, it is questionable whether the features of the non finite verbs used in an early stage are comparable to the infinitive found in the VP stage.

Since higher functional categories do exist in Josephine's early stage of language development, let us consider the feature value predicted by the Valueless Features Hypothesis.

Previously, we assumed that Josephine's early utterances consisted only of VP, because in the case of adverbial fronting, the subject and verb remained uninverted. However, if we look at the negating utterances, we find that there was not a single case, in which the negator "nicht" preceded the verb, as expected from a weak feature language. The same situation was also exhibited in the wh-question sentences. The wh-element was raised consistently to the sentence initial position from the beginning onwards, even though in Chinese, the wh-element remains in situ in the VP. Therefore, we can assume that Josephine did not transfer the weak value into German, even though she kept producing the verb stem until the very late stage.

Furthermore, the Weak Transfer / Valueless Features Hypothesis also predicts that the occurrence of verb agreement inflection coincides with verb raising, which is evidenced by

subject verb inversion. However, the agreement feature did not result in obligatory verb raising. Verb movement remained optional until the tense feature was acquired (see chapter 4.3).

In Josephine's data, the agreement inflection indeed correlates with the verb raising, however, the temporal coincidence predicted by the hypothesis was not confirmed. Finite inflected verbs emerged between the 6<sup>th</sup> and the 7<sup>th</sup> recordings, which was approximately the time when the adverbial phrase began to be fronted to the sentence initial position. However, at this time, no inversion was attested. The first occurrence of subject verb inversion did not take place until the 13<sup>th</sup> recording. In the last recording, both the inversion and the finite inflection became obligatory (the percentage of finite inflection reached 82%, still slightly behind the rate of inversion). The tense did not have any influence on verb movement at all in Josephine's case. The preterit form barely occurred in the input, and the past participle emerged in the 8<sup>th</sup> recording and was then used productively in the 10<sup>th</sup> recording. The acquisition of past tense, therefore, took place earlier than that of agreement. The future tense, however, never occurred in Josephine's data.

### **7.1.2. In view of the Strong Continuity Hypothesis**

Different from the Weak Continuity Hypothesis, the Full Transfer / Full Access Hypothesis claims that the initial state of L2 grammar is the end state of L1 grammar. As the name of this hypothesis implies, the knowledge of L1 grammar is completely transferred to L2, and the L2ers have complete access to the UG (see chapter 4.2.1).

Following this assumption, the consequent predictions were generated: First of all, the functional categories such as AgrP and CP were available in Josephine's grammar from the beginning. Therefore, we expect the presence of question-sentences, modals, auxiliaries, and copulas. The syntactic structures, as well as the feature value, were transferred from Chinese into German. This means that Josephine's early VP structure should be head initial. There should not be any verb movement in the beginning, which means the finite verbs remained in situ in the VP position. Therefore, the SVO word order should be expected.

The properties exhibited in Josephine's initial utterances are evidence to a full transfer of the L1 grammar. As already discussed in the previous part, question-sentences and

copulas were found in the first recording. Modal verbs, auxiliaries and subordinate clauses also emerged very early. The early utterances were consistently SVO. The head initial structure did not only manifest in the root position, but also in the VP position where infinitives are expected, and in embedded sentences.

Yet, the verb movement from early recordings exhibiting negating statements (the negator is moved through the lexical verb) argues against the Full Transfer Hypothesis:

98) \*JOS: ich hab nicht Schule. [\*]  
           I have-1p-sg not school. (jos6)

Also, the *wh*-elements were always raised. Of course, one could argue that this was not the initial state of the L2 grammar. The problem was that, based on the production data, we could never know if another state existed before Josephine began to produce utterances spontaneously.

According to the hypothesis, after being exposed to the target language, Josephine should have had full access to UG. Therefore, we would expect Josephine to change the head initial order of the phrase structure to head final. Since German is a language with the strong feature, verb movement is also expected. And these expectations were met in the course of Josephine's language development. From the 9<sup>th</sup> recording onwards, the infinite main verbs and the past participles in cases of modal verb and auxiliary constructions were mostly in the final position. (Before that time, the infinite main verbs were also in the final position, but there was not another predicate in between.) Secondly, the verb raising took place, even though it was at a very early stage. Finally, the sequence of XSV word order, optional XVS, and obligatory XVS observed in the study of Schwartz and Sprouse (1994) was also found in Josephine's data. The development of her interlanguage grammar can thus be explained by the operation of different UG constraints (see chapter 4.2.1).

Following the assumption of full transfer and full access, we could suppose that initially, Josephine projected the complete functional categories up to CP, yet the phrase structure stayed head initial. Also, there was no verb movement. The triggering data for the verb movement above VP were negation and sentence internal adverbs. The triggering data for the head final structure would be infinite verbs and the past participles in the sentence final



position. Hence, she steadily reset the L2 parameters to those which corresponded to the target language.

However, the given data is unclear about the passage between the transfer and the UG. There was a prolonged period in which both the head initial and the head final phrase structures coexisted, for example, in the case of modal verb construction and in the subordinate clauses. If Josephine had full access to UG, why did the head initial structure remain within the modal verb constructions and in embedded sentences although the head final structure was predominant for two thirds of the time?

Leaving aside the overlap of the two different phrase structures, let us now consider the Missing Surface Inflection Hypothesis (see chapter 4.2.2). Researchers supporting this hypothesis claim that the seemingly non finite form does not account for deficits in the underlying syntactic structure; instead, it is used as a substitute for the finite form by reason of a mapping difficulty between syntax and inflectional morphology.

The role as substitute of the non finite form for finite verbs can also be manifested in Josephine's data. Evidence for this is the systematic distinction between verb stem and the infinitive. Josephine used both the infinitive and the verb stem very frequently, however, the infinite verbs occurred overwhelmingly in the sentence final position and never in the root position, whereas the verb stem mostly occurred in the sentence medial position. For this reason I assume the infinite verb form to be the real infinitive, and the verb stem a substitute in those contexts where high linguistic or cognitive complexity is demanded.

Another piece of evidence supporting the Missing Surface Inflection Hypothesis and opposing the Minimal Trees Hypothesis is the frequent occurrence of modal verbs and auxiliaries in the stem form. The modal and auxiliary verbs occupy the  $C^\circ$  position in German. The existence of CP hence presupposes a finite verb in the root position, according to the Minimal Trees Hypothesis. Only if we assume the stem form to be a substitute for the finite verbs can we explain this reoccurring contradiction.

If the absence of surface morphological markings is to be explained by extra-grammatical elements, what are the possible contributing factors for the use of verb stems? As discussed in chapter 6.6.2, the prevalent use of certain verb stems can be due to their frequent occurrence in the input. Another plausible factor, I assume, is a phonological

conditioned factor. Recalling the sentence repetition tasks in the first 3 recordings, when Josephine still barely produced any utterance in German, she imitated every sentence word for word, yet often omitted the word final –t. In German, the 3<sup>rd</sup> person singular lexical verbs are mostly inflected by adding a –t ending. Before the 11<sup>th</sup> recording, there was not any occurrence of 3<sup>rd</sup> person singular ending except for the word “hat” (has), which involves a change of stem. Throughout the whole observation period, the rate of the application of –t ending was generally very low.

