FUNCTIONAL PROJECTIONS IN CHILD SECOND LANGUAGE ACQUISITION OF FRENCH

by

Nathalie D. Grondin

Linguistics Department
McGill University, Montreal

July 1992

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment of the requirements of the degree of Master's of Arts.

Thesis Supervisor: Dr. Lydia White
Title: Professor of Linguistics

Acknowledgements

Thanks foremost to my thesis supervisor, Lydia White, for her guidance and her unfailing availability. Special thanks to Patsy Lightbown for kindly making her data available to me. Throughout the last year, I have had the chance to benefit from the advice or assistance of Marc Authier, Christine Tellier and Daniel Valois. I thank them all.

I would like to thank the Linguistics Department at McGill University, and in particular, Nicole Domingue for her cheerfulness and her support.

I am grateful for support from the following research grant: FCAR Team grant #91-ER-0578.

J'aimerais aussi remercier mes collègues et amies, Sonja et Orly, avec qui j'ai partagé les bons et les moins bons moments. Merci également à ma chère amie Sylvie, qui a su rendre mon séjour à Montréal des plus agréables.

Un merci tout spécial à mes parents et ma soeur pour leur patience et leur appui. Sans vous je n'aurais pu mener à terme ce grand projet. A mes grands-parents, un gros merci pour vos gâteries et votre encouragement.

Merci à toi cher Carsten, pour ton soutien quotidien qui m'a valu beaucoup, et pour nos belles escapades qui m'ont redonné de l'énergie.

Enfin, je voudrais dédier mon mémoire à ma chère tante Suzanne que je n'oublie pas et qui continue de m'inspirer.

Abstract

Recently, there has been growing interest in the status of functional projections (i.e. the determiner phrase (DP), the inflectional phrase (IP), and the complementizer phrase (CP)) in first language (L1) development.

The purpose of this study of child second language (L2) acquisition was to determine the status of functional projections in the first months of L2 development. Data from two child subjects (with English as their L1) acquiring French as an L2 were examined for evidence of DP, IP and CP. The results show that all functional projections are present in the grammar from the earliest months of child L2 development. The implications of this finding for L1 and L2 acquisition theories are discussed.

Résumé

Un intérêt croissant sur l'état des projections fonctionnelles (le noeud déterminant (DP), le noeud flexion (IP) et le noeud complémenteur (CP)) lors des premiers stades de l'acquisition de la langue maternelle a surgi depuis peu.

Le but de la présente étude sur l'acquisition d'une langue seconde chez les enfants fut de déterminer l'état des projections fonctionnelles au cours des premiers mois d'acquisition de la L2. Des données provenant de deux enfants anglophones apprenant le français langue seconde furent analysées, afin d'attester la présence de DP, IP et CP. Les résultats de l'analyse démontrent que tout s les projections fonctionnelles sont présentes dans la grammaire dès les premiers mois d'acquisition de la L2. Les conséquences de cette conclusion pour les théories de l'acquisition de la langue maternelle et de la langue seconde sont examinées.

CONTENTS

Chapter 1
Properties of Lexical and Functional Categories

1.0 Introduction

In current linguistic theory, the syntactic elements of a sentence are classified into two types: lexical and functional (Abney 1987). The major lexical categories are nouns, verbs, adjectives, and prepositions. Functional categories consist of determiners, inflection, and complementizers. Some examples of lexical categories are listed in (1), while examples of functional categories are given in (2):

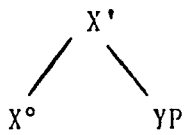
(1) NOUNS : apple, man, book
VERBS : eat, walk, read
ADJECTIVES : red, tall, dull
PREPOSITIONS: into, at, from

(2) DETERMINERS : a, the, some
INFLECTION : will, can, -s (3 p.s. present tense)
COMPLEMENTIZERS: that, whether, for

According to X-bar theory (Chomsky 1970), all categories can project full phrases. Categories of the level X°, or 'heads', can be expanded into an X' with the addition of a complement.

In English and French the internal argument appears to the right of the head, as illustrated in (3), where X° is the head and YP is the internal argument:

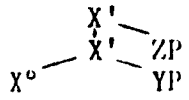
(3)



The X' can be expanded into another X' with the addition of

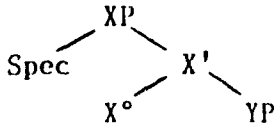
an adjunct modifier. The syntactic configuration is like that in (4) below:

(4)



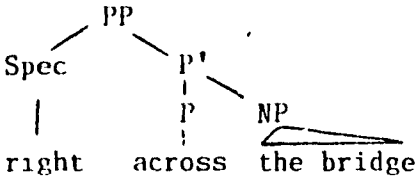
Ultimately, the topmost X' can combine with a specifier and project an X'' (or XP), i.e. a full phrase:

(5)



We will give an example of this expansion using a preposition (example taken from Haegeman 1991;94):

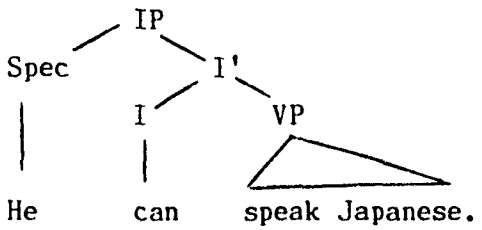
(6) right across the bridge



In (6), the preposition 'across' is combined with the nominal complement 'the bridge' to form a P'. The addition of the adverbial specifier 'right' expands the construction into a complete prepositional phrase.

Similarly, functional categories can project an X' by combining with a complement. The presence of a specifier transforms the construction into a full functional phrase (XP). The following example shows the structure of an inflectional phrase, which takes a verb phrase as its complement, and a subject noun phrase as its specifier:

(7) He can speak Japanese.



Let us examine some of the respective properties of lexical and functional categories.

1.1 Lexical Categories

An important property of lexical categories is that they are 'thematic', i.e. they directly contribute to the meaning of an utterance by either receiving or assigning thematic roles.

Most verbs and some prepositions and adjectives can assign a thematic role such as AGENT, THEME, GOAL to noun complements. A consequence of this property is that lexical categories and their projections cannot be base-generated empty[1]; minimally, the head of the lexical projection must be filled in the underlying structure of a sentence.

Next, we turn to the properties of functional categories.

1.2 Functional Categories

Radford (1990;53, citing Abney 1987) lists the properties of functional categories, namely determiners, inflection and complementizers:

(8) Functional elements constitute closed classes.

Functional elements are generally phonologically and morphologically dependent. They are generally stressless, often clitics or affixes, and sometimes even phonologically null.

Functional elements permit only one complement, which is in general not an argument. The arguments are CP, PP, and DP. Functional elements select IP, VP, NP.

> Functional elements are usually inseparable from their complement.
>
> Functional elements lack descriptive content. Their semantic contribution is second-order, regulating or contributing to the interpretation of their complement. They mark grammatical or relational features, rather than picking out a class of objects.

Given these characteristics, it can be said that functional categories are nonthematic, i.e. they do not assign semantic roles to their specifiers or their complements. Consequently, the specifier and the head position of a functional projection can be base-generated empty, leaving the two positions available as landing sites for movement by substitution.

It would seem then that functional categories are not as salient as lexical categories in the grammar since they do not necessarily contain any lexical material. In the following section, we will identify a number of constructions which provide evidence for the presence of functional categories.

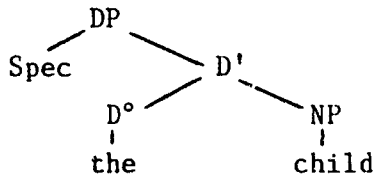
1.3 Evidence for the Presence of Functional Categories

Functional categories and their projections can be observed in the grammar through the presence of base generated functional categories, through the movement of certain elements to the available functional positions, as well as through morphological markings on verbs and pronouns. In what follows, we will present some evidence for the presence of functional categories in English.

1.3.1 Base-Generated Elements

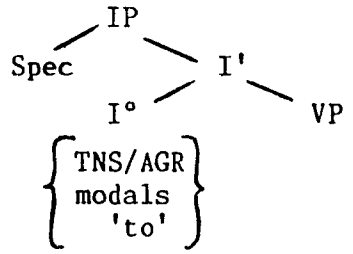
The head of DP is filled by a determiner (Abney 1987), as follows:

(9)



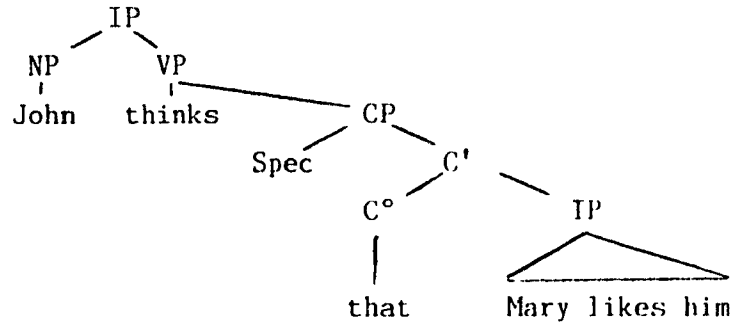
The inflectional head contains tense and agreement features, modals and the infinitival particle 'to', as shown in (10):

(10)



As for the head of CP, it is filled by complementizers such as 'that', 'whether', 'if', when it introduces an embedded clause, as shown in (11):

(11)



Functional heads can also be empty underlyingly, and filled by the movement of lexical heads. Section 1.3.2 examines movement to available functional positions.

1.3.2 Movement

There are two types of movement in the grammar, namely 'head to head' movement and 'XP to Specifier position' movement (Chomsky 1982). Therefore, the empty functional positions can be filled by

the movement of a lexical category or a lexical phrase. Movement of a lexical phrase to an empty functional specifier position is often triggered by the Case Filter.

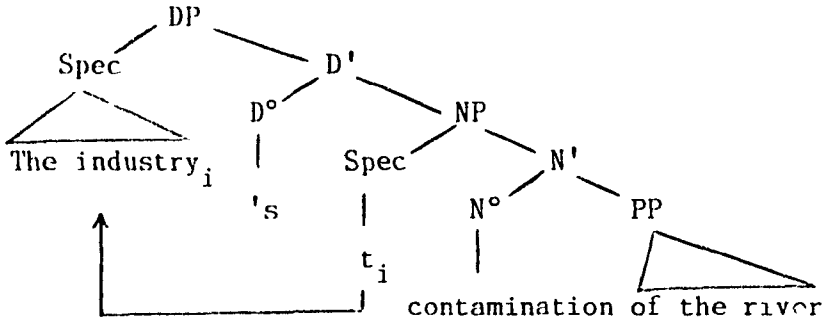
The Case Filter requires that noun phrases be marked for case. Case theory encodes the relationships among elements in a syntactic structure. We will adopt the following formulation of the Case Filter, taken from Haegeman (1991; 180):

(12) Case Filter

Every overt NP must be assigned abstract case.

The specifier of the determiner phrase can serve as a landing site for movement, as in (13) below, where the NP 'the industry' moves to the specifier position of DP to receive genitive case:

(13)

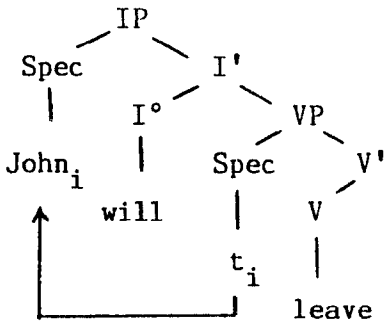


In (13), the subject (or agent) of 'contamination' is the NP 'the industry'; the theta-role assignment occurs in the underlying position of 'the industry', in the specifier position of the NP. Then, in order to satisfy the Case Filter, movement of 'the industry' to the specifier position of the DP takes place. The head 'D' containing the genitive morpheme can assign genitive case to the noun phrase, through specifier-head agreement.

Another example of 'XP to Spec' movement can be found in an analysis by Sportiche (1988a), who proposes that subject noun phrases are generated in the specifier position of the verb phrase, and then move to the specifier of the inflectional phrase, which was underlyingly empty. The movement occurs in order for the subject

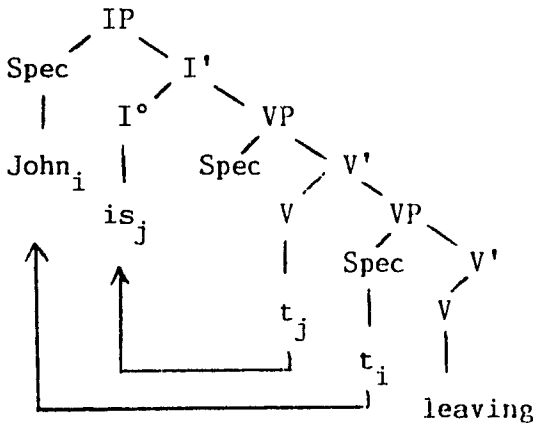
to receive nominative case from [+tense] inflection. This analysis of subjects is known as the "VP-Internal Subject" hypothesis. An example illustrating this proposal is given in (14), where the subject 'John' moves out of the VP to the specifier of IP:

(14)



An example of 'head to head' movement is the movement of the verb to the head of inflection, known as V to I movement (Chomsky 1982). In English, in finite (tensed) clauses, only the auxiliary verbs 'have' and 'be' move out of the verb phrase into the head of inflection to pick up tense and agreement features, as shown in (15):

(15)



We have evidence that these auxiliary verbs move to I° by looking at the placement of a negation element. As a rule, the negation particle occurs between the head of inflection and the verb phrase. So, if the negation particle is found after the verb, then we can assume that the verb has moved to I°. Radford (1988:405) gives two examples, where we see that the forms of 'have' and 'be' have raised

past the negative particle 'not':

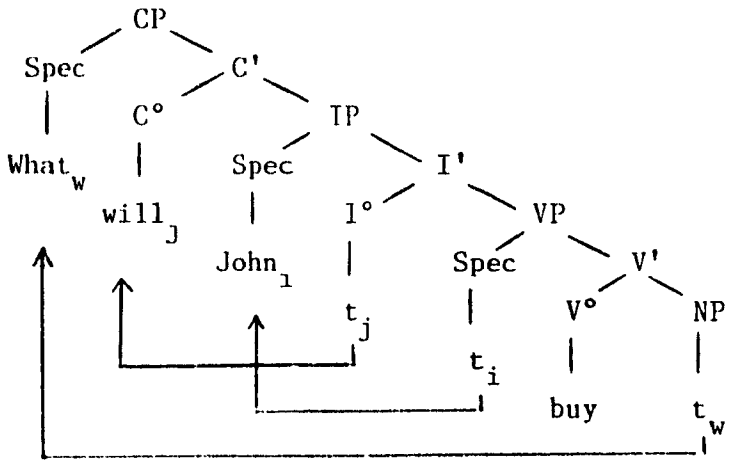
(16) He has not finished.
He is not working.

In the case of main verbs in English, the tense and agreement affixes lower onto the verb. This is referred to as 'affix hopping' or 'affix movement' (Chomsky 1981d).

Movement of a lexical category and a lexical projection can also occur to positions under the complementizer phrase. To form a question in English, wh-words like WHO, WHEN, WHERE move into the specifier position of the complementizer phrase. Therefore, the specifier position of the complementizer phrase must be base-generated empty. Furthermore, the elements under I°, like modals and auxiliaries, must move to C° in a question.

In (17), the wh-word WHAT located in the complement position of the verb phrase climbs to the specifier position of the complementizer phrase by Wh-movement, and the modal 'will' moves out of I° to C°:

(17)



To summarize this section, we have seen that since functional projections can be base-generated empty, lexical categories and lexical phrases sometimes move to the available functional head or specifier position. Movement thus can be used to provide evidence for the presence of functional categories.

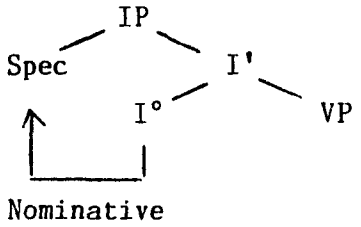
We will now consider another type of evidence for the existence of functional elements: morphological markings.

1.3.3 Morphological Markings

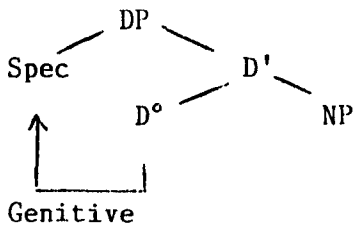
When the head of the inflectional phrase is specified for tense and agreement features, these features can be realised on the verb as inflectional affixes. Such morphological markings in English are 'poor', since only the third person singular is marked in regular present forms (ex: he sings). The other persons do not bear overt tense and agreement markings (ex: I sing, They sing).

As stated previously, functional categories such as I° and D° are responsible for case assignment. The heads I° and D° assign case to their specifier position, when they contain the relevant features. This structural relationship is referred to as 'Spec-Head Agreement' and is shown below, in (18) and (19) (IP structure borrowed from Labelle and Hirschbuhler (1991;178); DP structure taken from Abney (1987):

(18)



(19)



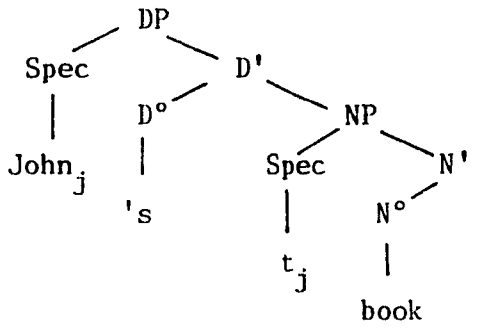
Grammatical case can manifest itself in the form of morphological affixes on nouns and adjectives. With respect to English and French, the two languages relevant in this study, overt case markings on nouns are quite scarce. However, English has case distinction on

pronouns, which can be marked for nominative, accusative, and genitive case.

As we discussed previously, the subject pronoun is assigned nominative case by [+tense] inflection. The object pronoun receives accusative case from the verb. The possessive pronoun receives genitive case from D°.

The other overt case marking in English is found in possessive constructions, where the possessive marker 's' appears on the possessor nominal. An example of a possessive structure is shown in (20):

(20) John's book



In summary, overt case markings in English are restricted to pronominals and possessives.

The next section deals with the properties of functional projections in French.

1.4 Functional Projections in French

1.4.1 Syntactic Aspects

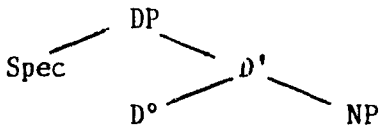
The Determiner Phrase

In section 1.3 above, we showed that functional phrases can be projected without being filled at an underlying level of representation. This leaves some positions available as landing sites

for movement.

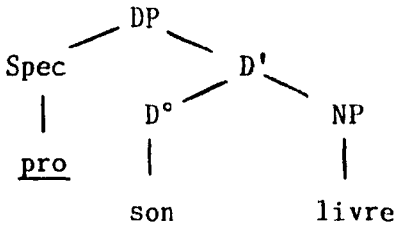
However, it would seem that the positions of the determiner phrase in French are not filled by movement of visible elements. The head D° contains determiners which are base generated in that position (Abney 1987). We will adopt the following simplified structure for the French DP:

(21)



As for the specifier position, Authier (1992) suggests that it is filled by pro (a null element) in possessive constructions. The structure of such constructions would be as shown in (22):

(22) son livre
'his book'



Therefore, the only visible elements in the determiner phrase in French are found under D°, and they are determiners and possessive pronouns.