Yet, the attribution of the absence of the surface inflection to extra-grammatical factors has difficulty explaining the systematic correlation between verb inflection and subject verb inversion, which rather favors the Minimal Trees Hypothesis. If the CP was available and the verb raising took place, why does such an asymmetry of verb inflection as the following exist?

99) \*JOS: oder wir such [\*] # suchen wir diese[\*] Satz.  
           or we search-stem search-1p-pl we this sentence (jos15)

This asymmetry of verb inflection can neither be explained by input nor by phonological factors. One possible explanation which could be further studied on is, whether the verbs preceding pronominal subjects are more salient to the L2ers and are therefore, more likely to receive morphological endings than the post subject verbs.

## 7.2. Alternative explanations

In the previous section, I tried to examine Josephine’s L2 data in terms of the models offered by different hypotheses. However as shown in the last part, none of these models fit Josephine’s interlanguage grammar perfectly. The Weak Continuity Hypothesis has the advantage that it explains the systematic correlation between the development of syntax and inflectional morphology not only in distributional contexts but also in their temporal relationship. However, a lot of evidence found in Josephine’s utterances argues against this hypothesis. The Strong Continuity Hypothesis fits Josephine’s data better, yet some doubt regarding the full access to UG remains.

Generally speaking, the access to UG has been affirmed by the profile of Josephine's language development; what remains unclear is at what time and to which extent. In this section, I will try to explain the problems addressed in this study from a different perspective, namely, in terms of the cognitive and linguistic complexity.

The early, correct, and extensive use of question-sentences was striking in Josephine's interlanguage grammar. I suppose Josephine was often addressed with questions directly from the beginning. The finite inflected verbs in yes/no questions occurred in the sentence initial position. They were thus more salient to the listeners. Therefore, Josephine began to produce the finite inflected yes/no question utterances in the very early stage. (Josephine's wh-questions mainly involved copulas in the beginning.)

The modal verb construction also occurred very early and was used extensively. Compared to native speaking children, at the time when Josephine was confronted with German, her cognitive level was much higher. Therefore, the modal verbs occurred almost at the same time as the lexical verbs. However, the modal verb construction in German is linguistically more complicated, because it involves a separation of verbal phrases. The placing of the infinite main verbs in the sentence final position is nonetheless perceptually salient. As a result, Josephine produced the correct usage of the modal verb construction most of the time. Yet in cases where the linguistic complexity increased, she sometimes resorted to phrase structures transferred from Chinese.

The last point I would like to address in regard to linguistic complexity is the acquisition sequence of agreement and tense. Other publications state that agreement is acquired before tense (Wexler 1994; Paradis, Le Corre & Genesee 1998). In Josephine's data, on the other hand, tense was acquired much earlier. This contradiction should be explained by the linguistic complexity of the surface inflectional morphology instead of the abstract features of tense and agreement. Paradis, Le Corre & Genesee studied the L2 acquisition of Quebec French. The agreement feature is marked by pronominal clitics whereas tense is marked by inflection of the verb, which is linguistically more complex. In Austrian German, the agreement is marked by the verb suffix inflected for person and number, whereas the tense is marked by participle construction. Comparing the linguistic complexity of agreement and tense in Austrian German, it is not surprising that the agreement was acquired

much later.

The three aspects stated in this section are an attempt to reach an alternative or supplementary explanation. The main purpose is to stress the importance of the cognitive and linguistic complexity in each aspect when we compare them to different languages in other publications, because these are sometimes important factors that might determine the results.

### **7.3. The role of transfer and input**

In the following discussion we are returning to the problem ascertained in chapter 7.1.2: the overlap of the structure transferred from the L1 and the structure of the target language. The existence of these contradicting structures at the same time exhibits two determining forces, which are constantly forming the interlanguage grammar of Josephine. In this section, I would like to further discuss these two factors – namely the role of transfer and input.

The role of transfer holds different degrees of importance according to different hypotheses. Yet, there is a general consensus that the initial grammar is mainly formed by the knowledge of the L1. I already showed different aspects of transfer in chapter 6.7. Yet, some of these grammatical features persisted for a much longer time and some diminished shortly after her exposure to the target language. The decisive factor is the role that the input plays.

In Josephine's interlanguage, the initial grammar depicts SVO word order with head initial structure. The SVO word order was not forced to change for a long time as evidenced by the persisting XSV structure. This might be because the word order corresponds to the surface structure in German most of the time. The head initial structure changed to head final in the 9<sup>th</sup> recording, in which the infinite main verbs were at the sentence final position. The resetting of this parameter took place much earlier, because the surface head final structure also commonly occurred in the input. Assuming that Josephine's initial L2 grammar did not have verb movements, the movement of verbs surprisingly occurred as early which almost as the first recordings of the data. We could explain this by the existing verb movement found in all of the input - in utterances with negation, in combination with adverbs and in question-sentences.

The examples above show the importance of input in L2 acquisition. For the same reason, I would like to try to explain why some predictions regarding Josephine's grammar proposed in this study were not confirmed. Such failed predictions are: the movement of *wh*-elements and the inversion in yes/no questions at the initial stage. (Although it was taken into account that these differences in structure compared to Chinese was indeed very striking).

Another impressive aspect observed in Josephine's grammar is the use of infinitives. Chinese is a language without morphological marking for tense and agreement, and the concept of infinitive is abstract. Yet before the finite inflectional markings appeared, Josephine indeed distinguished the infinitives and the verb stems systematically from the very beginning. She probably noticed the peculiar nature that the infinite marked verbs only appeared at the final position, which is very distinct from the Chinese structure.

The same is true for the adjective inflection. Following the prediction of transfer, one would expect the bare form of adjective in all cases, since neither predicative nor attributive adjectives are inflected in Chinese. However, in spite of the complicated adjective inflection rules, Josephine's systematic distinction of them was observed ever since the first production of adjectives. This is an example that evidences both the access to UG and the prominent influence of input.

Regarding the use of copula, I expected some systematic omission of copula in terms of its predicates because, first of all, only the nominal predicates in Chinese require a copula. Secondly, native speaking children also omit the copula with locative and adjectival predicates more frequently than with the nominal predicates. This indicates that the stronger bonding of the nominal predicates with subjects might belong to UG. I expected Josephine to exhibit some systematic distribution of copula by either subjecting to UG or by transferring. However, this expectation was not confirmed. The copula omission was only restricted to a certain structure, "das X", which could be seen as a set phrase. Besides that, there was not a significant tendency for omission. To explain this, I assume that the usage of copula was so common in the input that Josephine immediately acquired the rules of the target language.