The Inflectional Phrase

Both the specifier and the head positions of the inflectional phrase in French are base-generated empty and then filled by the movement of constituents to the available positions.

Firstly we will deal with the movement of a head verb to the inflectional head position. Secondly, we will consider the issue of subject and object clitics in French. And finally, we will provide examples of movement of a noun phrase to the specifier position of

IP.

All verbs in French originate under the verb node, but subsequently move under the inflection node, when the inflectional phrase contains the feature [+tense] (Emonds 1976, Pollock 1989). Recall that English doesn't allow for the movement of main verbs to INFL. Rather, inflectional affixes are said to lower onto the verb.

This difference between English and French results in a series of contrasts, regarding the position of the verb with respect to negation, adverbs, and quantifiers, as well as its position in interrogative constructions (Pollock 1989).

The contrasts are illustrated in (22), where we can see that in English the main verb appears to the right of the negation, the adverb and quantifier, while in French the verb appears to the left of the same elements. Furthermore, in French, but not in English, the main verb can move through I° to the C° position in interrogative structures:

(23) NEGATION
John does **not** like fish.
Jean n'aime **pas** le poisson.

ADVERBS
Mark **often** eats chocolate.
Marc mange **souvent** du chocolat.

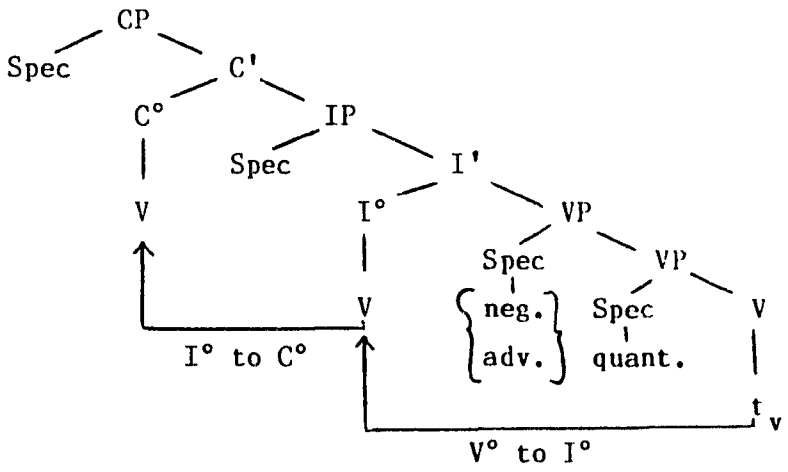
QUANTIFIERS
The children **all** go to school.
Les enfants vont **tous** à l'école.

INTERROGATIVES
Does he **play** hockey?
Joue-t-il au hockey?

We will adopt the following tree structure to represent the

position of the verb in relation to negation, adverbs, and quantifiers, taken from Labelle and Hirschbuhler (1991):

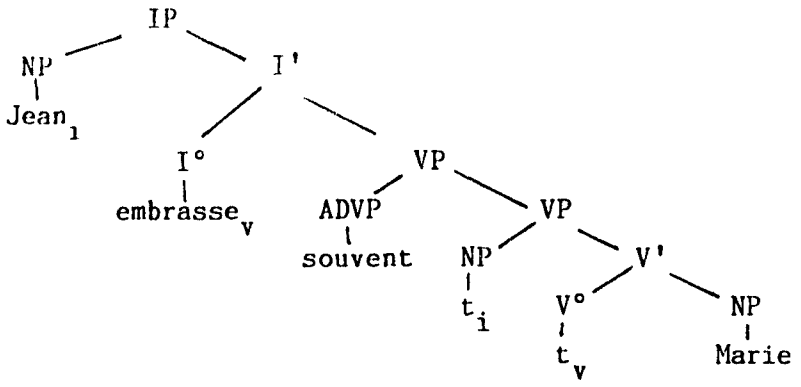
(24)



In (24), we show that there is an adjoined position to the verb phrase, to accomodate negation and adverbial elements. Quantifiers originate in the non adjoined specifier of the VP along with the external argument of the verb, following Sportiche (1988a). The verb appears under I° in declarative utterances, and moves up to C° in questions.

The specifier position of IP also serves as a landing site for movement. Under the 'VP-Internal Subject Hypothesis' (Sportiche 1988a), all arguments of the verb, including the external argument (the subject), are generated under VP. The subject is generated under the specifier position of the verb phrase where it receives its theta role. In order for the utterance to be grammatical, the subject moves to the specifier position of IP, to receive nominative case, thereby satisfying the Case Filter. This movement is shown in (25):

(25)



In conclusion, the head of IP in French is filled by the movement of the finite verb. This movement of the verb is apparent by its position relative to negation, adverbs and quantifiers. The specifier of IP is filled by the movement of the external argument of the verb.

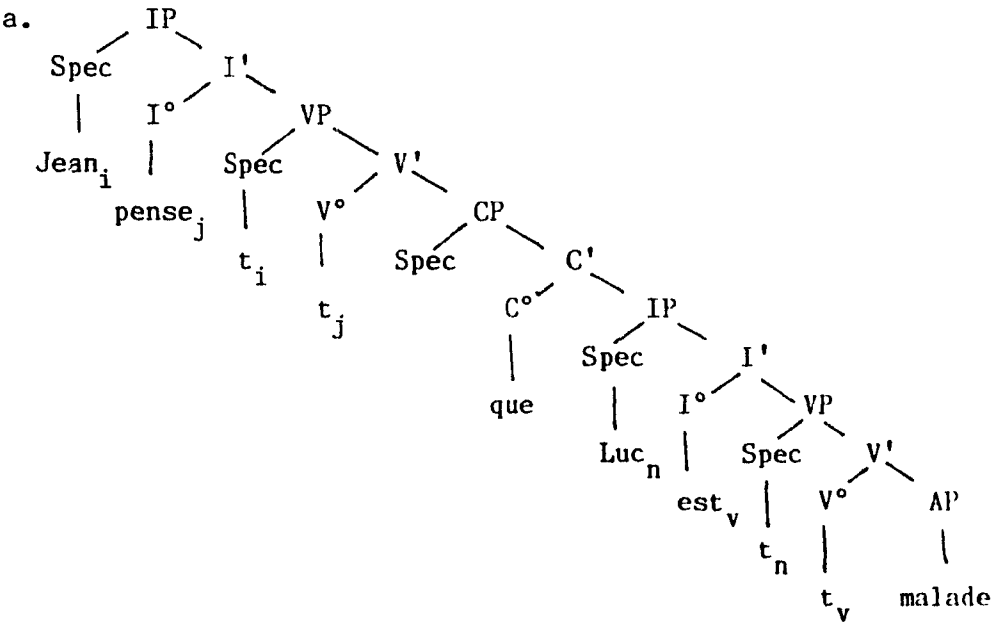
The Complementizer Phrase

The head of the French complementizer phrase can be filled by complementizers such as 'que' (that) when it introduces a [+finite] embedded clause, and by an infinitival marker 'de' (to) when the embedded clause in [-finite]. Examples of finite and non finite embedded clauses, taken from Labelle and Hirschbuhler (1991;242;225), are given in (26a-b). Their respective structures are provided in (27a-b):

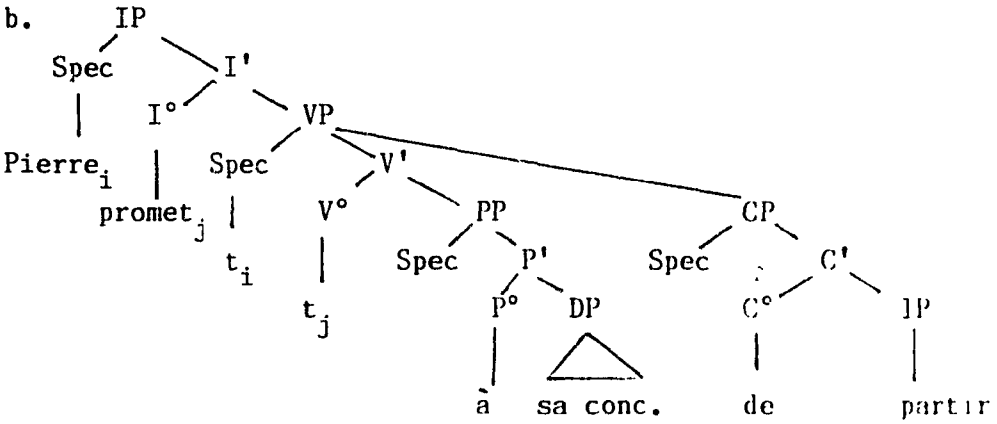
(26) a. Jean pense que Luc est malade. [+finite]
'John thinks that Luc is ill.'

b. Pierre promet à sa concierge de partir. [-finite]
'Pierre promises his landlord to leave.'

(27) a.



b.

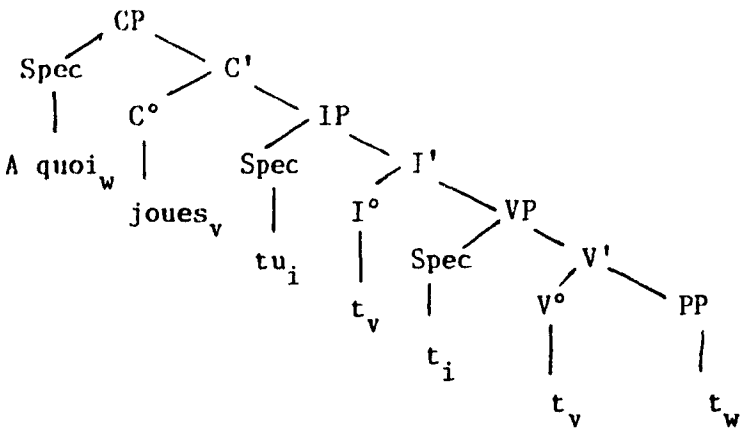


The head position of the complementizer phrase can also serve as a landing site for the verb in interrogative constructions, as was shown in the section on the inflectional phrase. The movement of the verb to C° is not obligatory when formulating questions in spoken French.

Finally, the specifier position of CP can be filled by the movement of wh-words in interrogative constructions. It should be noted that this movement is not obligatory in spoken French. An example of wh-movement (with movement of the verb to C°) is shown in (28):

(28) A quoi joues-tu?

'What are you playing?



Overall, the head position of CP can be filled underlyingly by complementizers and the infinitival particle 'de', or by the movement of the verb in interrogative constructions. Moreover, the specifier position can be filled by moved Wh-words.

1.4.1 Morphological Aspects

The presence of a determiner phrase or a complementizer phrase in the grammar of French has no morphological consequences. We will therefore turn directly to the inflectional phrase.

The Inflectional Phrase (IP)

The inflectional system has certain 'visible' morphological effects in the grammar, namely the presence of verbal endings, and the case marking of pronouns in the subject position. These properties of the French IP will be presented below.

Verbal Endings

The inflectional system is characterized by the presence of tense and agreement features under the head position, I°. These features are potentially realised on verbal elements, depending on

Whereas English has a relatively restricted inflectional system ("-s" to mark tense on the 3 p.s.), French exhibits a somewhat more elaborated inflectional system. The verb inflects for tense and also marks a three-way distinction for person agreement in 'regular' verbs ending in "-er", like aimer (to like), manger (to eat), marcher (to walk), etc. The paradigm is given in (29) below:

(29) 0 -> 1, 2, 3 person singular
3 person plural

[e] -> 2 person plural
infinitival marking
past participle marking
[ɔ̃] -> 1 person plural

Even though French appears to have more distinctions than English, it is not clear that these are actually frequent in the input. Meisel (1990) remarks that the first person plural "nous" (=we) with the ending [ɔ̃] on the verb rarely occurs in colloquial speech. It is replaced by the third person "on" (=one=we) and the null morpheme. This leaves one distinction, between the null morpheme and [e].

But, as shown in (29), the morpheme [e] is ambiguous, with respect to the tense feature. It can mark either the presence of tense (in the case of the 2nd person plural present), or the lack of tense (in the case of the infinitival form).

Therefore, if we search French data for the presence of tense and agreement markings to determine the presence of the functional projection IP, the only evidence could come from the use of two different forms of a verb, i.e one marked for 0 and the other for [e].

Fortunately, French has a series of so-called irregular verbs, like aller (to go), savoir (to know), vouloir (to want). In the case of these particular verbs there is no null morpheme, person or number

agreement are marked overtly. The paradigms are given in (30):

(30) aller :	[vɛ]	1 p.s.	[ale]	2 p.p.
[ale]	[va]	2-3 p.s.	[vɔ̃]	3 p.p.
	[alɔ̃]	1 p.p.		
savoir:	[sɛ]	1-2-3 p.s.	[save]	2 p.p.
[savwar]	[savɔ̃]	1 p.p.	[sav]	3 p.p.
vouloir:	[vø]	1-2-3 p.s.	[vule]	2 p.p.
[vulwar]	[vulɔ̃]	1 p.p.	[vøl]	3 p.p.

The forms in (30) are more reliable indicators of the presence of inflectional markings in the data, given the greater number of distinctions. The verb "aller" is ambiguous with respect to tense, since the 2nd person plural and the infinitive forms are homophonous. But in the case of the other two, "savoir" and "vouloir", there is a clear contrast between [+] and [-] finite specifications.

The following section will address the issue of case marking to the subject position, which is closely linked with the presence of tense features.

Case Marking on the Subject

A consequence of the presence or absence of tense is the case marking of the subject position. The head of the inflectional phrase assigns nominative case to its specifier position, the locus of the subject (after it has moved out of the verb phrase).

Although lexical noun phrases bear case, they are not morphologically marked for case. French distinguishes between nominative, accusative, dative, genitive and locative case on pronominal forms (Labelle and Hirschbuhler 1991;172), which are listed in (31):

(31) **Nominative**	**Accusative**	**Dative**	**Genitive**	**Locative**
je	me	me	-	-
tu	te	te	-	-
il/elle	le/la	lui	en	y
nous	nous	nous	-	-
vous	vous	vous	-	-
ils,elles	les	leur	en	y

As noted in Haegeman (1991;581), subject (nominative) pronouns in French have two forms:

(32) Strong	Weak
moi	je
toi	tu
lui/elle	il/elle
nous	nous
vous	vous
eux/elles	ils/elles

The strong forms do not bear overt nominative case. They are like full noun phrases. The weak forms are assumed to be marked for nominative case. Evidence for this distinction comes from distributional facts of strong and weak forms. For example, a strong form, but not a weak form, can be conjoined with a full NP (Haegeman 1991;582):

(33) a.*Jean et je voulons aller au cinéma.
'Jean and I want to go to the cinema.'

b. Jean et moi voulons aller au cinéma.
'Jean and I want to go to the cinema.'

It is generally assumed that the pronouns in (31), including the subject pronouns, are clitics, in that they must attach onto an X° to be licensed. There are two approaches to the analysis of

clitics, one which claims they are base-generated in the position they occupy, and the other which assumes they move from an argument position. We will opt for the second approach, because we feel it is most compatible with the framework we have elaborated so far, and particularly with the VP-Internal Subject Hypothesis.

We will adopt a simplified version of Kayne's (1984) analysis, as presented in Haegeman (1991:585). Kayne proposes that subject pronouns cliticize to the verbal element in I°. Specifically, he claims that subject pronouns move to I° at the level of Phonetic Form, and not at a syntactic level of representation.

We should mention that in the dialect of French we are studying (i.e. colloquial Québec French), the subject clitics can appear with lexical subjects as well as 'strong' pronominal forms such as 'moi', 'toi', 'lui'. Examples of these subject doubling constructions are exemplified in (34a-b):

(34) a. Moi j'aime le chocolat.
'Me I like chocolate.'

b. Marc il vient d'arriver.
'Marc he just arrived.'

The examples in (34) should not be seen as examples of left dislocation of lexical or pronominal subjects, because there is no intonational break, and, as Roberge (1990;94) points out, if these were left dislocations, we would expect to find them to the left of a complementizer in a Topic position[2], whereas we find them to the right of the complementizer:

(35) Il a fallu **que** maman elle aille travailler sur la ferme.
'It was necessary that mother she went to work on the farm.'

To conclude this section on morphological markings, we have noted that French verbs inflect for tense and agreement (which features are generated under I°) and that irregular verbs are especially rich

in the number of distinctions they exhibit. In finite clauses, the head of the inflectional phrase discharges nominative case on the subject. Nominative case is visible when the subject is pronominal (weak forms). Weak pronominal subjects are clitics which attach to I° at Phonetic Form.

1.5 Summary

Functional projections are non thematic, which allows them to be base generated empty and filled by the movement of lexical elements.

In English, the head position D° is filled underlyingly by determiners, the head I° by modals, tense features, and the infinitival marker 'to', and the head C° is filled by complementizers. The heads of IP and CP can also be filled by the movement of an auxiliary to I° and of an auxiliary or modal to C°. The specifier position of DP can be filled by the movement of a possessor nominal, the specifier of IP by a subject nominal, and the specifier of CP by Wh-elements.

In French, the head of D° contains determiners and possessive pronouns; the head of IP harbors tense features; and C° is filled by complementizers and the infinitival marker 'de'. The verb moves into I° when it is specified for [+tense]. From its position in I°, the verb can move up to C° in interrogative constructions. The specifier of IP can be the landing site for the subject moving from the specifier position of VP. Subject clitics lower onto I° at Phonetic Form. The specifier of CP is filled by moved Wh-words.

In chapter 2, we will provide an overview of studies dealing with the status of functional projections in first and second language acquisition.

--NOTES-- (Chapter 1)

1. By empty, we mean neither filled by lexical elements nor by null pronouns of the type PRO or pro.

2. We assume that the Topic Position is higher than CP.

Chapter 2
The Acquisition of Functional Projections

2.0 Introduction

This chapter will discuss previous research which has focused on the status of functional projections in first and second language acquisition. A variety of studies have led to different conclusions. Some researchers (like Radford 1990, Platzack 1990, Clahsen 1989, Vainikka and Young-Scholten 1991) claim that functional projections are missing from the early stages of grammatical development, and others maintain that functional projections are part of the grammar at the onset of acquisition (Pierce 1989, Whitman et al. 1990, Lakshmanan 1991). Among those who claim that functional projections are absent in early L1 acquisition, some (Radford 1990, Guilfoyle and Noonan 1988) have proposed that the delay is caused by a maturational phenomenon (the Maturational Hypothesis). Others, like Clahsen 1989, reject the maturational account in favour of a process of continuous grammatical development, where the delay in emergence of functional projections is due to other properties of the acquisitional process (the Continuity Hypothesis).

In the case of L2 acquisition, a delay in the emergence of functional projections (as reported by Vainikka and Young-Scholten 1991) could not be attributed to maturational factors, simply because maturation can only occur once within the same individual. Other explanations are put forward. Those who have observed that functional projections are part of the grammar at the onset (Pierce 1989 for L1, and Lakshmanan 1991 for L2) share the view that the principles guiding a developing grammar are continuous or unchanging.

In the first section of this chapter, we will review work on the status of functional projections in early L1 grammars, starting with a study on early child English conducted by Radford (1990). His work will be presented in considerable detail, given that it will serve as a model to analyse the data for this thesis.

In section 2.2, we will consider research on early child Swedish

from Platzack (1990), who finds that functional projections are slow to emerge in the L1 grammar.

Whitman et al. (1990) offer another interpretation of the L1 data and propose an analysis where functional projections are present from the start. Their work will be presented in section 2.3.

In section 2.4, we will examine research by Pierce (1989) reporting that the functional projection IP is present in the L1 grammar of French at early stages of acquisition.

In 2.5 and 2.6, we will review papers on the status of functional projections in L2 acquisition by Vainikka and Young-Scholten (1991) who report the absence of functional projections in early adult L2 German, and by Lakshmanan (1991), who observes that the functional projection IP and the Case system are operative in early child L2 acquisition of English.

To conclude, we will discuss some of the problems facing the above studies. We will consider how this thesis on the status of functional projections in child French as a second language can contribute to current research.

2.1 Functional Projections in Early Child English

Radford (1990) claims that children acquiring English as a first language pass through 3 stages of grammatical development: a pre-lexical stage, (usually beginning at age 1;3) during which child utterances comprise single words spoken in isolation and devoid of syntactic properties; a lexical stage (usually between the ages of 20 to 23 months) during which they acquire only the system of lexical categories and not that of functional categories; and a functional stage (starting at 24 months) during which they begin to acquire functional categories.

2.1.1 Lexical Projections in Early Child English

On the basis of spontaneous production data from several children, Radford proposes that the system of syntactic categories

in early child grammars of English is strictly lexical in nature. The categorial projections which develop first are noun phrases, verb phrases, prepositional phrases and adjectival phrases, all of which are classified as lexical projections. Radford predicts that at the earliest stages of acquisition, the grammar should lack functional projections like determiner phrases, inflectional phrases and complementizer phrases.

Because the principles of syntactic projection (see chapter 1, section 1.0) follow from Universal Grammar, Radford assumes that the presence of the four categories (nouns, verbs, prepositions and adjectives) in the data is sufficient evidence to say that children know how to project heads into full phrases.

He reports that children have the capacity to project N into N', by combining a head noun and a complement, as in the examples below (taken from Radford 1990:62):

(1) bottle juice (=a bottle of juice, Lucy 20)
cup tea ready (=the cup of tea is ready, John 22)

The children can also expand an N' into another N', by adding an adjunct (Radford 1990:63):

(2) fat one (=the fat one, Lucy 20)
bad boy (=a bad boy, John 22)

Expansion of an N' into a full phrase is also found in the children's data, in the form of a noun preceded by a possessive element, which Radford assumes to be a specifier (Radford 1990:69):

(3) teddy colour (=the teddy's colour, Lucy 24)
Jem chair (=Jem's chair, Jem 21)

The evidence presented above shows that children, at a very early stage, have developed the capacity to project a full nominal phrasal structure.

Radford provides parallel evidence for the acquisition of verb phrases. Children seem to know how to project a V into a V', as shown below:

(4) want crayons (=I want crayons, Jem 21)
turn page (=turn the page, Hayley 20)

Not only can the children project a V' by adding a complement, but they can also project another V' by adding a verbal adjunct, such as 'more' and 'no(t)':

(5) Gia [more read book] (=Gia will read the book longer, Gia 20)
Kathryn [no fix this] (=Kathryn will not fix this, Kathryn 22)

Assuming that subjects are generated in the specifier position of the verb phrase, the presence of subjects in child utterances shows that they can expand a V' into a full phrase:

(6) Hayley draw boat (=Hayley is drawing a boat, Hayley 20)
machine make noise (=the machine is making noise, Kathryn 21)

Just as there is evidence for the presence of noun and verb phrases, Radford gives examples of utterances which count as evidence for the presence of prepositional phrases. Children can project a P' by combining a P with a complement, as illustrated below:

(7) in water (=in the water, Hayley 20)
without shoe (=without a shoe, Jem 23)

Radford finds a few examples of prepositional adjuncts, as shown in (8):

(8) right down (Eve 18)
Her go [back in] (=she is going back in, Jem 23)

Again assuming that subjects appear in the specifier position of phrases, Radford proposes that examples like those in (9) are equivalent to prepositional 'clauses'. The noun phrase preceding the preposition is taken to be in the specifier position of the PP:

(9) mouse in window (=there is a mouse in the window, Hayley 20)
Mummy away (=mummy is away, Jem 21)

Finally, Radford provides examples of adjectival projections. He reports that sequences of adjective+complement are almost non existent, because the first adjectives learned by children do not take complements (for example, big, small, good, bad, red, etc.).

However, children can project an A' by combining an adjunct and an adjective, as illustrated below:

(10) very good (Paula 23)
Sausage [bit hot] (Jem 23)

Radford assumes that the following examples given in (11) have a clause-like structure where the noun phrase is the specifier of the adjectival phrase:

(11) Lisa naughty (=Lisa is naughty, Hayley 20)
Mommy busy (=Mommy is busy, Kathryn 21)

Therefore, Radford concludes that children who are in the early stages of acquiring English begin with a full set of lexical categories, as well as their single-bar and double-bar projections.

Having established that children master the lexical category systems, Radford proceeds to show that there are no functional category systems in early child English.

Absence of a Determiner System

Radford first tests his proposal by looking at the structure of the earliest nominal constituents produced by children acquiring

English as an L1.

According to the assumption that functional categories are absent, the earliest nominals should lack a determiner system. In other words, the children should produce simple lexical noun phrases where adults would produce determiner phrases.

Radford cites a number of such examples, where children use indeterminate nominals (noun phrases lacking determiners). Two examples are given below (Radford 1990:83):

(12) Read book (=read the book, Lucy 20)
Bang bottom (=bang the bottom, Jem 21)

The absence of a determiner system also appears in children's responses to what-questions (Radford 1990:84):

(13) Adult: What are you doing with the brush?
Child: Butterfly (Lucy 20)

Adult: What's this that mummy's drawing?
Child: High mountain (Jem 21)

The same pattern of indeterminate nominals shows up in imitation sequences. The assumption is that children consistently imitate only those items which they have mastered. Where an adult uses a determiner phrase, children imitate the sequence as a simple noun phrase without a determiner. The following examples suggest that the children have not acquired a D-system yet (Radford 1990:85):

(14) Adult: That's a cup.
Child: Cup. (Lucy 20)

Adult: Did you drop your tea?
Child: Drop tea. (Stefan 17)

Another source of evidence for the absence of a determiner system

is the possessive structure marked with the morpheme 's'. This morpheme has been analysed as a head determiner (Abney 1987). Children do not attach it to possessor nominals, as exemplified in (15) (Radford 1990:88):

(15) Teddy colour (=Teddy's colour, Lucy 24)
Mummy box (=Mummy's box, Jem 21)

In adult English possessor nominals originate in the specifier position of the noun phrase and move into the specifier position of the determiner phrase to receive case (see chap.1). Possessor nominals in early child English remain in the specifier position of the noun phrase.

If case is an inherent property of the determiner phrase, the case system should not operate in child grammars until the determiner system has been internalized. Consequently Radford suggests that nominals in adult English are case-marked determiner phrases, while those of early child English are caseless noun phrases.

Some evidence for this claim comes from the following examples, where children fail to use the case-marking preposition 'of' before a noun complement (Radford 1990:91):

(16) Bottle juice (=a bottle of juice, Lucy 20)
Have drink orange (=have a drink of orange, Jem 21)

In (16), the fact that the nouns 'juice' and 'orange' do not receive case reflects the lack of an operative case system in early child English.

As another means of investigating the status of a determiner system and case system, Radford searched the data for personal pronouns. There are two motives for considering personal pronouns. The first is that they have been analysed as pronominal determiners (Abney 1987), and should be absent from the data in the first stages of grammatical development if functional categories emerge late. The second motivation is the fact that, in adult English, personal

pronouns inflect for case (see chap.1). If there is no case system in early child grammars, we would expect children to omit pronouns, to use uninflected forms, or to make errors by using pronouns marked for the wrong case.

Some data reported by Radford (1990:96) show that children use nominals in self-reference, where adults would use pronominals:

(17) Jem draw (= I draw, Jem 21)
Kathryn like celery (= I like celery, Kathryn 22)

Children also use nominals to refer to addressees (Radford 1990:96):

(18) Mommy sit down (=You sit down, Jem 23)
Mommy push (=You push, Kathryn 21)

Furthermore, if children use pronominals at all, we would expect them to use uninflected forms, which would presumably be classified as lexical forms in early grammars. This prediction is borne out, as shown below (Radford 1990:102):

(19) Catch it (Lucy 20)
Looka that (Claire 24)

The pronouns 'it'/'that' are not marked for case, and they are in noun phrase positions, suggesting that they are analysed as nominal proforms (not determiner proforms).

To sum up this section, Radford has found that early child grammars of English show no evidence for the productive use of determiners. Articles, genitive 's', and case-marked pronouns are absent from the data.

Absence of an Inflection System

If early child grammars lack functional categories, the inflection system should be missing. What will be the child's

counterpart of the adult inflectional phrase? Radford proposes that the verb phrase alone will appear in contexts where the adult grammar requires an IP.

Furthermore, in adult structures, the subject of a clause originates inside the verb phrase, where it is assigned a semantic role. Then the subject is forced to move into the specifier position of the inflectional phrase to receive nominative case (see chap.1).

The absence of an inflection system leads us to predict that the nominative case assignment will not be operative in early child grammars. Radford (1990;175) lists examples in which children use objective pronouns where adults would use nominative pronouns:

(20) Me ask him (=I will ask him, Daniel 21)
Her do that (=she will do that, Hayley 20)

Another prediction is that elements generated in the head position of IP will be missing from the data. Some of these items are the infinitival marker 'to', the modals like 'will' and 'could', as well as the tense and agreement features of finite verbs.

Radford gives examples of child constructions with the verb 'want', where the marker 'to' is not present in the infinitival complement (Radford 1990:140):

(21) Want [mummy come] (=mummy <u>to</u> come, Jem 21)
Want [do it] (=<u>to</u> do it, Daniel 19)

The absence of modals is also typical of the early child grammars, as shown in the examples below (Radford 1990:142):

(22) Pig go in (=pig <u>will</u> go in, Claire 23)
Mummy cry (=Mummy <u>will</u> cry, Jem 23)

Even in imitation sequences, the same pattern emerges. Children omit modals systematically (Radford 1990:142):
(23) Adult: Mommy won't fit in the refrigerator.

Child: Mommy fit refrigerator (Claire 24-25)

The head of inflection is the locus of the tense and agreement properties, therefore we should expect to find that children do not master the tense/agreement markings on finite verbs. As shown below, the earliest verb clauses contain head verbs which are either uninflected, or in the form of the gerund in '-ing' or the participle in '-n' (Radford 1990:148):

(24) Lady do (=lady does, Jem 21)
Wayne not eating it (=Wayne is not eating it, Daniel 23)
That broken (=that is broken, Claire 23)

In response to adult questions where the verb is inflected for tense and agreement, children use uninflected forms (Radford 1990:149):

(25) Adult: What did you draw?
Child: Hayley draw boat (Hayley 20)

Adult: What does Ashley do?
Child: Ashley do pee (Jem 23)

In adult negative constructions, a 'dummy' auxiliary 'do' is required to pick up the tense and agreement features located in the head of the inflection system:

(26) They <u>did</u> not go to the party.

Young children do not seem to be aware of this requirement. They produce negative utterances by placing a negative particle in front of the predicate phrase without using 'do' (Radford 1990:152):

(27) Wayne not eat it (=Wayne <u>did</u> not eat it, Daniel 23)
Kathryn not go over here (=<u>did</u> not go over here, Kathryn 24)
The utterances in (27) do not contain the auxiliary 'do' or

any other auxiliary. They could be analysed as lexical verb phrases rather than functional inflectional phrases.

In adult structures such as the one in (28) below, the copula 'be' functions as a 'dummy' verb bearing the tense and agreement features in I, but it has no semantic content, and can be omited in a small clause as in (29):

(28) My mother is very tired.
(29) I have never seen [my mother so tired].
sc

If Radford is right in supposing that early grammars lack the I-system, then children should omit the copula 'be'. Examples below show that children produce verbless sentences where adults would use the copula (Radford 1990:156):

(30) Wayne naughty (=Wayne <u>is</u> naughty, Daniel 21)
Sausage bit hot (=the sausage <u>is</u> a bit hot, Jem 23)

In addition to the copular use of 'be', this verb is used in adult progressive constructions as in (31), and has no obvious semantic content. Progressive 'be' can be omitted in small clause structures (32):

(31) You are eating chocolate.
(32) I don't want [you eating chocolate].
sc

Children are expected to omit progressive 'be' in their production of progressive structures. This prediction is supported by the following examples (Radford 1990:159):

(33) Bee going window (=the bee <u>is</u> going, Daniel 21)
Her bringing me more (=she <u>is</u> bringing, Jem 23)

Along the same lines, if children have not acquired the

progressive auxiliary 'be', they should not have acquired perfective auxiliary 'have' of adult inflectional phrase constructions like (34):

(34) He has eaten all the chocolate.

As predicted, children do not make use of 'have' in perfective structures, as shown in the examples below (Radford 1990:161):

(35) Dewi gone (=Dewi has gone, Daniel 19)
Mummy thrown it (=Mummy has thrown it, Jem 23)

However, children do use the verb 'have' in the possessive sense (Radford 1990:162):

(36) Have money (=I have money, Daniel 18)
Jem have it (=Jem has it, Jem 23)

The contrast in the use of 'have' can be explained by the fact that the perfective auxiliary 'have' is a functional element whereas the possessive verb 'have' is a lexical element.

Overall, Radford has shown that there is no evidence for the development of an inflection system in early child grammars of English. Children do not mark the subject pronouns for nominative case, and they do not make use of functional elements such as the infinitival marker 'to', the modals, the tense/agreement markings, do-support, the copula 'be', the progressive 'be', and the perfective 'have'.

Absence of a Complementizer System

Having established that early child grammars lack a D-system and an I-system, Radford proceeds to demonstrate that the complementizer system is also missing from the early grammars. He begins by arguing that the structures produced by children are small clauses, which lack a C-system.

Radford presents data which show that child complement clauses have the structure [NP XP] typical of small clauses (with the difference that adult small clauses are formed of the sequence DP XP). Early child complement clauses are never introduced by complementizers. The examples in (37) illustrate prepositional small clause complements (Radford 1990:121):

(37) Want [hat on] (Daniel 19)
Want [top off] (Leigh 24)

Verbal complement clauses are similarly common after the verb 'want', and have the structure of a small clause, as shown in (38) (from Radford 1990:121):

(38) Want [mummy come] (Jem 21)
Want [teddy drink] (Daniel 19)

Given Radford's claim that children's early grammars have no complementizer system, we expect interrogative utterances to lack the fronting of the Wh-elements and the typical subject-auxiliary inversion found in adult speech. The two positions which serve as landing sites for fronted Wh-elements and moved auxiliaries are the specifier and the head positions of CP, respectively. If a grammar has no complementizer phrase, these positions would not be available, ruling out the possibility of movement of Wh-words and auxiliaries. Some examples of questions formulated by children provide evidence for the absence of CP (Radford 1990:123):

(39) Car going? (=where is the car going?, Jem 21)
Doing there? (=what is he doing there?, John 22)

In fact, we see in (39) that the children have omitted Wh-words altogether and there are no auxiliaries, consequently there can be no subject-auxiliary inversion.

Finally, Radford examines his data from the perspective of the children's comprehension of Wh-questions, and he finds that children

are unable to parse clauses introduced by a Wh-element. They reply simply with a filler (ex.:uhm), or they repeat a word or a phrase in the question, as in the following sequences (Radford 1990:130):

(40) Adult: What are they doing with it?
Child: Uhm. (Jenny 24)

Adult: Where is it gone?
Child: Gone. (Elen 20)

The hypothesis that there is no syntactic complementizer system in early child grammars of English has been supported by the lack of complementizers in the child clauses, the absence of preposed auxiliaries and wh-elements, as well as the parsing difficulties with wh-questions.

Explanation For the Absence of Functional Projections

On the basis of the evidence summarized above, Radford claims that "... early child grammars of English are lexical-thematic systems in which thematic argument structures are directly mapped into lexical syntactic structures." (Radford 1990:263).

After reviewing several possible explanations for his findings, Radford comes to the conclusion that maturation is responsible for the delay in the acquisition of functional projections. He claims that the principles which enable the acquisition of functional structures come 'on line' at the age of approximately 24 months.

If Radford is right in proposing that functional projections emerge according to a maturational schedule, then this should be observable universally. All children should go through a stage where functional projections are absent from their grammar. We will now turn to studies of child Swedish and child German to verify whether these studies yield the same results as those obtained by Radford (1990).

2.2 Functional Projections In Early Child Swedish

Platzack (1989) examines the grammar of young Swedish children, who have an M.L.U. (Mean Length of Utterance) ranging from 1.0 to 2.25 words. The ages of the subjects are comparable to Radford's, between 20-42 months.

Adult Swedish differs syntactically from English in that it is a verb second language. The verb second effect requires that the functional projections of inflection and complementizer be available as landing sites for verb movement. Those two functional systems will be the focus of Platzack's investigation.

Platzack examines the utterances of young Swedish children from the perspective that the utterances should be verb phrases without functional categories (no IP and no CP). The determiner phrase is not dealt with.

Assuming that early child Swedish utterances are VP's without functional projections, the data should show the following characteristics: there should be an absence of finite verb forms since the tense property is located in inflection; the verb second effect (V2) of adult Swedish should not be present because it requires both an inflection system and a complementizer system; subordinate clauses should be missing from the data given that such structures are introduced by complementizers; child clauses should lack preposed wh-phrases (located in the specifier position of the complementizer phrase); and expletive subjects should not be found in early child Swedish since expletives are generated in the specifier position of the inflectional phrase.

Platzack tests the hypothesis that functional projections will be missing from early Swedish by examining naturalistic data from 3 Swedish children.

With respect to finiteness, the prediction is borne out: the three children do not make consistent use of finite verb forms (90% correct) until their M.L.U. becomes greater than 2.25.

The predictions that V2 effects and subordinate clauses should not be mastered in early Swedish are supported by the data. Until the children have over 90% correct use of finite forms, they still produce V2 errors and no subordinate clauses. Examples of such V2 errors are given below, where the verb is preceded by more than one constituent:

(41) dar klocka ligge dar
there watch lie there (Freja 3)

Pappa Tor ropa- Klasse
daddy Tor shout - Klasse (name) (Tor)

Preposed wh-phrases are practically non existent in the data: there is a total of 6 cases. Platzack treats them as 'formulaic' utterances. As for the expletive subjects, there is not a single instance of an existential sentence introduced by an expletive element, thus confirming the prediction.