Finally, another unanswered question I encountered in this study was the failed prediction of the Aspect Hypothesis. The Aspect Hypothesis predicts that the telic verbs

would receive the past marking earlier than the atelic verbs. Also, the perfective markings would appear initially on achievement verbs, then on accomplishment verbs and, later, on activity verbs. As analyzed in chapter 6.2.3, the three semantic types of verbs in past participle construction were evenly distributed. Achievement verbs were not more favored than the activity verbs. Since Chinese is a language with morphological marking for aspect, why was Josephine less sensitive to the inherent aspect? German, on the other hand, does not distinguish the aspect morphologically. Therefore, a past participle use could occur frequently with all types of verbs used to refer to a past event in the input. At the time of the L2 acquisition, Josephine was older than children who were acquiring their L1. At this age, she might have been less subjected to the natural combination of semantic type and grammatical type than the linguistic input she encountered.

Yet, the input was also confusing. For example, Josephine often overgeneralized the auxiliary “haben” to the copula “sein” after she acquired the past participle construction (see chapter 6.2.3). It is not common to substitute the copula for an auxiliary verb. However, since in German “sein” can also be used as an auxiliary in past participle constructions, and the rule for the distribution of them is not transparent, this might result in confusing the copula usage that she already mastered before.

#### **7.4. Comparison of child L1, L2 and adult L2 acquisition**

After viewing the detailed grammatical development of Josephine, we can now return to the question proposed in the beginning of this study: Does child L2 acquisition rather resemble child L1 acquisition or adult L2 acquisition. In this chapter, I would like to compare different aspects of syntax and morphology in Josephine’s language development with child L1 acquisition and adult L2 acquisition.

### 7.4.1. Comparing child L1 and child L2 acquisition

In chapter 6, as I analyzed Josephine's grammar development, I also explored the many different aspects that occur with native German speaking children. Especially in the early stage, various differences in syntactic structures can be found. The following are a short outline of them.

- The modal verb construction:

Different to native speaking children, the emergence of modal verbs takes place almost simultaneously to the lexical verb, yet the structure can vary. Furthermore, native speaking children do not undergo a stage, in which the main verb is placed in sentence medial position.

- No copula omission:

Except for the set phrase "das X", copula is generally present in Josephine's utterances.

- The negation:

Different to the variable form and placement of the negators found in L1 acquisition data, the negating utterances have a very fixed form and position.

- The position of the root infinitives:

In the so-called optional infinitive stage in the L1 acquisition, root infinite verbs in the sentence final position can often be found. In Josephine's data, on the other hand, the root non finite verbs never occurred in the final position.

- The extensive use of verb stem:

Even though some native German speaking children also use the stem form as a substitute for the finite verbs, they do not substitute the verb stem for infinite verbs as Josephine did.

- The embedded clauses:

In the L1 acquisition of German, embedded clauses first occur after the acquisition of word order in the main clause has been fixed. This temporal lagging was not observed in Josephine's interlanguage. Instead, a parallel development of them can be found.

In regards to inflectional morphology, the following differences are attested.

- No overgeneralization of plural form:

In the L1 acquisition of German, the plural markings emerge early, but the complete system is acquired very late. Besides, the native speaking children overgeneralize the plural form continuously, especially the –n and the –s suffix. In Josephine's interlanguage, the singular plural distinction emerged late and was not overgeneralized.

On the other hand, some similarities between the L1 and Josephine's L2 acquisition were observed:

- The optional infinitive stage:

Similar to the language development observed in native speaking children across different languages, there also exists a stage, in which non-finite verb forms alternate with finite verb forms. The verb inflection also correlates with the subject verb inversion, which is evidence for verb raising.

- Adjective inflection:

Even though gender and case were acquired much later, Josephine always distinguished between predicative and attributive adjectives by inflecting the latter as native speaking children do.

Overall, there do exist numerous quantitative and qualitative differences between the two acquisition types as summarized above. Considering the dissociation hypothesized by Schwartz in chapter 2.2, I would claim that in regards to syntax, the developmental courses of these two acquisition types are quite different. In regards to morphology, some similarities were observed. However, the interference of the L1 still influenced Josephine's morphological development to a certain degree. The ultimate attainment could not be determined in the present study.



### 7.4.2. Comparing child L2 and adult L2 acquisition

Unlike L1 acquisition of German, there are not as many studies done with Chinese native speaking adults who acquire German as a L2. For this reason, I could not compare the acquisition of each grammatical aspect of these two acquisition types. Nevertheless, I will try to look at the general language acquisition profile of these two types, with the help of studies done with L2ers with different source and target languages.

The most obvious similarity between adult L2 acquisition and the acquisition of Josephine was characterized by the interference of Chinese, for example, the omission of topic elements and the frequent usage of bare nouns. In regards to syntax, Josephine shared the same developmental course in acquiring word order of German as other adult L2ers studied by Clahsen et al. (see chapter 4.3; 6.4). This means, the verb movement was acquired by L2ers of both types. Furthermore, as with Josephine, adult speakers of both head initial and head final languages were found to produce head initial structures in the embedded clauses (see chapter 4.3; 6.2.7). Unlike the study done by Vainikka and Young-Scholten, (1994) but similar to the studies done by Lakshmanan (1998); Lardiere (2000); Haznedar (2001) etc., evidence of higher functional categories is found in the early stage of L2 acquisition.

In regards to inflectional morphology, some similarities were observed in this study, too, for example, the frequent usage of verb stems as a substitute for finite verbs. The morphological marking of the plural form remained optional for a long period of time, even until the last recording. However, in spite of the qualitative similarities described above, quantitatively these aspects were still slightly different. Whereas the adult L2ers of German consistently produce the non finite forms instead of the finite ones, in the last recording, the verbs in the root position are predominantly marked finite. Finally, a both quantitative and qualitative difference to adult L2ers found in this study is the aspect of adjective inflection. Concordant with the study by Weerman (see chapter 2.1), the attributive adjectives always received an inflectional ending (here I ignore the correctness of the ending). Some adult L2ers on the other hand, did not have the adjective inflection at all, and some often overgeneralized the uninflected form to the inflected one.

Overall, Josephine's L2 acquisition and the adult L2 acquisition indeed share a lot of

similarities. In regards to syntax, I agree with Schwartz (2003b) that the developmental courses of both acquisition types are similar. Both child and adult learners, from the outset employ the grammar structure of their L1 and, interacting with the input and conditioned by UG, they gradually approximate the target grammar structure. However, quantitatively, Josephine's development from one stage to another took place in a much shorter time period. To explain this discrepancy, I believe that child L2ers are less subjected to the L1 influence than adults are, and therefore are more sensitive to the input. With their nonetheless similar developmental course diverging from that of the L1 acquisition, the present case study is unable to answer whether the child L2ers could reach the ultimate state of language as native speakers do. However, the access to UG from the L2ers can be affirmed.

In regards to morphology, the similarity in the developmental course is not as clear as it is in regards to syntax. The similarities found could be explained by the interference of the L1. However, in other aspects, where the transfer is not observed in Josephine's grammar, her development is rather similar to that of native speaking children. The differences between these two types of acquisition observed here are to some degree qualitative but more so are they quantitative.

Returning to the dissociation hypothesis, I believe that in regards to syntax, Josephine's development is similar to that of adult L2ers and distinct from that of the child L1ers as assumed by Schwartz. Yet, in regards to morphology, the development of Josephine is intermediate between these two types. In other words, it is both similar as well as different to them.