Generally, all the predictions are supported by the data. There is no evidence for the presence of an inflection system or a complementizer system in the grammar of early child Swedish. Platzack's findings suggest that children acquiring Swedish go through a stage without functional categories, just like the English-speaking children in Radford's study.

2.3 Another Analysis of the Data

Whitman et al. (1990) argue against the position taken by Radford (1990), that functional projections are missing in the first stages of L1 development. They claim that child grammars contain functional heads and their projections, but that these projections remain empty at surface structure in early grammars. In other words, the categorial inventory of the child would be equivalent to that of the adult.

On the basis of German, English, and Korean data, they show that the child grammar is likely to contain the same functional projections assumed to be present in the adult grammar. For our

purposes, it will be enough to consider their analysis of German acquisition data.

German is an SOV language, although in matrix clauses the tensed verb has to be in second position, i.e. the verb moves to C° and the subject NP or some other phrase moves to the specifier position of CP. Studies on the acquisition of German word order have shown that early child speech is predominantly verb final, but that occurrences of verb second placement can be found.

If one assumes that there are no functional projections in the early grammar, then there are two ways of explaining the data. Either the child has not set the value for the headedness parameter, yielding two possible word orders, VO and OV. Or, the parameter is set correctly at head final, and there is movement of the complement to the right of the verb. Both accounts are problematic for current syntactic theory, and they do not explain why there is a greater number of verb final patterns.

Furthermore, an analysis without the functional projection IP wrongly predicts that the negation could precede a verb+object sequence (this does not occur in the data) and that the negation coud not come between the verb and the object (which does occur in the data).

On the other hand, if we assume that functional projections are present in the grammar, then the variation in word order results from optional verb movement through I° to C° and the data can be explained.

Whitman et al. (1990;13) conclude that "...a satisfactory analysis of the data requires positing grammatical representations fundamentally identical to the representations proposed by syntacticians for the corresponding adult structures."

2.4 Functional Projections in Early French

Pierce (1989) also argues for the presence of functional projections from the beginning of L1 acquisition. She reports that children acquiring French as a mother tongue show evidence for the

acquisition of the inflection system very early on. Parts of her research will be presented here, which is based on the production of 3 French-speaking children.

She looks at the distribution of postverbal subjects, null subjects, subject clitics, and negation with respect to tense features. It should be noted that postverbal subjects are not licensed in declarative sentences in the adult grammar of French.

These structures are relevant in French to determine whether the grammar contains the rule of verb movement to inflection. If the verb moves to I°, and the subject is generated in the specifier position of VP, then it should be possible to find postverbal subjects in the data. Under Pierce's account, null subjects in the Spec of VP will be licensed at first, because they will receive nominative case from I°. Subject clitics are said to cliticize to I°, therefore they are expected to show up in tensed clauses. And, finally, the negation element should occur to the right of the tensed verb (which moves over the negation), and to the left of the infinitive verb, which does not move.

Pierce finds that at the earliest stages, postverbal subjects accounted for 78% of all lexical (non null) subjects (Pierce 1989:32):

(42) tomber papa (Nathalie 4)
'fall papa'

fait du bruit la fille (Philippe 2)
'makes noise the girl'

Such word order deviations are not produced by most children acquiring English as a first language.

The period of postverbal subject use is also characterized by a high number of infinitival verb forms. The percentage of postverbal subjects decreases over time along with a decrease in the number of non finite verbs.

In the earliest stages, the number of null subject utterances was found to be quite high: they represent 43% of the data. Some

examples are cited below (Pierce 1989:38):

(43) pas manger (Nathalie 2)
'not eat'

est tombée (Philippe 1)
'has fallen'

Subject pronouns were found to occur almost exclusively with tensed verbs (as predicted by the theory). The following examples confirm the hypothesis that subject clitics are generated under I°:

(44) elle dort (Daniel 1)
'she is sleeping'

on marche à l'école (Philippe 1)
'we walk to school'

French speaking children seem to master negation placement at the earliest stages. They correctly produce negatives to the right of the verb in tensed clauses, and to the left of the verb in untensed clauses, implying that the mechanism of verb raising to tense is operative, as shown in (45) (Pierce 1989:40):

(45) pas chercher les voitures ([-finite], Philippe 1)
(not look for the cars)

marche pas ([+finite], Daniel 2)
(works not)

Pierce notes that for one child (Nathalie 1), there is evidence of a period when she doesn't have verb raising to tense. For the other two children during the same period, there is a stage when the mechanism of raising is optional. And, by the age of 2, all three children have acquired the raising of the verb to tense.

The high number of post-verbal subjects and null subjects, the use of subject clitics with tensed verbs, and the correct placement of negation can be accounted for in terms of the VP-Internal Subject

hypothesis.

Concerning case-assignment to the subject, Pierce assumes that inflection is operative and capable of assigning nominative case to the VP-internal subject. Given that inflection governs the VP and its specifier position, the subject inside the verb phrase, null or lexical, can be licensed. The null element will be properly governed by inflection, and the lexical subject will be assigned structural nominative case by inflection.

In sections 2.1.1-2.1.5, we have reviewed a series of papers on the status of functional projections in first language. Next, we will consider two papers examining the issue in the context of second language acquisition.

2.5 IP and CP in Early German As a Second Language

Vainikka and Young-Scholten (1991) investigate the early developmental stages of the adult L2 acquisition of German phrase structure.

The adult learners were Turkish and Korean native speakers. The learners had the possibility of 'positive transfer' of certain properties of their L1 into German, namely the headedness of VP and IP (head-final). On the other hand, both Korean and Turkish allow null subjects, whereas German does not. Like German, Turkish marks subject-verb agreement; Korean does not.

Three developmental stages were derived from the data analysis; they are listed in (46):

(46) The VP-Stage
The IP- Stage
The AGRP-Stage

In the VP-Stage, the majority of the utterances generated by the L2 grammar consist of a bare VP, without any functional projections. The VP is head-final, a value which is probably transferred from the L1. Examples are given in (47), where the verb

is underlined:

(47) Haar schoen machen
Hair pretty make
'(She's) making her hair (look) pretty.' (Changsu)

Er mit Schnee spielen
He with snow play
'He's playing with snow.' (Dosik)

In the first stage, subjects are optional because the Pro-Drop parameter determining whether a language will allow null subjects is defined with respect to IP. The grammar doesn't yet have the relevant projection to choose one or the other value. There is no agreement paradigm, again because the inflectional position is missing and consequently there can be no base position for agreement suffixes. Finally there can be no overt complementizers, no fronted Wh-elements and no raised verbs, given that there is no CP.

When the learners enter stage 2, the IP stage, they partly acquire the non Pro-Drop value of German. Agreement and obligatory verb raising are not yet acquired, although there is optional V-movement which suggests that the L2 grammar has a second position (namely I°) for the verb. Examples of utterances produced at this stage are provided below, where the verb (underlined) is in the raised position:

(48) Ich sehen schleier
I see veil
'I see (the) veil.' (Kemal)

Polizei komm zu mir ja
Police come to me yes
'Yes, (the) police came to me.' (Kadir)

In these examples, subjects are present. The underlined verbs are uninflected (either infinitival or stem forms). Vainikka and Young-Scholten suggest that the triggers for acquiring IP are modals and the copula.

The last stage, marked by the emergence of the AGRP, yields

utterances such as the following:

(49) Ich liebe diese so
'I love(1sg) this so.' (Mine)

Ich kaufe dich Eis
'I (will) buy you ice cream.' (Ghabo)

The AGRP stage involves the 'specification' of IP into a head-initial AGRP (incorrect for German) along with the acquisition of the agreement paradigm. At this stage, agreement between the subject and the verb is correct, while verb raising occurs in 60% of the required contexts.

There are several differences between child L1 grammars and adult L2 grammars. Unlike children, the adults do not acquire a head final AGRP. Children, but not adults, acquire the agreement paradigm at the point where their grammar contains obligatory verb raising and no Pro-Drop. In adults, verb raising and no Pro-Drop appear before the agreement paradigm. Furthermore, adult grammars seem to retain their representations from previous stages as an option allowing the construction of an utterance in more advanced stages.

In summary, Turkish and Korean adult learners of German seem to pass through a stage of bare VPs, while transfering the head-final value from their mother tongue. Then, upon noticing modals, they acquire IP, but do not transfer the headedness from their L1. They move on to acquire the AGRP, but they still maintain the wrong setting for the headedness parameter, suggesting that the functional triggers (agreement affixes) used by children are unavailable to adults.

2.6 Functional Projections in Child L2 Spanish

In contrast to adult L2 acquisition, Lakshmanan (1991) presents data that show functional projections are present in the early stages of child L2 acquisition. Specifically, she looks at the inflectional system and the case system. Her basic claim is that for children

learning an L2, the UG principles which have been operative in L1 will be operative in L2 acquisition, allowing functional projections to emerge straight away.

The evidence for the presence of IP in the data of a 4 year old native speaker of Spanish learning English consists in the use of the copula 'be' and the auxiliary 'be' from early on. The copula is the first verb to emerge. Examples are given below:

(50) This is Big Bird.
This dress is here. (Marta)

In imitation tasks, when the subject was presented with the contracted auxiliary 'be', she repeated using the uncontracted form, as shown in (51):

(51) NS: Mother's cooking supper.
Child: Mother <u>is</u> cooking supper. (Marta)

NS: Where's the baby sleeping?
Child: Where <u>is</u> the baby sleeping?

The case system also appears to be operative, as suggested by the presence of peculiar constructions using the preposition 'for'. Some of these constructions are reported below:

(52) Carolina is for English and Espagnol.
'Carolina speaks English and Spanish.'

This is the boy for the cookies.
(Describing a picture of a boy eating cookies.)

If child L2 grammars lacked functional elements, we would expect to find the same binominal expressions produced by L1 learners. Instead of the utterances in (52), we should have sequences like 'Carolina English and Spanish' and 'boy cookies'. Lakshmanan claims

that there is an implicit verb in structures like those presented in (52). However, because the verb is not lexical it cannot assign case to the object NP. The preposition 'for' treats the NP as its object and assigns case to it. The preposition 'for' is also found in possessive constructions, at the stage when there is no 's marking. Overall, 'for' is behaving like a general case assigner.

In addition, the preposition 'for' is used instead of the infinitival particle 'to'. The utterances in (53) illustrate that use of 'for':

(53) Going for eat. (=going to eat)
You're ready for see the show. (=you're ready to see the show)

To conclude, Lakshmanan presented data from a child second language learner of English who used the preposition 'for' to case-mark object NPs where the verb was missing. This was taken to indicate that the Case system is operative in the early L2 grammar. Further, the copula and the auxiliary 'be', as well as the presence of 'for' in infinitival contexts, seemed to function as place holders for the contents of inflection.

2.7 Investigating Functional Projections in Child L2 French

Examining the status of functional projections in L2 acquisition is a very recent research endeavor. The two studies reported in section 2.2 offer different results concerning the status of functional projections. Vainikka and Young-Scholten (1991) claim that the IP and CP projections are missing from early L2 German. These results are significant with respect to the L1 debate as to whether the functional projections are part of the grammar at the onset of acquisition (the Continuity Hypothesis), or whether they emerge according to a maturational schedule (the Maturational Hypothesis). If the projections are slow to emerge in an L2 grammar, then this casts doubt on the Maturational Hypothesis in L1 acquisition. Whatever is delaying the emergence of functional

projections in L2 acquisition is likely also to be responsible for the delay in L1 acquisition. A maturational factor could not account for an L2 delay, given the unique nature of a maturational phenomenon.

However, Vainikka and Young-Scholten's (1991) subjects were adults. According to the Critical Period Hypothesis, it could well be that the language faculty guiding acquisition (Principles and Parameters of Universal Grammar) in children changes after puberty (cf. Johnson and Newport 1989). Therefore, children would be 'better' language learners, and more precisely 'better' second language learners. A comparison of child L1 and child L2 development seems to us to be more constrained in terms of the variables involved than a comparison of child L1 and adult L2. Lakshmanan's study suggests that functional projections are not slow to emerge in L2 acquisition. In other words, child L2 data do not, in fact, show that the maturational hypothesis for L1 acquisition is incorrect.

In the study reported in chapter 3, data from child L2 acquisition of French are analyzed. One of the major goals of this thesis is to consider the status of the three functional projections, DP, IP and CP, in child L2 French. Most of the L1 and L2 acquisition studies (except Radford 1990) described in the previous sections only deal with one or two of these projections, thus not allowing the full picture to emerge. Another weakness shared by most of the studies (except Radford 1990) is that they are based on relatively small amounts of data, i.e. a few hundred utterances. For this thesis, we have analysed over 3400 utterances.

While Radford's (1990) account included numerous examples from a large number of children, a quantitative analysis of the data was not provided. Consequently, it is not clear whether the examples were representative of the data. We will provide actual numbers and percentages representing occurrences of particular elements in the data.

It is hoped that the analysis in this thesis will allow us to determine more precisely the status of functional categories and their projections in early child L2 acquisition.

Chapter 3
Functional Projections in L2 French

3.0 Introduction

The first section of this chapter describes the subjects and the data which were used for the research reported here. In the second section, the analysis of data from the subjects' L1 will be presented, to show that the children's English grammars have fully operational functional systems before L2 acquisition began. Finally, in the third section we will look at the status of funtional projections in the French L2 grammars of the same subjects.

3.1 The Data

The longitudinal production data used in this thesis were kindly made available by Patsy Lightbown. The French L2 and the English L1 data were collected between January 1975 and January 1978 as part of the research for her dissertation (Lightbown 1977). Even though the data were originally gathered for a totally different purpose, their nature allows for an analysis of functional projections. From this large corpus, approximately 3450 utterances were analyzed for the presence of functional projections.

The following information on the subjects and the procedures for data collection is taken from Lightbown (1977)[1].

3.1.1 The Subjects

Data from two English speaking boys, Kenny and Greg[2], were analysed for this thesis. The two subjects, from the Greater Montreal area, had had no exposure to French until they were enrolled in a bilingual nursery program. At the beginning of this program, Kenny was approximately 4 years, 9 months old, and Greg, 4 years, 5 months old. For 2 1/2 hours a day, 5 days a week, they participated in activities which were conducted both in English and French. At the end of the nursery program, the children produced very few spontaneous

utterances in French.

Subsequently, Kenny and Greg were enrolled in a French immersion kindergarten class, lasting 2 1/4 hours a day. In November, they were transferred from the French immersion class to a regular French class, upon the parents' request. From that point on, their exposure to French increased greatly. The data examined in this thesis are taken from the kindergarten year, and extend into the second grade.

3.1.2 The Procedures

The data analysed here are in the form of transcriptions of recorded play sessions with a research assistant. The subjects were first interviewed in English, during the nursery program, to ensure that their mother tongue had developed normally.

One year later began the interviews in French. At intervals ranging from 1 to 5 months, a research assistant would go to each child's home, with some toys and a tape recorder.

Greg was interviewed in French on 13 occasions, but the very first interview was not transcribed because the child was more or less silent. Consequently, a total of 12 transcribed interviews were provided for Greg. Kenny was followed for a longer period of time. He participated in 20 French interviews. Kenny's first 3 interviews will not be included in this analysis. They were recorded when he was in nursery school, a bilingual program where he was not exposed to French consistently, and at the end of which he spoke very little French.

For a summary of the amount of exposure to French, corresponding ages of the subjects, and number of interviews, see Table 1. (All tables are to be found in the Appendix to this thesis.)

3.1.3 The Analysis

For the purposes of this thesis, only the utterances which contained minimally one nominal element and one other element (nominal, verbal, prepositional) were analysed for the presence of functional projections. This decision came about because it was difficult to establish the status of a constituent occurring in

isolation in the data. For example, the children sometimes produced isolated nominals (nouns with no determiners). It seemed almost impossible to decide whether this was appropriate or whether the determiner was obligatory in the context. Given that the analysis of these ambiguous cases would have affected the results considerably, it seemed wiser to leave them out altogether. Furthermore, only spontaneous utterances were analyzed, and not any immediate imitations of an adult utterance.

The data are analysed qualitatively and quantitatively, and will therefore be presented in the form of examples and tables. The quantitative analysis consists of a token/type ratio and the corresponding percentage of occurence of a particular element in obligatory contexts. By token/type ratio we mean the number of occurrences of a particular form over the number of obligatory contexts of occurrence.

As was explained in the previous chapter, Radford (1990) serves as a general model for the analysis. The evidence for each functional projection will be given separately, starting with DP, IP and ending with CP. First, we will examine the L1 English grammars, followed by the L2 French grammars.

Because we are interested in seeing whether functional projections are present in the L2 from the onset of acquisition, the examples illustrating the use of functional systems will come from the earliest interviews possible.

3.2 Functional Projections in the English L1 Grammar

The children who participated in this study were interviewed in their mother tongue approximately one year before the investigation of the second language began. At that point, Greg was 4;9 years old, while Kenny was 5;2 years old. The data from the interviews were examined for the presence of functional projections, and it was found that both subjects were making productive use of these structures in English, well before they were introduced to French.

Evidence for the presence of functional systems will come from

the presence of elements generated or moved into a functional head position, from the movement of an XP to a functional specifier position, and from morphological markings associated with functional projections. Examples of the use of each functional system in English will be reported below.

3.2.1 The Determiner Phrase

Items Generated Under D°

As Radford notes, the most obvious piece of evidence for the presence of a determiner phrase in the grammar is the consistent use of "determinate nominals" in the data (determinate nominals being those nominals which are introduced by a determiner). Examples of determinate nouns in the speech of Greg and Kenny are presented in (1) below:

(1) there's a window there
it looks something like a puzzle
where's the other part of the white? (Greg 4;9)

and that's a yellow dress
that's backwards with the clown
I remember that the mouth doesn't count
(Kenny 5;2)

In the above examples, the underlined nominals are introduced by the required determiner, suggesting that the children's grammar contains a determiner system.

Movement of XP to Spec DP

The other major source of evidence for the determiner projection comes from the movement of a noun phrase to the specifier of DP in possessive constructions (see chap. 1).

There is only one example of the possessive construction in the English interviews, and it was found in the speech of Greg (4;9):

(2) well I don't like playing with girls' stuff

Even though in (2) the possessive 's' morpheme is homophonous with the plural 's' morpheme, we can still assume that the position of the possesor determiner phrase 'girls' was derived through movement to the specifier position of the DP headed by the possessive 's', as shown here:

(3) $[_{DP}$ girls$_1$ $[_D$'s$]$ $[_{NP}$ t_i [stuff]]]

Morphological Markings

The Case Filter requirement also applies to noun complements, which need to be case-marked by the 'dummy' preposition 'of'. This preposition is considered to be a reflex of case. Below are examples of noun complements introduced by 'of' found in the data:

(4) that looks like a little bit of red
no all of them have to go inside this one
... is this a part of it (Greg 4;9)

there's really a lot of bombs
... but I lost some of them (Kenny 5;2)

The preposition 'of' in structures such as the ones in (4) enables noun phrases like 'red', 'them', 'bombs' to receive case (accusative), thus satisfying the Case Filter.

Another manifestation of the Case Filter requirement appears on personal pronouns which inflect for nominative and accusative case. Both children make use of correctly case-marked personal pronouns, as shown in (5):

(5) Nominative: I think it goes here
now we have to do the other one (Greg 4;9)

I'll use this
Can I open them? (Kenny 5;2)

Accusative: let me try that
Im gonna line them all up... (Greg 4;9)

... I told him is ther any such thing...
I done them all by myself (Kenny 5;2)

Clearly, the evidence presented above demonstrates that the children have a fully developed determiner system and case system in their English grammar.

3.2.2 The Inflectional Phrase

Items Generated Under I°

In English, clauses which are finite or which are non finite and introduced by the infinitival marker 'to' are treated as inflectional phrases. The head position of inflection can be filled by modals and auxiliaries or by the infinitival marker 'to'. The presence of such elements in the data therefore constitutes evidence for the operation of an inflectional system in the grammar of the subjects:

(6) a. now I'll do the clown
b. I need them to keep little things in
c. I wanna see if they could stand up... (Greg 4;9)

d. I'll use this
e. like they have to be this way
f. it must go here (Kenny 5;2)

In negative constructions, the tense and agreement features contained in inflection have to be discharged onto the 'dummy' auxiliary 'do' when the head of IP is not already filled by a modal or an auxiliary. Given that 'do' is base-generated under the head of the inflectional phrase, its presence in the data must reflect the existence of an IP in the grammar:

(7) no he doesn't have a case
this doesn't look too hard
I don't know if there's another blue ... (Greg 4;9)

I don't even have to tell the colours
I don't know where it goes
now I remember that the mouth doesn't count (Kenny 5;2)

Movement of XP to Spec IP

Following Sportiche (1988a), subject noun phrases move out of the specifier position of VP to the specifier position of IP. The observed word order in the data suggests that the child grammars allow this movement. In (6a,c,d,f) above, we find subjects to the left of elements generated under I° (i.e. modals). In these utterances the subject clearly has to be in the specifier of IP.

Morphological Markings

Because the head of inflection bears the features of tense and agreement associated with finite verbs, a grammar with an operative inflectional system yields properly inflected verbs. Again, the data reveal that the children have mastered the whole range of English verbal inflections, including tense and person distinctions:

(8) I think it goes here
it looks something like a puzzle
I thought that was orange (Greg 4;9)

I remembered
I thought these were matches
that goes there (Kenny 5;2)

Overall, the use of modals, infinitival 'to', do-support, subjects in Spec IP and verb inflections shows that the children have, without doubt, mastered the morphosyntactic properties which are associated with the inflectional system in English.

3.2.3 The Complementizer Phrase

Items Generated Under C°

The position of the head of the complementizer constituent in adult English is occupied by complementizers such as 'that', 'if', 'whether' or 'for', elements which serve to introduce complement clauses. Many examples of complementizers were found in the data:

(9) I don't know if he does
and I think that this one goes here...
I don't know whether they're match boxes (Greg 4;9)

now I remember that the mouth doesn't count
that would be easier if they done this
I wonder if there's any more (Kenny 5;2)

Another role for the head position of the complementizer phrase is to act as the landing site for auxiliaries in 'yes/no' questions. Questions where the auxiliary moves to the head of the complementizer phrase are mastered by both subjects, as shown in (10):

(10) isn't funny he's standing on there?
do you do it upside down?
is that all you brang? (Greg 4;9)

is this orange or red?
did you bring any more things?
does this go here? (Kenny 5;2)

Movement of an XP to Spec CP

Wh-words in adult English are assumed to occupy the specifier position of the complementizer phrase via movement. Not only do we find evidence for the movement of auxiliaries to the head position of the CP, but we also have examples of the movement of wh-words like 'what', 'where', 'how', etc., to the specifier position of CP, accompanied by the movement of the auxiliary:

(11) what are these things for?
how do you find out?
so where does it go? (Greg 4;9)

what are they?
where does this go?
what is this? (Kenny 5;2)

The fact that the children produce complement clauses introduced by complementizers, and that they form questions with preposed auxiliaries and preposed wh-words shows that their grammar contains a complementizer phrase.

Overall, the data presented in section 3.2 show that the L1 English grammars of the two subjects are completely adult-like with respect to the use of functional projections. The operation of the determiner system is evident by the presence of determiners and case markings. The elements associated with the inflectional phrase, such as modals, auxiliaries, infinitival 'to', tense markings, and 'do'-support are well represented in the data. And finally, the presence of complementizers at the beginning of complement clauses and the placement of auxiliaries and wh-words in interrogative clauses reflect a productive use of the complementizer phrase.

In section . ., we will examine whether these functional

projections are found in the French L2 grammar at the beginning of the L2 acquisition.

3.3 Functional Projections in L2 French

In this section, we will present data for each child, as we investigate the status of functional projections in the L2 grammars of French. We will look at the determiner phrase, the inflectional phrase, and finally the complementizer phrase. We will not only give a list of examples, but we will also include a quantitative analysis of the functional systems. This differs from Radford (1990) who fails to provide quantitative data for any of his subjects.

3.3.1 The Determiner Phrase

The most obvious piece of evidence for the presence of a determiner phrase in the data is the consistent use of determinate nominals (nominals introduced by a determiner). Some examples of determiners in the L2 data are provided in (12). (Recall that the number next to the subject's name represents the number of months of consistent exposure to French):

(12) le lion mange les giraffes
'the lion eats the giraffes'
ça c'est une giraffe
'this is a giraffe'
ça c'est la maman
'that is the mother' (Greg 5)

une fille monter
'a girl come up'
c'est une grosse accident
'it's a big accident'
c'est une giraffe
'it's a giraffe' (Kenny 2)

In the above examples taken from early interviews, the underlined nominals are already introduced consistently by a determiner. Only a few cases of missing determiners were found in the data. Examples are cited below:

(13) moi z'ai __ animaux
'me I have animals' (Greg 5)

ça c'est __ monsieur
'this is (the) man' (Kenny 2)

Table 2 in the Appendix shows the number and percentage of occurrences of determiners in obligatory contexts for each child throughout the investigation.

All tables (except Tables 1 and 5) will have the following format: the time factor appearing on the vertical axis of the table represents the number of months that the child has been exposed to French in school at the time of the interview. The year spent in the bilingual nursery program was not considered to be significant, as the children were not in a strictly French speaking environment. Consequently, month 1 is equivalent to the first month of the kindergarten program, and so on.

The figures in the left-hand column represent a token/type ratio, while those on the right are the corresponding percentages. The token/type ratio consists in the number of occurrences of a particular form in the data versus the number of obligatory contexts in the adult grammar.

The presence of determiners constitutes one piece of evidence that the L2 grammar of Greg and Kenny contains a full determiner phrase. Another is the presence of pronominal possessives, which we assume to be generated under D° like determiners (see chapter 1, p.13). Possessives occur in the first interviews considered:

(14) regarde <u>mon</u> dessin
'look at my drawing' (Greg 5)

ça c'est pas ma maman
'this is not my mommy' (Kenny 2)

The Case Filter requirement that NPs be marked for case seems to be operating in the L2 grammars. We find in the data several examples of the use of the 'dummy' case-marking preposition 'de' (the French equivalent to 'of'), as shown in (15):

(15) où l'autre des jaunes?
'where is the other of the yellow (ones)' (Greg 9)

fête de Halloween
'Halloween party' (Kenny 2)

Recently, it has been proposed that the Case Filter applies to DPs (rather than NPs) (Abney 1987). This new version of the Filter allows us to count utterances in (15) as further evidence for the presence of DP in the L2 grammars. The preposition 'de' reflects the grammatical case borne by DPs like 'jaunes' and 'Halloween', making the Case Filter requirement visible. Thus, the presence of the case-marking prepositions contributes further evidence for the presence of the determiner system in the grammar of early child L2 French.

Another element reflecting the presence of the determiner phrase and the operation of the case system in the L2 grammar is the presence of personal pronouns. Personal pronouns in French (as in English) inflect for case, and have been analysed as head determiners (Abney 1987).

Both children make use of pronouns, most of which are correctly case-marked for nominative case (clitics) when used in subject position, and accusative case in object position:

(16) Nominative:
moi j'ai deux fermes
'me I have two farms' (Greg 7)

je vas aller à la toilette
'I will go to the bathroom' (Kenny 4)

Accusative:
regardez-moi
'look (at) me' (Greg 5)

excuse-moi
'excuse-me' (Kenny 5)

Even if the greater number of subject pronouns in the data were clitics, a considerable number of examples of 'strong' forms of pronouns were found in subject position in the L2 data, and particularly in the speech of Kenny. As we saw in chapter 1, subject pronouns marked for nominative case in French are clitic forms or 'weak' forms, which cliticize onto I°. Strong forms are not clitics and cannot be used independently of the clitics in adult French. Examples of 'strong' pronouns in the subject position are given below:

(17) et moi ai fait ça
'and me have done that' (Greg 5)

toi est s'en va
'you(acc.) are going' (Kenny 4)

A calculation of the number of correct subject clitic pronoun occurrences over the number of all pronominal subjects can be found in Table 3. The accuracy rate is lower on the use of subject clitics than it is on the use of determiners. An explanation for these results will be provided in chapter 4. Since the issue of subject clitics is also related to the presence of an inflectional system, it will be included in the following section on the evidence for IP in the L2 grammar of French.

So far, it appears as though early child grammars of L2 French contain the determiner system and its associated case properties.

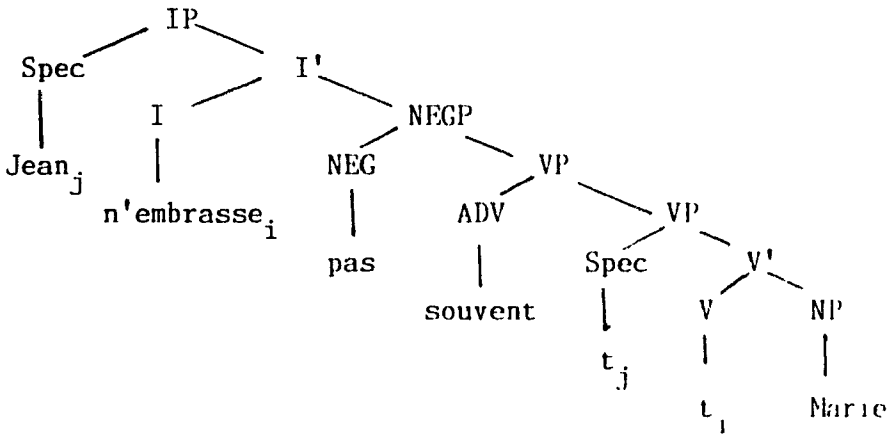
3.3.2 The Inflectional Phrase

Introduction

As we saw in chapter 1, the head of the French inflectional phrase contains tense and agreement features. Therefore, we will look at morphological markings of tense and agreement on the verb, which should appear only in the event that the inflectional phrase is present in the L2 grammar.

The second piece of evidence for an IP system will be movement of the verb to I°. When the head of the inflectional phrase in French contains tense and agreement features, it acts as a host for a verbal element, which must move into the I° position to pick up those features as shown in (18) (Labelle and Hirschbuhler 1991):

(18)



'Jean doesn't often kiss Marie'

The movement of the verbal element from the V° to the I° position is evident by its position with respect to negation, adverbs and quantifiers (for more details see section 1.4.2). Consequently, the L2 data was examined for the presence of negation, adverbs and quantifiers, and the position of the verb when these elements were present.

Evidence for the presence of an inflectional system can also come from the presence of subjects. Under the VP-Internal Subject Hypothesis adopted in chapter 1, subjects are generated under the verb phrase but subsequently move to the specifier position of IP.

When the subject is pronominal, it cliticizes to I° at Phonetic Form, as shown in chapter 1 (p.22). In French, pronominal objects are also clitics which are generated under the VP and move with the verb to I°. The presence of object clitics placed in front of verbal elements will thus count as further evidence for the existence of an inflectional system in the L2 grammar of French.

Morphological Markings

The presence of an inflectional system in the grammar is apparent by the use of morphological markings for tense and agreement on verbal elements. In chapter 1, we presented the paradigms for some regular and irregular French verbs in the present tense. We showed that for regular verbs in the present tense, there was a three-way distinction in morphological markings (reduced to a two-way distinction in spoken colloquial French, see chapter 1, pp.18-19). For irregular verbs, there were up to 5 different forms. There are several more distinctions if we consider other tense markings, like future and 'imparfait'.

Our analysis of verbal inflectional markings is based on Meisel's (1990) study of the simultaneous acquisition of German and French.

Meisel (1990) proposes a criterion of 'formal variation', to decide whether or not tense and agreement markings are present in the grammar of German. He suggests that the occurrence of two different forms of the same verb would show that the grammar contains features of tense and agreement, which are realized on the verb. He also goes on to say that this criterion may be too strict in the case of French, as we will show below.

The first instance of a contrast between two forms of the same verb occurs at month 5 for Greg[3] and month 3 for Kenny. The forms are given in (19):

(19)

Greg 5

Form 1	Ending	Form 2	Ending
regard<u>ez</u>-moi 'look at me'	[e]	regard<u>e</u> mon dessin 'look at my drawing'	[0]
j'<u>ai</u> petite famille 'I have a small family'	[e]	moi <u>avez</u> 'me have (2 p.p.)'	[ave]

Kenny 3

Form 1	Ending	Form 2	Ending
regard<u>ez</u> 'look (2 p.p.)'	[e]	regard<u>e</u> ça 'look at that'	[0]
ça c'<u>est</u> un cheval 'this is a horse'	[ɛ]	c'<u>était</u> toute la famille 'it was the whole family'	[etɛ]

In Greg 5, two contrasts in verb forms were found, with the verb 'regarder' ('to look'), and with the verb 'avoir' ('to have'). The morpheme [e] marking 2nd person plural and the null morpheme for 2nd person singular in the imperative present tense were used contrastively. Because the verb 'avoir' has an irregular paradigm, it's possible that the two forms produced by Greg were unanalysed forms. In fact, he correctly uses the form 'ai' for the first person singular, but he also incorrectly produces the form 'avez' (which marks the 2nd person plural in the adult grammar) with the first person singular pronoun 'moi' ('me').

Kenny 3 produces the same distinction with the verb 'regarder'. The other contrast in the data was between two forms of the verb 'être' ('to be'). The forms are contrastive with respect to tense: 'est' is the 3rd person singular form in the present, while 'était' is the 3rd person singular form in the 'imparfait'.

The fact that there are few contrasts of forms from the same verb (or the same 'type') gives the impression that the children

have few morphological markings on verbs. However, if we relax the criterion, following the model in Meisel (1990;268), and we look across the total number of verbs ('types'), we find that children make use of infinitivals, imperatives, participles, and present tense forms very early on. The different verbs produced in each of the subjects' earliest months are given in (20):

(20) Greg 5

Infinitives: chercher
Imperatives: regardez, regarde, arrête
Participles: fait
Present Tense: sais, est, ai, mange, fais, avez

Kenny 3

Infinitives: sauter, monter
Imperatives: --
Participles: --
Present Tense: aime, sais, est

The variety of forms in the speech of Greg, and to a lesser extent in the speech of Kenny, suggests that verb inflection is part of their L2 grammar from the very beginning of the acquisition process.

Meisel (1990) reports that his bilingual subjects start to use 3rd person plural forms several months after they have begun using singular forms (and this both in German and French). Similarly, the emergence of correct plural verb forms of the third person in our data is delayed, the first occurrence turning up at month 20 for Greg and at month 18 for Kenny. These are given below:

(21) ben les fleurs sont pas dedans
'well the flowers are not in there' (Greg 20)

les petits animaux vont ici
'the small animals go here' (Kenny 18)

Although no errors in person agreement were found in Meisel's data, there were some number agreement errors. The same phenomenon is observable in our data. Before the emergence of the forms in (21), the plural subjects consistently appear with singular verb forms. Some errors can still be found after the first occurrences of correct plurals, although they are much scarcer. Examples of the lack of number agreement in the data are listed below, in (22):

(22) Greg:

les animaux est ici
'the animals is here' (Greg 9)

que les deux est nouveaux
'that the two is new' (Greg 18)

Kenny:

deux, trois bébés est là
'two, three babies is there' (Kenny 5)

tous les méchants animaux est noirs pis bleus
'all the mean animals is black and blue' (Kenny 8)

toutes les animaux là i' va à Floride
'all the animals there they goes to Florida' (Kenny 11)

moi et toi est trop grands pour la porte
'me and you is too tall for the door' (Kenny 15)

For the most part, the examples in (22) involve the form 'est', which is the 3rd person singular of the copula 'être' ('to be'). There is one case of the verb 'aller', the singular form 'va', in the data of each subject. The errors in number agreement occur from early on in the acquisition process, and are found for many months thereafter.

To summarize this section, a variety of verb forms appear early

in the L2 data. The notion of 'tense' is present in the grammar at the onset, but the concept of number agreement is rather late to emerge.

The placement of negation

If the tensed verb is placed under I°, then the negation word 'pas' should be to the right of this same verb. The L2 data from Greg and Kenny show that negatives were placed consistently to the right of the tensed verb, which suggests that the inflectional phrase is available in the grammar. The following are examples of correct negative placement in the speech of our subjects:

(23) ça c'est pas le ferme
'this is not the farm' (Greg 5)

non j'ai pas joue avec
'no I did not play with (it)' (Greg 9)

ça c'est pas ma maman
'this is not my mother' (Kenny 2)

le giraffe peut pas
'the giraffe can't' (Kenny 5)

A small amount of 'incorrect' negative placement was found in the data, as shown in (24):

(24) ah moi je pas jouer avec le auto
'ah me I not play with the car' (Greg 11)

i' pas vient
'he not comes' (Kenny 4)

The position of the negative in (24) produced by Greg during month 11 should not be analysed as an error. Although the negation

word 'pas' appears to the left of the verb, the verb 'jouer' is not inflected for tense (it should be 'joue'). Rather, it is an infinitival form. Nonfinite verbs in French do not move to I° (Pollock 1989), and are consequently found to the right of the negation. Therefore the negation in Greg's speech is in the appropriate position, although the utterance is not well-formed in the adult grammar. (A problem in this sentence is that the absence of any tensed verb form prevents the subject from receiving nominative case, thus violating the Case Filter.)

The second example is a 'true' error, in that the verb bearing tense features doesn't seem to raise to I°, which results in the negation being on the left of that same verb. Perhaps the child is confused between the L1 English and the L2 French mechanisms that bring the verb and the tense/agreement affixes together. In French, the verb raises to I°, and in English the features of tense and agreement under I° lower onto the verb. Since these errors are extremely rare in the data, it is more likely that they are due to performance factors.

For the percentage of correct negative placement in the L2 data, refer to Table 4.