## 8. Conclusion

The present case study focused on the acquisition of functional categories from a child L2er. Based on the findings, three main hypotheses, which attempt to explain the nature of L2 acquisition in regard to UG, were examined and compared with each other: the Minimal Trees Hypothesis, the Weak Transfer / Valueless Features Hypothesis and the Full Transfer / Full Access Hypothesis. The findings exhibited in Josephine's different grammatical aspects, favour the Strong Continuity Hypothesis (Full Transfer / Full Access Hypothesis and Missing Surface Inflection Hypothesis). Nevertheless, this hypothesis gives a limited explanation when it comes to the systematic correlation between syntax and inflectional morphology observed in Josephine's development. Hence, none of these three hypotheses alone can perfectly explain the whole acquisition course of functional categories by Josephine.

Therefore, I looked for factors which construct the development of grammar in Josephine. In addition to UG and transfer discussed within these hypotheses, there are some other important factors, which also have great influence upon the forming of the interlanguage grammar. These include the input, and the cognitive as well as the linguistic complexity of each grammatical aspect to be acquired. Finally, the individual factors should not be ignored either. Of these individual factors, there is one which plays a particularly important role: That is the age factor.

Comparing the child L1, L2 and adult L2 acquisition, it was found that Josephine's L2 acquisition resembled adult L2 acquisition, in that both of them share a similar developmental course that might be resulting from the L1 influence. However, since Josephine was much younger at the time of her L2 acquisition, I believe that she was less subjected to the influence of her Chinese language experiences. As a result, she was more sensitive to the target form in the input and the parameter resetting processed faster.

Comparing to the L1 acquisition, it is obvious that the native speaking children are not influenced by a previous language. Aside from this, I still noticed some differences, which were not produced through transfer: Josephine did not systematically omit the copula as native speaking children do. Additionally, in the acquisition of past tense (past participle

construction), the inherent semantic aspect did not have much influence as expected by the Aspect Hypothesis. To explain this discrepancy to the L1 acquisition, I also believe that age is a crucial contribution factor. Since Josephine was cognitively more mature than native speaking children who were acquiring their L1, she was less subjected to the semantic natural combination and more sensitive to linguistic features presented in the input.

## 9. Prospects for the future research

In the present case study, some significant features regarding the acquisition of syntax and morphology from a child L2er were recognized. Yet, to determine whether these findings represent merely individual features of language development or whether they reflect a significance in a language acquisition type or in language typological comparison, more future research in different aspects is necessary.

By researching the acquisition of languages of the same acquisition type, one could compare the similarities and the differences between adult and child L2 acquisition more specifically. The development course, the time span, and the quality of the L2 acquisition are equally important. It is also interesting to see whether those special interlanguage features are found among other speakers, too: for example, the substitution of verb stem for infinitive, the temporal relationship between verb movement and acquisition of agreement and tense, and the correlation between null subject and non finite verbs. This might provide us with a better understanding regarding the access to UG by L2ers. By comparing the acquisition of languages of different types, it enables us to distinguish transfer and the UG features that are available to L2ers.

Furthermore, it would be meaningful to investigate both the input and the language development concurrently, since the input is also an essential factor in forming the interlanguage grammar. By determining what role the input plays, we hope to find an answer to the problems that language acquisition models fail to explain.

It is also important to further trace the language development over a much longer time period in order to determine the possibility of ultimate attainment of the grammar development of each acquisition type.

Finally, some practical uses could be derived from child L2 acquisition research. By ascertaining the relationship of UG access, transfer, input, and the individual variables, I hope for a further understanding of the nature of adult L2 acquisition.

If we understand how these factors interact with each other and how they could steer the language development, we could gain a theoretical background for the field of foreign language teaching. Therefore, how this knowledge gained could be meaningfully applied in

foreign language teaching is another aspired prospect of future research.

## References

- Andersen, Roger W. (1991) Developmental sequences: The emergence of aspect marking in second language acquisition. In: T. Huebner and C.A. Ferguson (eds). *Crosscurrents in Second Language Acquisition and Linguistic Theories*. Amsterdam: Benjamins [Language Acquisition and Language Disorders 2], 305-324
- Andersen, Roger W. (1993) Four operating principles and input distribution as explanations for underdeveloped and mature morphological systems. In: K. Hyltenstam and Ä. Viborg (eds). *Progression and Regression in Language*: Cambridge: CUP, 309-339
- Andersen, Roger W. (2002) The dimensions of “Pastness”. In: Rafael Salaberry & Yasuhiro Shirai (eds). *The L2 Acquisition of Tense-Aspect Morphology*. Amsterdam / Philadelphia: John Benjamins B. V, 79-105
- Andersen, Roger W. & Yasuhiro Shirai (1994) ”Discourse motivations for some cognitive operating principles”. *Studies in Second Language Acquisition* 16. 133-156
- Andersen, Roger W. & Yasuhiro Shirai (1996) Primacy of aspect in first and second language acquisition: The pidgin/ creole connection. In: William C. Ritchie and Tej K. Bhatia (eds). *Handbook of Second Language Acquisition*. San Diego CA: Academic Press, 527-570
- Becker, Misha (2000a) The development of the Copula in Child English: The Lightness of Be. PhD dissertation, University of California, Los Angeles.
- Becker, Misha (2000b) The Acquisition of the Copula in Child English. In: Roger Billerey and Danielle Lillehaugen (eds), *WCCFL 19 Proceedings*. Somerville, MA: Cascadilla Press, 57-70.
- Boser, Katherine; Barbara Lust; Lynn Santelmann & John Whitman (1992) "The syntax of CP and V2 in early child German (ECG): The Strong Continuity Hypothesis". In Kimberley Broderick (ed.). *Proceedings of North-Eastern Linguistic Society* 22, 51-65. University of Massachussets: Graduate Linguistic Student Association.
- Chao, Yuen Ren (1968) *A grammar of spoken Chinese*. Berkeley: University of California Press.
- Chomsky, Noam (1981) *Lectures on Government and Binding*, Dordrecht: Foris Publication
- Clahsen, Harald (1984) The Acquisition of German Word Order. In R. Andersen (ed) *Second Language*. Rowley, Mass.: Newbury House.
- Clahsen, Harald (1988) Parameterized Grammatical Theory and Language Acquisition: A study of the acquisition of verb placement and inflection by children and adults. In: Suzanne Flynn, Wayne A. O'Neil (eds). *Linguistic Theory in Second Language Acquisition*. Dordrecht: Kluwer, 47-75.
- Clahsen, Harald (1991) “Constraints on Parameter setting. A grammatical analysis of some acquisition stages in German child language.” *Language Acquisition*, 4, 361-391