The Placement of Adverbs

The use of adverbs is rather rare in the data, but a few examples were found in the later interviews. Generally, the adverbs produced by Greg and Kenny occurred in the correct French position, namely to the right of tensed verbal elements. Examples are given in (25):

(25) a. i' en a <u>jamais</u> lu
'he has never read any' (Greg 25)

b. moi j'ai <u>presque</u> fini
'me I have almost finished' (Greg 27)

c. ai <u>jamais</u> vu ça
'(I) have never seen that' (Penny 1)

d. toi tu peux jamais aller ici
'you you can never go here' (Kenny 27)

e. ils ont toujours un parachute
'they have always a parachute' (Kenny 27)

In (25e), the placement of the adverb is correct for French, but it would be ungrammatical in English. This is clear evidence for the acquisition of the movement of the main verb to I° in the L2 grammar.

One case of an adverb in a wrong position for French turned up in an interview with Greg:

(26) on juste veut pas
'we just want not' (Greg 20)

The fact that there are very few adverbs in total makes it difficult to assess the significance of Greg's single error of adverb placement. Interestingly, this sequence shows that the tensed verb has moved past the negative word 'pas' into I°. In French there is no adverb position generated above I°, but there is such a position in English. Generally the L2 learners seem to know that the position of adverbs in French is after I°, but perhaps they also occasionally allow adverbs to appear in the L1 English position.

The Placement of Quantifiers

The position of quantifiers in French is below I°. Therefore, utterances with a quantifier to the right of a tensed verb provide evidence for movement of the verb to I°. As was the case for adverbs, examples of quantifiers were scarce in the L2 data. During the last interview, Greg produced one correct instance, while Kenny produced three:

( ) . . ' sont tous tombés
'they have all fallen' (Greg 2)

b. mais en hiver i' prend tous des pantalons
'but in winter they all wear pants'

c. pis ils ont tous la même chose
'and they have all the same thing'

d. sauf ils sont tous en rouge
'except they are all in red' (Kenny 29)

Example (27b) is particularly interesting because we have a main verb raising over the quantifier; this is not grammatical in English.

One instance of a quantifier appearing on the left of the tensed verb (ill-formed in French) was found in Greg's data:

(28) et si on peut pas on tout enlève ça
'and if we can't, we all remove it ' (Greg 20)

One possible explanation for the error in (28) would be to say that the verb 'enlève' has not moved to Tense, past the quantifier. But because the verb 'peut' has correctly moved past the negation to Tense, it is unlikely that another tensed verb in the same utterance would not undergo movement.

A more plausible account for this error of quantifier placement would be to assume a difference in the structural position for adverbs and quantifiers between English and French. Therefore, the L2 learner would be using the correct position for French adverbs and quantifiers most of the time, but occasionally, he would also call on the position available in the L1 English grammar.

Subjects

Since the tense and agreement features under I° are responsible for the assignment of nominative case which licenses NPs in the subject position, the presence of subjects in the L2 data should yield important information about the status of the inflectional system in the grammar.

Table 5 shows the total number of occurrences of the different types of subjects found in all the child L2 French utterances examined. There are four types of subjects in the data, namely lexical noun phrases, pronominal subject clitics (sometimes preceded by a strong pronoun), 'strong' pronouns (non-clitics) such as 'moi', 'toi' used independently of clitics, and null subjects. An example of the four subject types from the data of each child is provided below, in finite and non finite clauses:

(29) Lexical Noun Phrases

le lion mange les giraffes
'the lion eats the giraffes' (Greg 5)

ce bloc se mettre où?
'this cube go where?' (Greg 10)

le papa vache est très méchant
'the bull is very mean' (Kenny 4)

une fille monter
'a girl come up' (Kenny 2)

Pronominal Clitics

moi j'ai deux fermes
'me I have two farms' (Greg 5)

moi je pas jouer avec ça
'me I not play with that' (Greg 11)

je vas aller à la toilette
'I will go to the restroom' (Kenny 4)

i' jouer
'he play' (Kenny 7)

Strong Pronominal Forms

moi vais mettre le hibou brun
'me will put the owl brown' (Greg 10)

moi chercher un autre cheval
'me look for another horse' (Greg 5)

moi peux pas jouer à ça
'me can't play this' (Kenny 7)

toi aller à Guy
'you go to Guy' (Kenny 5)

Null Subjects

__ est pas
'(it) is not' (Greg 5)

__ mettre ça comme ça
'put this like this' (Greg 9)

__ est fini
'(it) is finished' (Kenny 4)

non __ jouer ça
'no play this' (Kenny 5)

The picture emerging from Table 5 is that the great majority of utterances are [+finite] (at a rate of 97% for Greg, and 94% for Kenny), and that overt subjects (lexical and pronominal) are produced almost exclusively in [+finite] contexts. Furthermore, pronominal subject clitics have the highest number of tokens, representing 77% of Greg's subjects, and 63% of Kenny's.

Null subjects constitute only 6% and 8% of subjects in Greg and Kenny's utterances. This strongly suggests that the L2 learners do not treat French as a 'pro-drop language' (i.e. a language which

allows null subjects, such as Spanish).

Pierce (1989) reports that she finds null subjects to be distributed equally between finite and non finite clauses in her L1 data. In our study, we find that 77% of Greg's and 81% of Kenny's null subjects are produced in finite contexts. We have no explanation for this result.

Similarly, the occurrences of subject clitics are found almost exclusively in finite contexts. The same observation was made by Pierce (1989). She proposes that the very small number of subject clitics used in non finite clauses might be due to performance errors.

The sentences below represent utterances from the L2 data where subject clitics appear in the grammatical finite context, and in the unusual ungrammatical non finite context:

(30) **[+finite]**

a. non je veux pas
'no I don't want to' (Greg 9)

b. il est grand
'he is tall' (Kenny 7)

[-finite]

c. moi je téléphoner ma maman
'me I telephone my mom' (Greg 14)

d. moi je jouer à ambulance
'me I play ambulance' (Kenny 15)

The occurrence of subject clitics almost exclusively in finite contexts is proof that the children are making a distinction between tensed and non tensed verb forms. Only verbs which raise to I° to pick up tense features can assign nominative case to the subject position, thus licensing subject clitics. Consequently, finite sentences such as (30a,b) must be derived via verb raising. Following Pierce (1989), we will conclude that the near absence of subject

clitics in untensed clauses is evidence for the presence of an I-system in the grammar.

If we turn to the percentage of pronominal subjects against that of lexical subjects, we notice that the number of pronouns increases over time, suggesting that the verb raising mechanism and the Case marking system are well in place. For the percentage and the number of pronominal subjects against the number of all overt subjects, see Table 6.

In Table 7, we observe that overt subjects are far more frequent in the input than null subjects. However, there is a period of unstability with respect to the use of an overt subject during which Kenny seems to omit a considerable number of subjects where they would be required.

This can be partly explained by existing morphophonological processes typical of spoken Canadian French. Walker (1984;136) notes that there is a wide variety of modifications performed on subject pronouns, and especially on the third person forms. The singular form 'il' ('he') is uniformly reduced to /ɪ/ before consonants and to /j/ before vowels. As for 'elle' ('she'), it shows up as /a/ before consonants, and /ɛ/ or /al/ before vowels.

Consequently, it is possible that when Kenny uses the 3rd person singular form of the copula, 'est' ('is'), with the reduced 3rd person singular feminine pronoun 'elle' -> /ɛ/, the result is a sequence of two /ɛ/'s. This creates the impression of an absence of overt subject. Three out of seveteen 'null' subjects at month 7 in Kenny's data could be due to this process.

To sum up this section, we have noted that for the most part, the L2 learners produce finite utterances with overt subjects, and that the number of subject clitics increases over time.

Object Clitics

The presence of object clitics becomes significant only in the later months of acquisition. Some examples are provided in (31):

(31) on va le monter dessus
'we will put it on top' (Greg 18)

moi j'en ai en-haut
'me I have some upstairs' (Greg 25)

moi j'en ai des animaux
'me I have some animals' (Kenny 18)

oui je l'ai vu
'yes I saw it' (Kenny 25)

At the point when object clitics emerge, there is a short period during which the children leave out arguments, which should be pronominal object clitics. Examples of contexts where an object clitic is missing are given below. The missing clitic is provided below the line:

(32) j'__ ai tout partout
en
'I have (some) all over' (Greg 15)

j'__ ai encore fait trop grand
l'
'I made (it) again too big' (Greg 15)

est-ce que tu peux __ faire plus grand que ça?
le
'can you make (it) bigger than this?' (Kenny 18)

tu peux __ __ donner
me la
'you can give (me) (it)' (Kenny 18)

At month 25, both subjects start to use clitics productively, and even overgenerate clitics in contexts where they don't seem to be linked to an argument position. Examples of these 'extra' clitics

(underlined) are provided in (33):

(33) non lui il y en a des souliers
'no he has some shoes' (Greg 25)

moi j'en ai la même
'me I have some the same' (Greg 27)

moi j'te l'ai
'me I have it (to you)' (Kenny 25)

c'est Luc ça j'te pense
'this is Luc I think (to you)' (Kenny 25)

Overall, object clitics are used productively from the 25th month of L2 acquisition, at which point there is an overgeneration of clitics. For several months previous to that, clitics are sometimes omitted. For the distribution of object clitics in the L2 data, consult Table 8.

To summarize this section on the inflectional phrase, we have shown that L2 learners use tensed verb forms, which move to I° over negation, adverbs and quantifiers in the earliest months of L2 development. They produce overt subjects in the majority of required contexts, and many subjects are pronominal clitics. Object clitics start to appear consistently in later months of L2 development.

3.3.3 The Complementizer Phrase

The position of the head of the complementizer constituent in adult French is potentially filled by complementizers such as 'que', 'qui', or 'si', which serve to introduce declarative and interrogative complement clauses. These base-generated complementizers emerged later in the L2 French data than the determiners and the inflectional elements, as shown in the following examples:

(34) quand moi j'ai appris à l'école la maîtresse a dit <u>que</u>
'when me I have learned in school the teacher said that
pas les lignes ne pas toucher
not the lines not touch' (Greg 15)

regarde <u>qu'est-ce que</u> la marionnette fait
'look at what the puppet is doing' (Kenny 10)

The following are rare examples in the data where the complementizer introducing complement clauses seems to be missing:

(35) faut pas __ (que) tu perdes ton bébé
'it must not be that you lose your baby' (Greg 15)

regarde ce __ (que) le singe fait à la pingouin
'look at what the monkey is doing to the pingouin' (Kenny 9)

The examples in (35) do not really show an absence of CP in the L2 grammars since missing complementizers occur in spoken adult French. Consider the following utterance, which was produced by the French speaker who interviewed Greg and Kenny:

(36) veux-tu ____ (que) je le tienne?
'do you want (that) I hold it?'

Table 9 provides the number of complementizers occurring in the required contexts, at the beginning of complement clauses.

Another constituent base-generated under the head position of the complementizer phrase is the infinitival marker 'de' ('to') (Labelle and Hirschbuhler 1991). This is different from English, where the infinitival marker 'to' is located under I°. Precursors of infinitival constructions with 'de' emerged at month 25 in the speech of Greg, and at month 9 in Kenny's speech, as shown below:

(37) veux-tu arrête de lancer
'would you stop to throw (it)' (Greg 25)

moi dire le crocodile de manger toi
'me tell the crocodile to eat you' (Kenny 9)

Productive use of correct infinitivals with 'de' emerges at month 29 for Greg and month 25 for Kenny. Overall though, the occurrences of such structures are rather exceptional in the data.

Yet another role for the head position of the complementizer phrase in French is to serve as the landing site for tensed verbs in yes/no questions. Again, examples of yes/no questions were found only in the later stages of acquisition:

(38) veux-tu faire de le dessin?
'do you want to make a drawing?' (Greg 20)

peux-tu enlever ça?
'can you remove this' (Kenny 20)

However, in spoken French, it is more common to form a yes/no question introduced by 'est-ce que'[4], where the tensed verbal element does not move to the head position of the complementizer phrase. The following is an example of a typical yes/no question in adult spoken French:

(39) est-ce que tu aimerais une autre tasse de café?
' ..... you would like another cup of coffee?'

Such yes/no questions were also found in the earlier samples of L2 acquisition data:

(40) est-ce que t'es trouvé l'autre dent?
'..... you have found the other tooth?' (Greg 14)

est-ce que tu es bilingue?
'..... you are bilingual?' (Kenny 14)

The number and time of emergence of yes/no questions with inversion against those with 'est-ce que' and no inversion are given in Table 10.

French wh-questions formally involve the movement of the wh-word to the specifier position of CP, as in English, and the movement of the tensed verbal element to the head position of the complementizer projection.

The children produced wh-questions at early stages of the acquisition process, as shown here:

(41) qui est ça?
'who is that?' (Greg 5)

où est l'autre comme ça?
'where is the other (one) like this?' (Greg 9)

où est ça?
'where is that' (Kenny 3)

pourquoi i' pleure?
'why he is crying?' (Kenny 3)

qui est ça?
'who is that?' (Kenny 4)

It could be argued that the examples above do not really imply the movement of the wh-word to the specifier position of CP. The questions with 'où' ('where') and 'qui' ('who') follow the same pattern as their English counterparts, namely [wh-word + copula + NP]. This could be a simple case of the transfer of a structure from L1 to L2. Moreover, during the same period, the children do not produce yes/no questions with tensed verbs in the head of CP nor

complement clauses introduced by complementizers. These facts could well be taken to mean that the children do not have a complementizer system in their grammar in the early months of L2 development. They could produce the questions in (45) simply by using a 'set' pattern, or possibly by adjoining the Wh-word to IP[5]. However, the possibility that they are adjoining the Wh-element to IP seems problematic to us, since children do not go through a similar adjunction phase with the other functional projections.

There are other examples where the subjects use 'où' questions, and where they produce a typically French construction with a subject in the form of a chain containing two elements, one appearing before the verb and one after the verb. Consider (42):

(42) où $\underline{il}_i$ est $\underline{le\ sac}_i$?
'where it is the bag?' (Greg 5)

où $\underline{il}_i$ est $\underline{éléphant}_i$?
'where it is (the) elephant?' (Kenny 10)

The above examples suggest that the children are probably doing more than simply transfering an L1 question pattern into French.

In fact, both children have no trouble interpreting Wh-questions with fronted Wh-elements. This is shown in the following interview sequences:

(43) Interviewer: Avec quoi tu veux jouer?
'with what do you want to play?'
Greg : sais pas
'don't know' (Greg 9)

Interviewer: A quoi on joue maintenant?
'what do we play now?'
Kenny : cirque
'circus' (Kenny 2)

The appropriateness of the answers provided to the Wh-questions reflects an ability to process such structures, presumably with the help of a grammar containing a CP. If the grammar didn't contain a CP we would expect children to have problems in processing questions with fronted wh-elements.

We will assume that the children have access to the CP projection and move wh-words correctly to the specifier position. But in the beginning, their inventory of Wh-words is not yet complete. As the lexicon expands, production catches up to comprehension, and a variety of fronted wh-words appear in the data, as shown in the following examples:

(44) qu'est-ce que c'est ça?
'what it is that?' (Greg 9)

de quelle couleur c'est l'écureuil?
'of what colour it is the squirrel?' (Greg 10)

pourquoi t'es fait ça?
'why you have done this?' (Greg 14)

qu'est-ce que c'est?
'what it is?' (Kenny 5)

quelle heure est toi?
'what time (are) have you? (Kenny 10)

comment a fait ça?[6]
'how she does that?' (Kenny 15)

In the above examples of questions with Wh-words, we notice that there is no 'subject inversion', or movement of the tensed verb to the head position of CP, except for the utterance produced by Kenny 10. Lack of inversion is typical of spoken adult French. Therefore, there is a similar lack of unambiguous evidence for the

presence of CP in French Wh-questions.

A fairly small number of examples of wh-words in situ (in their underlying position) were found in the data. These are completely grammatical in spoken adult French. Two examples are reported below:

(45) c'est où?
'it is where?' (Greg 10)

le lion est où?
'the lion is where?' (Kenny 8)

The exceptionality of the cases of wh-in-situ again supports the claim that the grammars of the L2 learners contain an operative complementizer projection. Presumably, if the grammar didn't have a complementizer system, it would be simpler for the children to leave the Wh-elements in their underlying position, rather than to move them to the front of the sentence. This last piece of evidence strengthens the claim that the L2 grammar contains a C-system and that children form Wh-questions by moving the Wh-elements to the specifier position of CP.

For the number of wh-questions with inversion versus the number without, see Table 11.

To summarize this section, the emergence of base-generated elements in C° (complementizers) introducing embedded clauses is relatively late for both children (at month 12, on average). The infinitival marker 'de' shows up even later, at month 17 on average. The movement of a verbal element to the head C° position to form Yes/No questions occurs at month 20 for both subjects. However, the regular absence of inversion in spoken French results in a lack of clear evidence. Consequently, we cannot conclude that the absence of inversion in the L2 data shows an absence of CP in the L2 grammar at any given point. Wh-questions without inversion can be found in the first months of the L2 acquisition process. There is evidence from the comprehension of Wh-questions and from the rare production of Wh-in-situ, that Wh-elements are moved into the specifier of CP

from the beginning of L2 development.

-- NOTES -- (Chapter 3)

1. See Lightbown (1977) for a more detailled description of the subjects' background and of the procedures.

2. The names "Kenny" and "Greg" are pseudonyms.

3. It is possible that Greg already had distinctions of tense and agreement, but his first interview took place during month 5 of his L2 development.

4. The sequence 'est-ce que' is a fixed expression meaning something like 'is it the case that'. There is no English equivalent.

5. Radford (1990) and Guilfoyle and Noonan (1988) propose that the first wh-words are adjoined to the verb phrase in the L1 acquisition of English. At that point, they report that there is no evidence for IP. In our data, we find that IP is there from the start, and we have no reason to believe that the L2 wh-words would have a different status from that of the target grammar. After all, L2 learners, unlike L1 learners, can interpret wh-questions correctly at the onset of acquisition.

6. As mentionned before, in spoken French the third person singular pronoun 'elle' is often reduced to [a]. Similarly, 'il' is often contracted to [i].

Chapter 4
Discussion of the Results

4.0 Introduction

In the first section of this chapter, we will provide an overview of each child's L2 grammar at 3 given points in their development. The purpose of this is to bring out from the data the fact that structures involving the functional projections DP, IP and CP can all be found at the onset of acquisition.

Subsequently, we will discuss the results of the data analysis presented in chapter 3. We will address problematic structures produced by the L2 learners and give an account of the observed facts as they relate to DP, IP, and CP.

In the third section of this chapter we will compare our results to those of previous studies, and we will address the issues of adult VS child L2 acquisition, of transfer and markedness, as well as the role of the lexicon.

To conclude, we will summarize our account and discuss the relevance of our results for the Maturational Hypothesis in L1 acquisition research.

4.1 L2 Grammatical Development

A major goal of this thesis is to describe the process of L2 grammatical development, with respect to functional projections. One way to achieve this is to examine different points in the development and to compare them quantitatively and qualitatively, to determine how the grammar has changed over time.

We will compare data from 3 interviews, the one held at month 5, the one held at month 14, and the last one at month 29. Before doing this, we will start with data from Kenny, at month 2, to consider the very beginning of the acquisition (unfortunately, Greg was not interviewed until month 5).

4.1.1 The L2 Grammar at Month 2

Kenny's speech at month 2 is characterized by the presence of determiners (4 occurrences out of 6 contexts) and a few inflectional markings, and by the absence of elements in the complementizer projection.