- Clahsen, Harald; Jürgen M. Meisel & Manfred Pienemann (1983) *Deutsch als Zweitsprache. Der Spracherwerb ausländischer Arbeiter*. Tübingen: Narr
- Clahsen, Harald; Monika Rothweiler & Andreas Woest (1992) "Regular and irregular inflection in the acquisition of German noun plurals." *Cognition* 45: 225-255
- Curtiss, Susan (1977) „Genie- A psycholinguistic study of a modern day ‚wild child‘". New York: Academic Press
- Cztinglar, Christine; Antigone Katičić; Katharina Köhler & Chris Schaner-Wolles (2006) Strategies in the L1 acquisition of predication: the copula construction in German and Croatian. In: Natalia Gagarina & Insa Gülzow (eds). *The acquisition of Verbs and their Grammar: The effect of Particular Language*. Dordrecht: Springer, 71-104
- DeKeyser, Robert (2000) "The robustness of critical period effects in second language acquisition". *Studies in Second Language Acquisition* 22, 499-533.
- duPlessis, Jean; Doreen Solin; Lisa Travis & Lydia White (1987) „UG or not UG, that is the question: A reply to Clahsen and Muysken." *Second Language Research* 3(1), 56-75
- Epstein, Samuel D; Suzanne Flynn; & Gita Martohardjono (1998) The strong continuity hypothesis: Some evidence concerning functional categories in adult L2 acquisition. In Suzanne Flynn; Gita Martohardjono & Wayne O’Neil (eds). *The generative study of second language acquisition*. Mahwah, NJ [u.a.] : Erlbaum pp. 61-77
- Eubank, Lynn (1993/94) "On the transfer of parametric values in L2 development." *Language Acquisition* 3, 183-208.
- Eubank, Lynn (1994) Optionality and initial state in L2 development. In: T. Hoekstra & B. D. Schwartz (eds). *Language Acquisition Studies in Generative Grammar*. Philadelphia: John Benjamins, 369-388
- Eubank, Lynn (1996) "Negation in early German-English interlanguage: more Valueless Features in the L2 initial state." *Second Language Research* 12(1), 73-106.
- Flynn, Suzanne (1998) *The generative study of second language acquisition*. Mahwah, NJ: Erlbaum.
- Greenberg, Joseph H. (1963) Some universals of grammar with particular reference to the order of meaningful elements. In: J.H Greenberg (ed.). *Universals of Language*. Cambridge, MA: MIT Press
- Greenfield, Patricia Marks & Joshua H. Smith (1976) *The Structure of Communication in Early Language Development*. New York: Academic Press
- Guilfoyle, Eithne & Máire Noonan (1992) "Functional categories and language acquisition." *The Canadian journal of linguistics*, 37, 241-272
- Hallman, Peter (2004) "On the Derivation of Verb-Final and Its Relation to Verb-Second" [http://individual.utoronto.ca/hallman/Verb\\_Second.pdf](http://individual.utoronto.ca/hallman/Verb_Second.pdf)
- Haznedar, Belma (1997a) Child second language acquisition of English: a longitudinal case study of a Turkish-speaking child. PhD dissertation, University of Durham.



- Haznedar, Belma (1997b) L2 acquisition by a Turkish-speaking child: Evidence for L1 influence. In: E. Hughes, M. Hughes & A. Greenhill (eds). *Proceedings of the 21st Annual Boston University Conference on Language Development*. Somerville, MA: Cascadilla Press, 245–56.
- Haznedar, Belma (2001) “The acquisition of the IP system in child L2 English.” *Studies in Second Language Acquisition* 23, 1–39.
- Haznedar, Belma & Bonnie D. Schwartz (1997) Are there optional infinitives in child L2 acquisition? In E. Hughes, M. Hughes & A. Greenhill (eds). *Proceedings of the 21st Annual Boston University Conference on Language Development*. Somerville, MA: Cascadilla Press, 257–68.
- Hendriks, Henriëtte (2003) Using nouns for reference maintenance: A seeming contradiction in L2 discourse. In: Ramat, Anna Giacalone (ed). *Typology and Second Language Acquisition*. Berlin : Mouton de Gruyter
- Hoekstra, Teun & Bonnie D. Schwartz (eds) (1994) *Language Acquisition Studies in Generative Grammar*. Philadelphia: John Benjamins
- Huang, C.-T. James (1982) *Logical Relations in Chinese and the Theory of Grammar*, Doctoral Dissertation, MIT.
- Huang, C.-T. James (1991). Verb movement, (in) definiteness, and the thematic hierarchy. In : LI Paul J.-K. et al (eds). *Proceedings of the Second International Symposium on Chinese Languages and Linguistics (IsCLL2)*. Taipei : Academia Sinica. pp. 481-498.
- Huang, C.-T. James (1992). On lexical structure and syntactic predication. In : Wang Samuel H., Tsao Feng-Fu (eds). *Proceedings of the Third International Symposium on Chinese Languages and Linguistics (IsCLL3)*. Hsinchu : National Tsinghua University. pp. 288-311.
- Huang, C.-T. James (1994). More on Chinese word order and parametric theory. In : Lust Barbara, Suñer Margareta (eds). *Syntactic theory and first language acquisition : cross-linguistic perspectives*. Hilldale, N.J.: Erlbaum. pp. 15-35.
- Hyam, Nina & Ken Wexler (1993) “On the Grammatical Basis of Null Subjects in Child Language.” *Linguistic Inquiry* 24, 421-459
- Johnson, Jacqueline & Elissa Newport (1989) “Critical period effects in second language learning: The influence of maturational state on the acquisition of English as a second language”. *Cognitive Psychology* 21, 60-99.
- Johnson, Jacqueline & Elissa Newport (1991) “Critical period effects on universal properties of language: The status of subadjacency in the acquisition of a second language”. *Cognition* 39, 215-258.
- Lakshmanan, Usha (1994) *Universal grammar in child second language acquisition*. Amsterdam: Benjamins.
- Lakshmanan, Usha (1998) *Functional Categories and Related Mechanisms in Child Second Language Acquisition*. In: Suzanne Flynn (ed). *The generative study of second*

- language acquisition. Mahwah, NJ: Erlbaum, 3-16
- Lardiere, Donna (1998a) "The case and tense in the 'fossilized' steady state." *Second Language Research* 14, 1–26.
- Lardiere, Donna (1998b) "Dissociating syntax from morphology in a divergent end-state grammar." *Second Language Research* 14, 359–75.
- Lardiere, Donna (2000) Mapping features to forms in second language acquisition. In: J. Archibald (ed), *Second language acquisition and linguistic theory*. Oxford: Blackwell, 102–29.
- Larson, Richard (1988). "On the double object construction." *Linguistic Inquiry*, 19(3), pp. 335-391.
- Lebeaux, David (2000) *Language acquisition and the form of the grammar*. Philadelphia, Pa. [u.a.] : Benjamins
- Lenneberg, Eric (1967) *Biological Foundations of Language*. New York: Wiley
- Li, Charles N. & Sandra A. Thompson (1976) Subject and topic: A new typology of language. In: C. Li (ed.) *Subject and Topic*. New York: Academic Press
- Li, Charles N. & Sandra A. Thompson (1981) *Mandarin Chinese: A functional reference grammar*. Berkeley: University of California Press.
- Li, Ping (1990) *Aspect and Aktionsart in Child Mandarin*. Ph.D. Dissertation, Leiden University, The Netherlands.
- Limber, John (1973). The genesis of complex sentences. In T. Moore (ed.) *Cognitive development and the acquisition of language*. New York: Academic Press
- MacWhinney, Brian (2000) *The CHILDES Project: tools for analyzing talk*. Mahwah, NJ: Erlbaum.
- Meisel, Jürgen (1987) Reference to Past Events and Actions in the Development of Natural Second Language Acquisition. In: C. Pfaff (ed). *First and Second Language Acquisition Processes*. Cambridge, Mass.: Newbury House. 206-224.
- Meisel, Jürgen (1993) Getting FAT: Finiteness, Agreement and Tense in Early Grammars. In J. M. Meisel (ed.), *Bilingual First Language Acquisition*. Amsterdam: John Benjamins, 89–129.
- Paradis, Johanne; Mathieu Le Corre & Fred Genesee (1998) "The emergence of tense and agreement in child L2 French." *Second Language Research* 14(3), 227-256
- Paul, Waltraud (2000) "Verb movement and the VP shell in Chinese: Some critical remarks." *Cahiers de Linguistique – Asie Orientale* 29(2) 255-269
- Platzack, Christer & Anders Holmberg (1989) "The role of AGR and finiteness." *Working Papers in Scandinavian Syntax* 43, 51-76.
- Poeppel, David & Kenneth Wexler (1993) "The full competence hypothesis of clause structure in early German." *Language* 69(1):1-33
- Prévost, Philippe (2003) "Truncation and missing inflection in child L2 German". *Studies in second language acquisition* 25: 65-98.

- Prévost, Philippe & Lydia White (2000) "Missing surface inflection or impairment in second Language? Evidence from Tense and Agreement." *Second Language Research* 16, 103–33.
- Radford, Andrew (1990) *Syntactic theory and the acquisition of English syntax*. Oxford: Blackwell
- Rizzi, Luigi (1994) Early null subjects and root null subjects. In: Hoekstra, T. & Schwartz, B. (eds), *Language Acquisition Studies in Generative Grammar*. Amsterdam: John Benjamins. p. 151-176
- Rizzi, Luigi & Ian Roberts (1989) "Complex Inversion in French" *Probus* 1: 1-30
- Rohde, Andreas (1996) "The aspect hypothesis and emergence of tense distinctions in naturalistic L2 acquisition." *Linguistics* 34: 1115-1137.
- Rohde, Andreas (2002) The aspect hypothesis in naturalistic L2 acquisition: What uninflected and non-target-like verb forms in early interlanguage tell us. In: Rafael Salaberry & Yas Shirai (eds). *The L2 Acquisition of Tense-Aspect Morphology*. Amsterdam/Philadelphia: John Benjamins B. V.
- Rohrbacher, Bernhard (1992) "English AUX, NEG, Mainland Scandinavian NEG^AUX and the theory of V to I raising". *Proceedings of the 22nd Western Conference on Linguistics*. (WECOL, 92). 307-21.
- Rohrbacher, Bernhard (1994) *The Germanic VO languages and the full paradigm: a theory of V to I raising*. PhD dissertation, University of Massachusetts, Amherst.
- Rothweiler, Monika (1993) *Der Erwerb von Nebensätze im Deutschen. Eine Pilotstudie*. Tübingen: Niemeyer.
- Schaeffer, Jeannette C. (2000) *The Acquisition of Direct Object Scrambling and Clitic Placement: Syntax and Pragmatics*. Amsterdam: John Benjamins.
- Schaner-Wolles, Chris (1995-96) "The Acquisition of Negation in a Verb Second Language: from 'anything goes' to 'rien ne va plus'" *Wiener Linguistische Gazette* 53-54, 87-119
- Schwartz, Bonnie D. (1992) "Testing between UG-based and problem-solving models of L2A: Developmental sequence data." *Language Acquisition* 2: 1-19.
- Schwartz, Bonnie D. (2003a) "Why child L2 Acquisition?" In *Generative Approaches to Language Acquisition 2003*
- Schwartz, Bonnie D. (2003b) *Child L2 Acquisition: Paving the Way*. In: Beachley, Barbara (ed.) *Proceedings of the 27th annual Boston University Conference on Language Development*. Somerville, Mass: Cascadilla Press pp. 26-50.
- Schwartz, Bonnie D. & Rex A. Sprouse (1994) Word order and nominative case in nonnative language acquisition: a longitudinal study of (L1 Turkish) German Interlanguage. In: T. Hoekstra & B. D. Schwartz (eds). *Language Acquisition Studies in Generative Grammar*. Philadelphia: John Benjamins, 317-368
- Schwartz, Bonnie D. & Rex A. Sprouse (1996) "L2 cognitive states and the Full Transfer/Full Access model." *Second Language Research* 12(1), 40-72

- Shi, Yuzhi (1998) "On the default structure in Chinese." Presented at the International Conference on Chinese syntax. Beijing University, Beijing
- Shi, Yuzhi (2002) *The Establishment of Modern Chinese Grammar*. Amsterdam: Benjamins
- Siewierska, Anna (1998) *Constituent order in the languages of Europe*. Berlin: Mouton de Gruyter
- Shirai, Yasuhiro & Atsuko Kurono (1998) "The Acquisition of Tense-Aspect Marking in Japanese as a Second Language." *Language Learning* 48(2): 245-279
- Sun, Chao-Fen & Talmy Givón (1985) "On the so called SOV word order in Mandarin Chinese: A quantified text study and its implications." *Language*, 61, 329-51.
- Tai, James H-Y (1976) *Lexical Changes in Modern Standard Chinese in the Peoples Republic of China since 1949*. Washington: U.S. Information Agency.
- Tomaselli, Alessandra & Bonnie D. Schwartz (1990) "Analysing the Acquisition Stages of Negation in L2 German: Support for UG in SLA." *Second Language Research* 6(1), 1-38.
- Unsworth, Sharon (2004) Child L1, Child L2, and Adult L2 Acquisition: Differences and Similarities. In: Brugos, Alejna (ed) *Proceedings of the 28th annual Boston University Conference on Language Development*. Somerville, Mass: Cascadilla Press, 633-644
- Vainikka, Anne & Martha Young-Scholten (1994) Direct Access to X'-Theory: Evidence from Korean and Turkish Adults Learning German. In: T. Hoekstra & B. D. Schwartz (eds). *Language Acquisition Studies in Generative Grammar*. Philadelphia: John Benjamins, 265-316
- Vainikka, Anne & Martha Young-Scholten (1996) "The early stages in adult L2 syntax: additional evidence from Romance speakers." *Second Language Research* 12(2), 140-176
- Vendler, Zeno (1957) "Verb and times" *Philosophical Review* 66: 43-160
- Verrips, Maaïke & Jürgen Weissenborn (1992) Routes to verb placement in early German and French: the independence of finiteness and agreement. In Meisel, Jürgen, (ed) *The acquisition of verb placement: functional categories and V2 phenomena in language acquisition*, Dordrecht: Kluwer, 283-331.
- Weerman, Fred (2002) "Dynamiek in Taal en de Explosie van de Neerlandistiek" [Dynamics in Language and the Explosion of Dutch (booklet for inaugural professional lecture)] Amsterdam: University of Amsterdam (English translated by Sharon Unsworth).
- Wexler, Kenneth (1994) Optional Infinitives, Head Movement and the Economy of Derivation in Child Grammar. In D. Lightfoot & N. Hornstein (eds). *Verb Movement*. Cambridge: Cambridge University Press
- Wexler, Kenneth (1998) "Very early parameter setting and the unique checking constraint: A new explanation of the optional infinitive stage." *Lingua* 106, 23-79
- White, Lydia (1989) *Universal grammar and second language acquisition*. Amsterdam: Benjamins.