The following utterances illustrate these properties of the grammar (Kenny 2):

(1) a. c'est une giraffe
'it's a giraffe'

b. je sais pas
'I don't know'

c. une fille monter
'a girl come up'

d. ça c'est pas ma maman
'this is not my mother'

In (1), we see that nominals are accompanied by determiners. The verbs bear some inflectional markings, but the forms 'c'est' and 'sais pas' could be rote-learned. At first glance, it is not clear whether these can count as legitimate occurences of verb-raising to tense. In (1b) and (1d), the negation correctly follows the verb, suggesting that it must be in I.

At month 2, there is a clear lack of production of elements in a complementizer projection. But there is evidence that Kenny can interpret Wh-questions correctly, implying that his grammar contains a complementizer system (see section 3.3.4).

4.1.2 The L2 Grammar at Month 5

The L2 grammar at month 5 for both children contains determiners, inflectional markings, and some fronted Wh-words.

Greg produced 24 determiners out of 28 obligatory contexts, and Kenny used 39 determiners out of 41 obligatory contexts. It is clear that a determiner system is part of the L2 grammar.

Below are some utterances from the data which show the presence of an inflectional system in the grammar. The properties related to IP are the presence of inflectional markings on the verb (as in 2a-d), the use of overt subjects (as in 2a-d) and of subject clitics (as in 2b and 2d), and the correct placement of negation (as shown in 2c):

(2) a. le lion mange les giraffes
'the lion eats the giraffes' (Greg 5)

b. moi j'ai deux fermes
'me I have two farms' (Greg 5)

c. le giraffe peut pas
'the giraffe can't' (Kenny 5)

d. il reste là
'he stays there' (Kenny 5)

Although the evidence for the presence of a complementizer system is not abundant, there are some examples of fronted Wh-words, as shown in (3):

(3) a. qui est ça?
'who is that?' (Greg 5)

b. où est __?
'Where is__?' (Greg 5)

c. qu'est-ce que c'est?
'what is it?' (Kenny 5)

d. où il est le méchant?
'Where he is the mean one?' (Kenny 5)

At month 5, Greg produces 7 occurrences of Wh-questions, 4 of which are introduced by 'qui' and the other 3 by 'où'. The Wh-questions introduced by 'qui' do not provide clear examples of Wh-movement to the specifier position of CP. The Wh-element 'qui' is a subject in the specifier of IP and its movement to the specifier of CP doesn't have any visible effect. However, because the interpretation and the production of Wh-questions requires movement of the Wh-operator, either at S-structure or at Logical Form, a grammar which generates 'qui' questions must contain a specifier of CP position to accomodate the Wh-operator. As for Kenny, he produces a total of 19 Wh-questions, and he uses 'où' in 10 of them. The other 9 questions are introduced by 'qu'est-ce que'. Despite the small inventory of Wh-words in the data, the forms in (3) are evidence for the presence of a CP.

4.1.3 The L2 Grammar at Month 14

There is ample evidence for the presence of functional projections in the production data at month 14. With respect to determiners, Greg produces 137 occurrences out of 140 contexts, and Kenny 65 out of 70.

Properties associated with the presence of an inflectional system are numerous. The utterances below contain examples of the following crucial properties: morphological markings on the verb (4a-d), correct negation placement (4a), overt subjects (4a-d), subject clitics (4a-d), and a few object clitics (4a,4d):

(4) a. non j'l'trouve pas
'no I can't find it' (Greg 14)

b. moi je vais à la toilette au plus vite
'me I go to the bathroom as fast as possible' (Greg 14)

c. je veux mon bébé
'I want my baby' (Kenny 14)

d. oui je l'sais ça
'yes I know that' (Kenny 14)

To the examples in (4) we must add that there is a high proportion of strong pronouns in subject position, without the weak pronouns, in the speech of our L2 learners, and particularly in Kenny's sample (56% of subject pronouns were of this type at month 14). One example is given in (5):

(5) moi veux tous les couleurs
'me want all the colours' (Kenny 14)

This is not grammatical in adult French. An account will be proposed in section 4.2.

At this point, evidence for a C-system comes from both the presence of fronted Wh-elements (as in 6a-c) and complementizers introducing embedded clauses (as in 6b, a relative clause, and in 6d, a verb complement clause):

(6) a. pourquoi t'es fait ça?
'why you did that?' (Greg 14)

b. où est le bébé qui va dans le ça?
'where is the baby who goes in this?' (Greg 14)

c. qu'est-ce que tu as fait?
'what you have done?' (Kenny 14)

d. regarde qu'est-ce qui s'passe là.
'look at what's going on there' (Kenny 14)

The utterances in (6) show that the children can produce elements

which are generated in the head of C (qui, qu'est-ce qui) or moved to the specifier position of CP (pourquoi, où, qu'est-ce que). Month 14 marks the first time that Greg actually produces embedded clauses (Kenny started at month 10).

To sum up, there is evidence for all three functional projections in the production of the L2 learners at month 14, but we are finding some problems with pronominal subjects.

4.1.4 The L2 Grammar at Month 29

The data at month 14 and month 29 are not qualitatively very different. The main qualitative change is that the use of pronominal subjects has become like that of the target grammar. The strong pronominal forms produced in isolation disappear and both children attain 100% accuracy in their use of subject clitics. Quantitatively, the other structures involving functional projections have increased in number. Some utterances from month 29 are reported in (7):

(7) a. j'pense qu'il est pas content d'être resté
'I think that he is not happy to have stayed' (Greg 29)

b. pis une fois il a oublié d'apporter son devoir
'and once he forgot to bring his homework' (Greg 29)

c. c'est moi qui servais le lait
'it's me who was serving the milk' (Kenny 29)

d. il y a cinq avions qui attaquent le tank
'there are five planes attacking the tank' (Kenny 29)

The utterances in (7) illustrate the consistent use of determiners (7b,c) and inflectional properties (a-d), as well as the capacity of the L2 grammar to construct complex sentences, with all sorts of embedded clauses such as verb complement clauses (4a,b), relative clauses (4c,d), and infinitival clauses (4a,b). By month

29, the L2 production data resembles adult French.

In conclusion, we have shown that all three functional projections are part of the grammar at the very beginning of L2 acquisition. The developmental changes in the grammar are quantitative rather than qualitative.

4.2 Some Peculiarities of Functional Projections in Child L2 French

In this section we will address some problematic issues pertaining to IP and CP in the L2 data.

4.2.2 Some Problems With Agreement Markings

The morphological and syntactic evidence for the presence of IP in the earliest months of acquisition was slightly ambiguous. The data revealed that the L2 learners used person agreement suffixes correctly from the start, but there were number agreement errors and correct number agreement emerged quite late (at around month 20).

Meisel (1992) proposes that the relevant feature in the agreement system is 'person' and not 'number'. He cites Platzack and Holmberg (1989) who have demonstrated that historically the loss of number agreement has not affected other grammatical properties whereas the loss of person agreement has had consequences on other areas of the grammar. Consequently, Meisel suggests that agreement should be understood to mean person agreement. On this view, the L2 grammar could be said to have the crucial properties of the inflectional system (and more specifically in Pollock's (1989) framework, an agreement phrase, AGRP).

If we now consider syntactic evidence, Meisel (1992) reports that negation placement is correct in the early L1 grammars of French and German as soon as the person agreement system is acquired. We found in our data that the placement of negation, as well as adverbs and quantifiers, was correct from the earliest months[1] of acquisition. We take this as evidence that the verb is correctly raised to I°, over negation, adverbs and quantifiers.

4.2.3 Some Problems With Clitics

The use of subject clitics, attaching to I°, begins at the onset of L2 acquisition. However, in the case of Kenny, the number of clitics (correctly case-marked forms) decreases between month 5 and month 14, at which point he uses strong pronouns interchangeably with clitics (weak forms). Recall that the use of strong forms in adult French must cooccur with clitics.

Kenny reaches a near perfect accuracy rate in subject clitic use by month 18. The U-shaped development of subject clitics in Kenny's data cannot be explained by the absence of IP in the grammar, since there is no such developmental curve for any of the other properties associated with IP, such as negation placement. Furthermore, if IP were missing at the beginning of L2 acquisition, we would expect the learners to have problems with clitics from the start.

A possible explanation for this would be that the Case Filter is not operative until month 18, so that the subject position would not be properly case-marked. However, this seems unlikely, given that the Case Filter operates in other environments. For instance, the error of using a nominative pronoun in the internal argument position of the verb is never found in the data, as we might predict if the Case system was inoperative in the grammar.

Let us examine closely the nature of the strong pronominals as opposed to subject clitics and referential NPs. In adult French, the strong pronominal forms occur in subject doubling constructions, as shown here:

(8) Moi j'aime le chocolat.
'Me I like chocolate.'

Referential noun phrases can also occur in the doubled constructions:

(9) Nathalie elle aime le chocolat.
'Nathalie she likes chocolate.'

Further evidence for the similarity between referential NPs and strong pronouns in the input comes from the conjunction of a referential noun phrase and a strong pronoun, as in (10) below:

(10) Jean et moi allons au cinéma ce soir.
'Jean and I are going to the movies tonight.'

Although the distribution of strong pronominals seems similar to that of noun phrases, strong pronominals, unlike referential noun phrases, cannot appear in isolation without a subject clitic:

(11) a. *Moi vais au cinéma.
'Me am going to the movies.'
b. Isabelle va au cinéma.
'Isabelle is going to the movies.'

Therefore, we will propose that the L2 learners treat strong pronominals like referential noun phrases at first, although in the target grammar only referential noun phrases can be used independently of a subject clitic. We are not aware of a theoretical analysis of the strong pronominal forms accounting for the distributional facts presented above. We will tentatively suggest that they cannot be assigned nominative case directly, for some reason, and must share the nominative case with a subject clitic.

Our L2 learners must come to realize that nominative subject pronouns in French are clitics, and that French allows the possibility for subject doubling. That English L2 learners of French experience some trouble with pronominal subjects in French is to be expected, since English does not allow subject doubling and English nominative pronouns are not clitics.

The situation is similar with respect to object pronouns. In French, object pronouns cliticize onto the verb, as shown below:

(12) Je t'aime.
'I you love'

These forms are late to emerge in the L2 production data. When object clitics do begin to emerge in the data, their use is not consistent, so that pronominal objects are sometimes missing altogether. Alternatively, there is an overgeneration of clitics which are not linked to an argument position.

The presence of clitics not linked to an argument position has been noted in a large number of French dialects. Authier and Reed (1991) provide an account of some of these, which are called "affected datives". The affected datives "...refer to an individual who is understood as being concerned in some pragmatically determined way by the event denoted by the whole sentence (Authier and Reed 1991; 2)." An example taken from their paper is given in (13), where the affected dative is underlined:

(13) Le gosse <u>lui</u> a démoli son pull.
"The kid has ruined her sweater <u>to his mother</u>."

Authier and Reed (1991) propose that French affected datives are caseless affixes generated in AGR (Pollock 1989) and possibly receive a theta-role from the highest VP projection or introduce it directly. At least one of the examples of 'extra' clitics given in chapter 3 fits this pattern and is repeated here:

(14) moi j'<u>te</u> l'ai
'I have it to you' (Kenny 25)

The clitic 'te' ('to you') could be analysed as an affected dative, because it refers to someone who is concerned by the event.

The clitic 'te' could also be an "ethical dative", which denotes an individual who is only a potential witness to the event denoted by the sentence (Authier and Reed 1991). An example of an ethical dative in our data was presented in chapter 3, and is repeated below:

(15) c'est Luc ça j'<u>te</u> pense
'this is Luc I think to you' (Kenny 25)

In both cases, the clitic 'te' is not linked to an argument position, and it behaves like the affected or ethical datives attested in many dialects of French. However, the contexts where the children produce these are not adult-like. In any event, the production of such clitics entails the presence of an I-system in the L2 grammar.

We find that the L2 learners not only overgenerate dative clitics, but also genitive 'en' and locative 'y'. The production of non-argument clitics in L2 French could mark a stage, during which the learners are testing out the possibilities that their newly acquired grammatical system generates.

There seems to be a delay in the L2 acquisition of properties linked to the inflectional system which are specific to the L2 (in this case, the clitic status of subject and object pronouns), and thus cannot be transfered from the L1. However, those properties which are common to both the L1 and the L2 are readily available in the L2 grammar. These are: the requirement that subjects be overt and marked for nominative case; the presence of morphological markings on verbs; and verb movement to I° (required in all languages, though at different levels (Chomsky 1989)).

4.2.4 Some Problems With Complementizers

The evidence for the presence of a complementizer system in the L2 grammar on the basis of production data was rather limited in the first few months of L2 development. However, on the basis of comprehension data involving Wh-questions, it is clear that there is a complementizer projection in the grammar at the onset of L2 acquisition. The same conclusion has been drawn by Lakshmanan (1992), who reports that the CP projection is present from the beginning of L2 acquisition, but the head C° remains empty in the first stage of acquisition.

Head complementizers introducing finite and nonfinite embedded clauses appeared several months after determiner and inflectional heads. An explanation for this delay could be that the learners must first acquire verbs which subcategorize for CP complements before they can produce embedded clauses. In other words, the delay in the

use of overt complementizers could be accounted for by the rate of expansion of the vocabulary.

If the L2 grammar lacked a complementizer projection, we would predict that the L2 learner might attempt to produce embedded clauses without overt complementizers in the beginning. When CP would become available in the grammar, overt complementizers would consistently introduce embedded clauses. But, we have found very few examples of embedded clauses in the L2 data which are not introduced by overt complementizers: 16/112 in Greg's data and 2/137 in Kenny's data. Moreover, the few cases of missing complementizers in Greg's data can be found up until the last month of observation (i.e. they do not disappear abruptly). This suggests to us that L2 grammars are not deficient in terms of the C-system at the beginning of L2 acquisition.

In chapter 3, we noted that complementizers introducing embedded clauses are not always overt in spoken adult French. We propose that the small number of missing complementizers in the L2 data is due to the occasional instances of missing complementizers in the input. Another possible explanation is based on the notion of transfer. Since the L1 of our learners is English, and in some cases, overt complementizers are optional in English, it is likely that L2 learners would allow complementizers to also be omitted in French.

4.3 Comparison With Other Studies

We will now compare our results to Lakshmanan (1991a), and to Vainikka and Young Scholten (1991), two studies investigating the status of functional projections in L2 acquisition, which were summarized in chapter 2.

Their different results will be the starting point for a discussion of child vs adult L2 acquisition, and of the availability of Universal Grammar. Then, we will address the issue of differences between child L1 and L2 acquisition. Subsequently, we will discuss the notions of transfer and markedness in L2 acquisition. Finally, we will touch on the role of the lexicon.

4.3.1 Child Versus Adult L2 Acquisition

There is a marked difference in the reported status of functional projections in child and adult L2 acquisition. Lakshmanan (1991a) found that the Case Filter and the IP projection were present in the L2 grammars of English at the onset of child L2 acquisition; in Lakshmanan (1992), she presents evidence for the presence of the CP projection as well. These results are very similar to ours.

Vainikka and Young-Scholten (1991), who looked at the status of functional projections in adult L2 acquisition of German, reported that IP and CP were absent in the beginning of L2 acquisition. Furthermore, they found that adult L2 learners did not acquire the proper head position for IP.

It looks to us as though child second language learners are able to tap into abstract grammatical knowledge at the onset of L2 acquisition. Whether this knowledge comes from Universal Grammar directly, or whether some of it comes from the first language, we cannot determine on the basis of our data, because the same functional projections are operative in English and French.

Adult learners in Vainikka and Young-Scholten's study, on the other hand, do not seem to have access to the same knowledge. We must account for this contrast between child and adult L2 acquisition.

One possible explanation rests on the notion of the availability of Universal Grammar. There are two main positions: a) UG is no longer available to adult learners; or, b) UG is available to child and adult language learners alike, observed differences between them are due to a number of other factors (see White 1989 for a review of these issues).

Proponents of the first position (Clahsen and Muysken 1986) assume that the process of adult L2 acquisition is radically different from L1 acquisition, in that the mechanisms underlying adult L2 acquisition are not the same as those underlying L1 acquisition. Position b) holds that UG remains accessible to the adult learner; one possible cause for the discrepencies between child L1 (or L2) and adult L2 acquisition would be the nonavailability of learning principles (see White 1989).

The idea of a "critical period" for language acquisition (first introduced by Lenneberg 1967) provides a plausible explanation for the nonavailability of UG or of learning principles to adult language learners. This hypothesis holds that language acquisition must occur before puberty in order for language to develop fully.
We will adopt one version of the Critical Period Hypothesis proposed by Johnson and Newport (1989;94):

(16) The Maturational State Hypothesis
Early in life, humans have a superior capacity for acquiring languages. This capacity disappears or declines with maturation.

Johnson and Newport (1989) claim that children have a superior language learning capacity whether they are acquiring a first or second language. They argue that if L2 acquisition begins before age 15, success can be predicted by the age at which it starts, i.e. the earlier, the more successful. The Critical Period Hypothesis is compatible with the contrastive results of child and adult L2 acquisition studies we reported above. In our study, the subjects started to acquire French at the age of 5;8 on average, and they were shown to have access to X-bar principles, the Case Filter, and lexical and functional projections at the onset of acquisition. In Vainikka and Young-Scholten's study, the adults did not seem to have access to that same grammatical information in the earliest stages of L2 acquisition. The delays in the emergence of functional projections in adult L2 could be due to the unavailibility of UG or of learning principles guiding child learners. Adult learners may have to call on general problem-solving cognitive system to construct the L2 grammar (Felix 1981). They would be expected to experience greater difficulty than children who have access to a language-specific acquisition device.

To summarize, we found our results compared favorably with Lakshmanan's (1991) investigation of functional projections in child L2, while they differ considerably from Vainikka and Young-Scholten's (1991) study looking at adult L2 development. We have suggested that there is a difference between child L2 acquisition and adult L2

acquisition with respect to the availability of UG, or of language-specific learning principles. We have proposed that this difference is due to the effects of a Critical Period for language acquisition.

4.3.2 Child L1 Versus L2 Acquisition

Although we expect that child L2 acquisition will be similar to L1 acquisition since it also occurs before the Critical Period, there are some observed differences between them. We will compare our results to Radford's (1990) investigation of the status of functional projections in early L1 English, and to Pierce's (1989) study on the presence of IP in early L1 French.

As described in chapter 2, Radford (1990) reported that children acquiring English as an L1 go through a stage during which there are no functional projections in the grammar. He argued that the absence of functional projections at the onset of acquisition is due to maturational factors. Functional elements would become operative at the age of approximately 2;0. Our L2 results do not cast doubt on this hypothesis, since we find that functional projections are available at the age of 5;8, a result that Radford's maturational hypothesis would predict.