## Appendix

### Appendix A

#### The tokens and percentages of the modal verb in combination with main verb

Recording	Mod total	Mod+ verb	Mod+ stm	Mod +inf	Inf in situ	target form in %
stage 2						
sum	36	10	3	6	1	60%
in %			30%	60%	10%	
stage 3						
jos8	27	15	5	10	0	67%
jos9	44	24	8	14	2	58%
jos10	35	21	11	9	1	43%
jos11	43	26	4	22	0	85%
jos12	49	33	15	18	0	55%
sum	198	119	43	73	3	
in %			36%	61%	3%	
stage 4						
jos13	37	14	3	10	1	71%
jos14	70	40	12	27	1	68%
jos15	78	44	17	26	1	59%
jos16	54	34	11	22	1	65%
jos17	57	41	10	30	1	73%
sum	296	173	53	115	5	
in %			31%	66%	3%	
stage 5						
jos18	59	35	7	28	0	80%
in %			20%	80%	0%	

## Appendix B

### Copula omission and the subject type

Recording	Copula (tokens)	Coppula omission	Omission rate (%)	"das 0 X"	Sub. Nom.	Sub. Adj.	Sub. Loc.
jos4	6	0	0%	0	0	0	0
jos5	2	0	0%	0	0	0	0
jos6	17	3	15%	3	0	3	0
jos7	24	5	17%	4	3	0	2
jos8	22	5	19%	4	0	5	0
jos9	27	3	10%	2	1	2	0
jos10	16	10	38%	10	10	0	0
jos11	32	8	20%	6	3	5	0
jos12	44	3	6%	3	2	1	0
jos13	42	4	9%	2	1	2	1
jos14	57	0	0%	0	0	0	0
jos15	52	6	10%	6	3	3	0
jos16	26	4	13%	3	0	3	1
jos17	23	0	0%	0	0	0	0
jos18	39	7	15%	7	5	2	0
sum	429	58		50	28	26	4

## Appendix C

### The tokens and percentages of bare noun uses

Recording	N <sup>18</sup>	Det n	Number n	Adj n	Sum (modifier + n)	% Bare noun
jos4	13	2	0	0	2	85%
jos5	18	4	0	0	4	78%
jos6	34	18	3	1	22	35%
jos7	35	14	3	0	17	51%
jos8	85	26	1	0	26	68%
jos9	73	36	4	1	41	44%
jos10	69	34	2	0	36	49%
jos11	85	38	3	1	41	51%
jos12	113	58	9	3	69	41%
jos13	114	56	10	4	66	41%
jos14	101	42	9	11	62	42%
jos15	149	73	4	12	84	43%
jos16	85	42	3	7	50	43%
jos17	98	55	3	7	62	35%
jos18	117	64	12	9	79	31%

<sup>18</sup> Proper names, plural forms and set phrases are excluded in the analysis.

## Appendix D

**The percentages of finite verbs in declarative sentences with overt subjects (1P. Sg. excluded)**

	2p sg	fin	stm	inf	1p pl	fin	stm	3p sg	fin (- hat)	fin	stm	3p pl	fin	stm	sum fin	sum non fin	% fin
jos5		0	0	0		0	0		0	0	0		0	0	0	0	0%
jos6		0	2	0		0	0		0	0	2		0	0	0	4	0%
jos7		0	3	0		0	1		0	1	2		0	0	1	6	14%
jos8		2	4	0		4	7		0	1	1		0	2	7	14	33%
jos9		5	2	0		4	1		0	0	2		4	0	13	5	72%
jos10		1	18	1		1	5		0	0	3		1	0	3	27	10%
jos11		4	6	1		1	3		2	3	1		0	0	8	11	42%
jos12		0	15	0		1	3		0	1	12		0	0	2	30	6%
jos13		0	4	0		3	5		3	4	6		1	1	8	16	33%
jos14		4	14	0		2	14		1	2	5		1	1	9	34	21%
jos15		4	11	0		6	16		4	5	14		0	2	15	43	26%
jos16		2	2	0		3	7		1	7	5		0	1	12	15	44%
jos17		4	0	0		5	13		0	5	3		1	1	15	17	47%
jos18		5	1	0		2	0		1	5	1		2	1	14	3	82%
verb types	(lex+mod+aux)				(lex+mod+aux)			(lex +aux)				(lex+mod+aux)					



## Appendix E

### The percentages of subject verb inversion

	<b>XSV</b>	<b>XVS</b>	<b>Percentages of XVS</b>
jos8	3	0	0%
jos9	0	0	0%
jos10	1	0	0%
jos11	3	0	0%
jos12	6	0	0%
jos13	5	2	29%
jos14	25	14	36%
jos15	12	10	45%
jos16	4	14	78%
jos17	10	20	67%
jos18	3	38	93%

## Summary

The present paper is a longitudinal case study focusing on the acquisition of functional categories from a child L2er (Josephine) with Mandarin Chinese as L1, and German as L2. Child L2 acquisition is believed to be an interface between the child L1 acquisition and adult L2 acquisition because it exhibits a nature, which is similar to both acquisition types. Through the comparison of child L1, L2 and adult L2 acquisition, it will be possible to determine the role that UG plays in adult L2 acquisition more precisely.

In regards to syntax, Josephine shared a developmental course similar to adult L2ers, such as the head initial SVO word order, the undifferentiated word order in the main clause and in the embedded clause, the omission of topic elements and the frequent usage of bare nouns. Some of these features can be explained by the interference of their previous Chinese language knowledge. On the other hand, some qualitative differences to the L1ers are ascertained, such as the acquisition of modal verbs and auxiliary constructions, the subordinate clauses and the position of root infinitives.

In regards to inflectional morphology, the optional infinitive stage, which is well-known among the L1ers, can also be attested in Josephine's interlanguage: There exists a stage, in which finite and non-finite verb forms alternate. Furthermore, the finite marking correlated with verb raising. However, unlike the L1ers, Josephine also used the verb stem not only as a substitute for finite verb forms, but also for infinite verb forms in cases of modal verb constructions.

Based on these findings, three main hypotheses, which attempt to explain the nature of L2 acquisition in regard to UG were examined: the Minimal Trees Hypothesis, the Weak Transfer/Valueless Features Hypothesis – the Weak Continuity Hypothesis and the Full Transfer/Full Access Hypothesis – the Strong Continuity Hypothesis.