To account for this difference between L1 and L2 acquisition, we will make the following assumption (along with Lakshmanan 1991, 1992): once functional projections become operative in the L1, they will be available for L2 acquisition as well. This assumption is related to the concept of 'transfer'. By definition, second language learners already know a language: they have internalized a grammar for their L1. This knowledge can serve as a basis for forming hypotheses about the L2. In the present case, the L1 English grammar contains the three functional projections, DP, IP and CP. The English L2 learner will therefore expect that the L2 French will also have DP, IP and CP. Because both of these languages have the same functional projections, our L2 learners were able to successfully transfer their L1 knowledge to the L2, at the onset of acquisition.

As we mentioned in chapter 2, not all studies on the status of

functional projections in L1 acquisition have reached the same conclusions. Pierce (1989) found that there was evidence for the inflectional system in early L1 French. The central piece of evidence for the presence of IP is the high percentage of post-verbal subjects in early child L1 French. Pierce accounts for this phenomenon by claiming that in the beginning of L1 acquisition, the verb moves to I°, but the subject optionally stays behind in the specifier of VP. Although we have found evidence for an inflectional system in early child L2 French, we have not found any occurrences of post-verbal subjects. We impute this difference between L1 and L2 development to the fact that the L2 learners already have a grammar in which the subjects are obligatorily preverbal (for case assignment reasons). Therefore, child L1 and L2 learners are not 'equal', since child L2 learners have access to grammatical knowledge from their L1.

To sum up, the comparison of our results to Radford's (1990) study of early L1 English did not yield any information which could challenge the Maturational Hypothesis. In other words, the status of functional projections in our L2 data is consistent with a maturational account. By comparing our French L2 data to L1 data, we found that L2 learners do not pass through the same sequences of development. We would like to maintain that this difference comes from the L1 grammatical knowledge L2 learners have access to when confronted to the second language.

4.3.3 Transfer and Markedness

Claiming that abstract grammatical knowledge from the L1 is available to child L2 learners brings us to consider the notion of 'transfer'. Transfer can be defined as "...the process of using knowledge of the first language in learning a second language (Ellis 1986; 305)".

Earlier we said that we could not determine on the basis of our data whether Universal Grammar was directly accessible to L2 learners, or whether it was mediated through the L1. The ambiguity stems from the fact that the L1 and the L2 share the same functional

projections, namely DP, IP and CP. It is quite possible that L2 learners draw functional projections and their associated properties from their L1 grammars, rather than going back to UG. Evidence for L1 transfer rather than direct access to UG comes from the distinct positions of the grammatical subject in early L1 and early L2 French. If child L2 learners had direct access to UG, we might predict that they would do exactly as L1 learners do. This was shown not to be the case.

Even though much of the knowledge about functional projections could be transferred from the L1, we do not wish to rule out the possibility that UG plays a more direct role in guiding the L2 learner. There were some delays in the production of structures dependent on the presence of the functional projections IP and CP in the L2 grammars of our subjects. In particular, we found that correct main verb movement to I° emerges long before the correct use of subject clitics, while both of these properties are linked to the presence of IP. Since both L2 properties are different from the L1 (in English, main verbs do not raise to I° and subject pronouns are not clitics), the notion of transfer cannot account for the sequence of emergence observed in our data.

Grammatical properties which are not shared by the majority of languages are often labelled as marked, while those which are common to most languages are unmarked. In language acquisition, the assumption is that unmarked structures will be acquired before marked ones. We would like to consider a theory of markedness formulated by Deprez and Pierce (1992;32), who propose that:

(17) "Parameters involving a unique way of satisfying some UG principle, either overtly or covertly, appear to be set at the onset of grammatical development. Parameters involving distinct ways of satisfying UG principles or language particular constraints appear to be set after some period of delay in which the child's grammar manifests simultaneously the concurrent options made available by UG."

Let us apply this hypothesis to the issue of verb raising and subject clitics. Following Chomsky (1989), there is [illegible]

UG which forces languages to have V° to I° movement either at S-Structure (overtly) or at Logical Form (covertly). In French, this movement is overt, and in English, it is covert. We predict according to the hypothesis in (17), that V° to I° movement should occur at the onset of L2 acquisition in our subjects' grammars if the relevant UG parameter is still available. This prediction is supported by our L2 data.

That subject pronouns be clitics in some languages is an option allowed by UG, but there is no parameter or principle of UG which forces the cliticisation of pronouns at any level of representation. The presence of pronominal clitics in a language is a peculiarity of that language. Therefore, the hypothesis in (17) predicts that such forms would appear in the grammar after some period of delay, during which the grammar oscillates between the possibilities. We have found that the L2 learners experience a period of confusion and finally settle on the correct option.

4.3.4 The Lexicon

The delay in the emergence of clitic pronouns, associated with IP, was said to be due to the fact that these forms are marked grammatical properties. But what about the delay in the emergence of head complementizers introducing embedded clauses?

We propose that this delay is caused by the size and the nature of the lexicon at the beginning of acquisition, in particular the number and type of verbs which select nominal, prepositional, and clausal complements. Learners do not necessarily acquire verbs selecting clausal complements at the onset of acquisition. Nor do they necessarily acquire all the complements selected by a verb at once (White 1989;142). For example, a learner might know that a given verb like 'see' takes a nominal complement, but ignore at first that it can also take a clausal complement (example taken from White 1989;142):

(i) 'Lily saw John.' ('N' complement)

'Lily saw that John was here.' ('S' complement)

The prediction is that overt complementizers cannot surface in the data until some verbs taking CP complements have been added to the lexicon. We suggest that embedded clauses introduced by overt complementizers are slow to emerge in the L2 data because at the onset of acquisition the lexicon does not yet contain verbs which select CP complements, and not because the C-system is missing from the grammar.

4.4 Conclusion

To summarize our research, we have found that all three functional projections are present in the earliest stages of child L2 acquisition. This result gives us no evidence against the Maturational Hypothesis proposed by Radford (1990) to account for the delays in the emergence of functional projections in L1 acquisition. The Maturational Hypothesis predicts that functional projections should be available to language learners after the age of 2;0. Given our findings, this hypothesis is still valid.

We have proposed that grammatical knowledge from UG, in some cases mediated by the L1, is guiding child L2 acquisition. Delays in the emergence of some structures are due to their language particular or marked status, and therefore take longer to endorse. The contents of the lexicon is another factor which determines the presence or absence of such functional elements or complementizers at the onset of acquisition.

Further research on the status of functional projections in child L2 grammars is needed to determine more precisely what roles UG and the L1 play in L2 development. It would be revealing to study languages which have more contrasts with respect to their functional projections than English and French do. Also, it would be useful to take the subjects through elicited production and comprehension tasks, to have a clearer view of the state of the L2 grammar at any given point in the development.

Appendix

TABLE 1: INFORMATION ABOUT THE SUBJECTS

Amount of exposure in months	Age		Interview #	
	Greg	Kenny	Greg	Kenny
2	5;6	5;10	--	4[1]
3	5;7	5;11	--	5
4	5;8	6;0	--	6
5	5;9	6;1	2[2]	7
7	5;11	6;3	—	8
8	6;0	6;4	--	9
9	6;1	6;5	3	10
		6;6	--	11
10	6;2	6;7	4	12
11	6;3	6;8	5	13
14	6;6	6;10	6	14
15	6;7	6;11	7	15
18	6;10	7;2	8	16
20	7;0	7;4	9	17
25	7;5	7;9	10	18
27	7;7	7;11	11	19
29	7;9	8;1	12	20

1. Kenny was interviewed on 5 occasions during his nursery program, and spoke very little. Consequently these sessions were not included in this study.

2. As mentioned in section 2.1.2, the first interview with Greg didn't yield enough data to even make a transcription. That explains why the first analysed interview is number 2.

TABLE 2: INSTANCES OF DETERMINERS IN OBLIGATORY CONTEXTS

	Greg		Kenny	
Amount of exposure (month)	to/ty	%	to/ty	%
2	--	--	4/6	67
3	--	--	18/20	90
4	--	--	14/15	93
5	24/28	86	39/41	95
7	--	--	50/52	96
8	--	--	34/36	94
9	47/51	92	18/18	100
	--	--	39/42	93
10	62/63	98	13/14	93
11	58/60	97	37/39	95
14	137/140	98	65/70	93
15	149/155	96	71/74	96
18	105/111	95	108/113	96
20	90/91	99	83/84	99
25	236/239	99	108/110	98
27	171/172	99	155/159	97
29	165/169	98	116/121	96

TABLE 3: INSTANCES OF SUBJECT CLITICS COMPARED TO ALL SUBJECTS

	Greg		Kenny	
Amount of exposure (month)	to/ty	%	to/ty	%
2	--	--	3/4	75
3	--	--	7/8	88
4	--	--	13/14	93
5	12/19	63	8/13	62
7	--	--	9/17	53
8	--	--	6/15	40
9	16/18	89	6/18	33
	--	--	7/15	47
10	12/22	55	16/33	49
11	16/18	89	19/33	58
14	107/121	88	24/55	44
15	173/180	96	51/73	70
18	98/104	94	114/118	97
20	150/153	98	129/131	98
25	213/213	100	184/184	100
27	280/280	100	185/187	99
29	315/315	100	177/177	100

TABLE 4: INSTANCES OF CORRECT NEGATIVE PLACEMENT

	Greg		Kenny	
Amount of exposure (month)	to/ty	%	to/ty	%
2	--	--	4/4	100
3	--	--	7/7	100
4	--	--	7/10	70
5	9/9	100	11/11	100
7	--	--	21/22	96
8	--	--	11/11	100
9	16/16	100	2/2	100
	--	--	16/16	100
10	26/27	96	30/30	100
11	18/20	90	16/17	94
14	35/36	97	29/30	97
15	57/65	88	20/26	77
18	39/39	100	32/34	94
20	46/47	98	18/18	100
25	101/101	100	42/44	95
27	73/74	99	34/34	100
29	30/30	100	31/31	100

TABLE 5: DISTRIBUTION OF SUBJECTS

	Lexical Subjects	Pronominal Clitics	'Strong' Forms in Isolation	Null Subjects	Total
Greg					
+fin.	355	1385	22	83	1845
-fin.	2	15	21	25	63
total	357	1400	43	108	1908
Kenny					
+fin.	303	960	77	110	1450
-fin.	6	5	53	26	90
total	309	965	130	136	1540

TABLE 6: INSTANCES OF PRONOMINAL SUBJECTS COMPARED TO ALL SUBJECTS

	Greg		Kenny	
Amount of exposure (month)	to/ty	%	to/ty	%
2	--	--	4/4	100
3	--	--	8/10	80
4	--	--	14/26	54
5	19/22	86	13/27	48
7	--	--	17/35	49
8	--	--	15/27	56
9	18/62	29	18/28	64
	--	--	15/30	50
10	22/58	38	33/52	63
11	18/41	44	33/55	60
14	121/212	57	55/88	63
15	180/224	80	73/114	64
18	104/134	78	118/161	73
20	153/189	81	131/151	87
25	213/230	93	184/193	95
27	280/297	94	187/205	91
29	315/331	95	177/198	89

TABLE 7: INSTANCES OF OVERT SUBJECTS COMPARED TO ALL SUBJECTS

	Greg		Kenny	
Amount of exposure (month)	to/ty	%	to/ty	%
2	--	--	4/4	100
3	--	--	10/12	83
4	--	--	26/27	96
5	36/43	84	27/33	82
7	--	--	37/52	71
8	--	--	29/33	89
9	62/66	94	30/33	91
	--	--	32/43	74
10	58/66	88	54/63	86
11	41/50	82	57/64	89
14	212/218	97	90/98	92
15	129/152	90	116/136	85
18	86/99	87	163/171	95
20	107/109	98	153/160	96
25	463/468	99	195/196	99
27	295/298	99	207/209	99
30	329/338	97	200/206	97

TABLE 8: INSTANCES OF OBJECT CLITICS

	Greg			Kenny		
Amount of exposure (month)	to/ty	%	'extra'[1]	to/tv	%	'extra'
2	--	--	--	0/0	0	0
3	--	--	--	3/3	100	0
4	--	--	--	1/1	100	0
5	0/0	0	0	1/1	100	0
7	--	--	--	0/2	0	0
8	--	--	--	0/1	0	0
9	0/0	0	0	0/1	0	0
	--	--	--	0/1	0	0
10	0/0	0	0	2/2	100	0
11	0/0	0	0	10/10	100	0
14	1/2	50	0	4/10	40	0
15	0/2	0	0	9/12	75	0
18	2/3	67	0	10/16	63	0
20	7/15	47	0	10/18	56	0
25	58/89	65	2	46/50	92	27
27	16/49	33	2	47/49	96	10
29	14/37	38	1	24/26	92	4

1. The column under 'extra' represents the number of clitics which are not linked to an argument position in the verb phrase.

TABLE 9: INSTANCES OF COMPLEMENT CLAUSES INTRODUCED BY COMPLEMENTIZERS

	Greg		Kenny	
Amount of exposure (month)	to/ty	%	to/ty	%
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
			0/1	0
10	--	--	11/11	100
11	--	--	4/4	100
14	12/12	100	4/4	100
15	3/10	30	8/8	100
18	6/9	67	18/19	95
20	1/2	50	16/17	94
25	20/21	95	21/21	100
27	19/20	95	25/25	100
29	35/38	92	27/27	100

TABLE 10: INSTANCES OF INVERSION IN YES/NO QUESTIONS

	Greg		Kenny	
Amount of exposure (month)	to/ty	%	to/ty	%
2	--	--	--	--
3	--	--	--	--
4	--	--	--	--
5	--	--	--	--
7	--	--	--	--
8	--	--	--	--
9	--	--	--	--
	--	--	--	--
10	--	--	0/1	0
11	--	--	--	--
14	0/11	0	0/1	0
15	0/8	0	0/10	0
18	0/4	0	0/18	0
20	2/4	50	3/7	43
25	3/19	16	0/6	0
27	1/20	5	5/22	14
29	0/10	0	0/3	0

TABLE 11: INSTANCES OF INVERSION IN WH-QUESTIONS

	Greg		Kenny	
Amount of exposure (month)	to/ty	%	to/ty	%
2	--	--	--	--
3	--	--	3/3	100
4	--	--	6/6	100
5	1/7	14	11/19	58
7	--	--	6/9	67
8	--	--	5/6	83
9	12/21	57	9/13	69
	--	--	18/18	100
10	22/32	69	19/22	86
11	15/20	75	16/17	94
14	49/68	72	25/31	81
15	27/53	51	33/62	53
18	2/22	9	35/65	54
20	7/11	64	11/14	79
25	3/22	14	3/11	27
27	3/25	12	6/15	40
29	0/18	0	2/5	40

Bibliography

Abney, S. (1987) The English Noun Phrase in Its Sentential Aspect, Cambridge. unpublished MIT diss.

Authier, J.M. and L. Reed (1991) 'On the syntactic status of French affected datives', in Bates, D. (ed.), Proceedings of WCCFL 10, Stanford Linguistics Association, 27-39.

Chomsky, N. (1970) 'Remarks on Nominalisation', in Jacobs, R. and P.S. Rosenbaum (eds), English Transformational Grammar, 184-221.

Chomsky, N. (1981a) Lectures On Government and Binding, Dordrecht: Foris.

Chomsky, N. (1981d) 'Principles and Parameters in Syntactic Theory', in Hornstein and Lightfoot (eds), Explanantions in Linguisitics, the Logical Problem of Language Acquisition, London: Longman.

Chomsky, N. (1982) Some Concepts and Consequences of the Theory of Government and Binding, Cambridge, Mass.: MIT Press.

Chomsky, N. (1989) 'Some notes on economy of derivation and representation', MIT Working Papers in Linguistics 10, 43-74.

Clahsen, H. (1989) 'Constraints on parameter setting. A grammatical analysis of some acquisition stages in German child language', Duesseldorf: unpublished ms.

Clahsen, H. and P. Muysken (1986) 'The availibility of Universal Grammar to adult learners and child learners: a study of the acquisition of German word order', Second Language Research, 2, 93-119.

Deprez, V. and A. Pierce (1992) 'Crosslinguistic evidence for functional projections in early child grammar', unpublished ms.

Ellis, Rod (1986) Understanding Second Language Acquisition, Oxford University Press.

Emonds, J. (1976) A Transformational Approach to Syntax, New York: Academic Press.

Felix, S. (1985) 'More evidence on competing cognitive systems', Second Language Research, 1, 47-72.

Guilfoyle, E. and M. Noonan (1988) 'Functional Categories in language acquisition' Paper presented at the B.U. Conference on Language Acquisition in 1988.

Haegeman, L. (1991) Introduction to Government and Binding Theory, Cambridge: Basil Blackwell.

Johnson, J. and E. 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.

Kayne, R. (1984) Connectedness and Binary Branching, Dordrecht: Foris.

Labelle, M. and P. Hirschbuhler (1991), Syntaxe du français, l'universel et le particulier dans la langue, Montréal: unpublished ms.

Lakshmanan, U. (1991a) '"The boy for the cookie"--Some evidence for the non-violation of the case filter in child second language', Paper presented at the Second Language Research Forum held at USC, Los Angeles in Feb. 1991.

Lakshmanan, U. (1992) 'The Development of Complementizers in child L2 grammars', Paper presented at the Second Language Research Forum held at Michigan State University in April 1992.

Lenneberg, E. (1967) Biological Foundations of Language, New York: Wiley.

Lightbown, P. (1977) Consistency and variation in the acquisition of French, Columbia University: Doctoral Dissertation.

Meisel, J. (1990) Two First Languages: Early Grammatical Development in Bilingual Children, Dordrecht: Foris.

Meisel, J. (1992) 'Getting FAT. Finiteness, Agreement and Tense in Early Grammars', in J.M. Meisel (ed.), Bilingual First Language Acquisition: French and German Grammatical Development, Amsterdam: John Benjamins.

Pierce, A. (1989) On the Emergence of Syntax: a cross-linguistic study, Cambridge: MIT Doctoral Dissertation.

Platzack, C. (1990) 'A grammar wihtout functional categories: a syntactic study of early Swedish child language', unpublished ms.

Platzack, C. and A. Holmberg (1989) 'The role of AGR and Finiteness in germanic VO-languages', Working Papers in Scandinavian Syntax, 43, 51-76.

Pollock, J.-Y. (1989) 'Verb Movement, UG and the Structure of IP', Linguistic Inquiry, 20, 365-424.

Radford, A. (1988a) Transformational Grammar, Cambridge: Cambridge University Press.

Roberge, Y. (1990) The Syntactic Recoverability of Null Arguments, Montréal: McGill-Queen's University Press.

Sportiche, D. (1988a) 'A theory of floating quantifiers and its corollaries for constituent structure', Linguistic Inquiry, 19, 3, 425-449.

Vainikka, A. and M. Young-Scholten (1991) 'Verb raising in second language acquisition: the early stages', Theorie des Lexikons, 4, Duesseldorf: DFG SFB Publications.

Walker, D. (1984) The Pronunciation of Canadian French, Ottawa: University of Ottawa Press.

White, L. (1989d) Universal Grammar and Second Language Acquisition, Amsterdam: John Benjamins.

Whitman, J., K. Lee and B. Lust (1990) 'Continuity of the Principles of Universal Grammar in First Language Acquisition: The Issue of Functional Categories' Paper presented at NELS 1990.