The Weak Continuity Hypothesis assumes the partial transfer of the L1 grammar knowledge. The learners always project the minimal tree that is needed for analyzing the structure. UG is used as a guideline for the acquisition of the target language. The Full Transfer/Full Access Hypothesis claims, on the other hand, that the initial state of L2 acquisition is completely determined by the end state of L1 knowledge. This initial state of

the L2 grammar would be forced to change after being exposed to the target language input. The restructuring process is guided by UG options.

The findings in this study slightly favour the Strong Continuity Hypothesis; however, this hypothesis shows limitations in explaining the systematic correlation between syntax and inflectional morphology observed in Josephine's interlanguage development. Because of these limitations observed in both hypotheses, one should also consider other important factors in order to explain the acquisition course of functional categories of Josephine.

In addition to UG and transfer discussed by those hypotheses, the input, the cognitive and the linguistic complexity of the grammatical aspects to be acquired, and the age factor all have a great influence upon the forming of the interlanguage grammar.

For future research, I suggest to even further ascertain the relationship of UG access, transfer, input, and the individual variables – hopefully leading to a broader understanding of the nature of adult L2 acquisition.

## Zusammenfassung

Diese Fallstudie ist eine Langzeituntersuchung zum Erwerb der funktionalen Kategorien einer Zweitsprache bei einem Kind (Josephine) mit Chinesisch als Muttersprache (L1) und Deutsch als Zweitsprache (L2). Der kindliche L2 Erwerb wird allgemein als eine Schnittstelle zwischen dem L1 Erwerb und dem erwachsenen L2 Erwerb erfasst, da er Eigenschaften aufweist, die beiden Erwerbstypen ähnlich sind. Durch einen Vergleich von L1-, kindlichem L2- und erwachsenem L2 Erwerb ist es möglich, weitere Erkenntnisse zu der Frage zu gewinnen, inwieweit die UG (Universalgrammatik) beim erwachsenen L2 Erwerb eine Rolle spielt.

Im Bereich Syntax zeigte Josephine ein ähnliches Entwicklungsprofil wie die erwachsenen L2 Erwerber wie z.B. die Haupt-initiale Phrasenstruktur mit SVO Wortstellung, die undifferenzierte Wortstellung im Hauptsatz und im Nebensatz, die Auslassung eines Topic-Elements und der häufige Gebrauch von artikellosen Nominalphrasen (*bare nouns*). Solche Eigenschaften können teilweise mit der Interferenz des Chinesischen erklärt werden. Im Vergleich zum L1 Erwerb ließen sich einige qualitative Unterschiede feststellen, wie z.B. der Erwerb der Modalverb- und Auxiliarkonstruktionen, sowie der Erwerb der Nebensätze und die Position des Matrixinfinitivs.

Im Bereich Flexionsmorphologie wurde festgestellt, dass die sogenannte „*optional infinitive*“ Phase, die dadurch gekennzeichnet wird, dass L1 Kinder in dieser Phase abwechselnd finite und infinite Verbformen in der Matrixposition verwenden, auch bei Josephine zu finden war. Ferner ließ sich auch ein positiver Zusammenhang zwischen der Finitheitsmarkierung und dem Phänomen der Verbverschiebung feststellen. Abweichend vom L1 Erwerb verwendete Josephine allerdings oft den Verbstamm – nicht nur als Ersatz für finite Verbformen, sondern auch für die infiniten Verbformen in Konstruktionen mit Modalverben.

Auf Basis dieser Ergebnisse werden drei wichtige Hypothesen näher diskutiert, die unterschiedliche Erklärungen zum L2 Erwerb hinsichtlich UG-Einfluss zu geben versuchen: die „Minimal Trees“-Hypothese, die „Weak Transfer/Valueless Features“-Hypothese, und die „Full Transfer/Full Access“-Hypothese.

Die ersten zwei Hypothesen werden unter dem Begriff „schwache Kontinuitätshypothese“ genannt, da sie die gemeinsame Ansicht vertreten, dass die L2 Erwerber nur eingeschränkt grammatische Kenntnisse aus deren L1 übernehmen. Sie projizieren nur die minimal ausreichende Baumstruktur, um die Sprachstruktur der Zielsprache analysieren zu können. Die UG bestimmt die Richtlinie des Spracherwerbs.

Die letzte Hypothese, die man auch als „starke Kontinuitätshypothese“ bezeichnet, behauptet hingegen, dass der Ausgangspunkt des L2 Erwerbs vollkommen durch die L1 Sprachkenntnisse bestimmt wird. Nach dem Kontakt zum Input in der Zielsprache findet zwangsweise eine Restrukturierung dieser Anfangsgrammatik statt. Der Vorgang dieser Neustrukturierung wird durch Optionen der UG gelenkt.

Die Ergebnisse dieser Fallstudie befürworten die Ansicht der starken Kontinuitätshypothese, allerdings stößt diese Hypothese auf ein Problem bezüglich der systematischen Korrelation zwischen der Entwicklung von Syntax und Flexionsmorphologie, die sich in der Studie offenbart. Aufgrund der Beschränkung beider Modelle sollten neben UG und Transfer noch weitere Faktoren berücksichtigt werden.

Andere wichtige Faktoren, die in unterschiedlicher Art und Weise Einfluss auf die Entwicklung der Grammatik Josephines haben, sind der Input, die kognitive und linguistische Komplexität der Zielgrammatik und individuelle Faktoren, wie zum Beispiel das Alter.

Für die zukünftige Forschung wäre es sinnvoll, die Beziehung zwischen diesen Einflussfaktoren, nämlich Zugang zu UG, Transfer, Input und anderen individuellen Variablen näher zu bestimmen. Das Verständnis dieses Zusammenhangs wird einen besseren Einblick in das Wesen des erwachsenen L2 Erwerbs ermöglichen.

# Lebenslauf

## Persönliche Daten

Name: Lee, An-Yu  
Geburtsdatum: 16. Juli, 1981  
Nationalität: Republic of China (Taiwan)

## Ausbildung

2004 - 2008 Studium der Sprachwissenschaft an der Universität Wien  
2003 - 2004 Auslandsjahr an der Johannes Kepler Universität Linz  
1999 - 2004 Studium der „Fremdsprachen und Literaturwissenschaft“ (Foreign Languages and Literatures) an der National Taiwan University  
Abschluss: Bachelor  
1996 - 1999 Gymnasium Taipei First Girls' High School  
1993 - 1996 Jie-Shou Mittelschule, Taipei  
1987 - 1993 Ming-Sheng Volksschule, Taipei

## Berufserfahrung

04.- 06. 2002 Übersetzerin für wissenschaftliche Arbeiten (Chinesisch-Englisch) bei Professor Tung-Wu Lu, am Institute of Biomedical Engineering an der National Taiwan University

## Sprachkenntnisse

Deutsch Fließend in Wort und Schrift  
Englisch Fließend in Wort und Schrift  
Französisch Grundkenntnisse  
Chinesisch Muttersprache