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The emergence of tense and agreement in child L2 French[1]

Johanne Paradis, Mathieu Le Corre and
Fred Genesee *McGill University*

The present study examined the acquisition of tense and agreement by L2 learners of French. We looked at whether the features <tns> and <agr> and the categories AGRP and TP emerged simultaneously or in sequence in the learners' grammars. We conducted interviews with English-speaking children acquiring French as a second language and with grade-matched native-speaker controls once a year for three years. The data were analysed for the productive use of morphosyntax encoding tense and agreement. Results revealed that items encoding agreement emerged before items encoding tense, suggesting that the abstract grammatical structures associated with these morphosyntax items emerge in sequence. The findings are interpreted with respect to three prevailing views on the acquisition of functional phrase structure in L2 acquisition: the Lexical Transfer/Minimal Trees hypothesis (Vainikka and Young-Scholten, 1994; 1996a; 1996b), the Weak Transfer/Valueless Features hypothesis (Eubank, 1993/94; 1994; 1996) and the Full Transfer/Full Access hypothesis (Schwartz and Sprouse, 1994;1996). Possible reasons for the existence of this acquisition sequence in French are also discussed.

I Introduction

The emergence of functional categories has been the subject of much recent research on second language acquisition. In particular, researchers have been concerned with the status of the functional projections IP and CP in early L2 grammars (Bhatt and Hancin-Bhatt, 1996; Beck, 1996; Eubank, 1993/94; 1994; 1996; Gavruseva and Lardiere, 1996; Grondin and White, 1996; Lakshmanan, 1993/94; Lakshmanan and Selinker, 1994; Prévost, 1996; Schwartz and

Address for correspondence: Johanne Paradis, School of Communication Sciences and Disorders, McGill University, 1266 Pine West, Montreal, Quebec H3G1A8, Canada; e-mail: paradisj@ego.psych.mcgill.ca

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Sprouse, 1994; 1996; Vainikka and Young-Scholten, 1994; 1996a; 1996b, for example). In spite of the attention functional categories have received in general, most L2 researchers looking specifically at IP have not systematically separated the IP features tense and agreement in their analyses (Gavruseva and Lardiere, 1996; Grondin and White, 1996; Lakshmanan, 1993/94; Prévost, 1996). Furthermore, those who differentiate between agreement and tense have focused mainly on agreement alone (Vainikka and Young-Scholten, 1994; 1996a, 1996b; except see Eubank, 1993/94; 1994; 1996). Separate treatment of IP features is not essential for addressing the question of whether functional projections are present or absent overall in early grammars, which is a principal concern of much of this prior work. However, examining each feature separately is essential to the related question of whether functional categories emerge in sequence or simultaneously in learners' interlanguage. There are several reasons for investigating an acquisition sequence between agreement and tense. First, agreement and tense can be considered syntactically distinct, which makes a sequence possible. Under the split-INFL hypothesis and minimalist syntax (Chomsky, 1992; Pollack, 1989), the features <agr> and <tns> are checked off in separate projections headed by AGR and T which replace the undifferentiated IP. Second, it has been found in studies of first language learners that agreement and tense may not follow the same acquisitional timetable (Malamud-Makowski, 1994; Meisel, 1994; Radford, 1994; Wexler, 1994). Finally, the question of acquisition sequences has been central to the theoretical debate on how functional categories emerge in L2 grammars.

Three perspectives on the L2 initial state grammar and the development of functional phrase structure have appeared in the literature: the Lexical Transfer/Minimal Trees account (Vainikka and Young-Scholten, 1994; 1996a), the Weak Transfer/Valueless Features account (Eubank, 1993/94; 1994; 1996) and the Full Transfer/Full Access account (Schwartz and Sprouse, 1994; 1996). Each perspective makes different claims about the presence of transferred L1 functional phrase structure in the L2 initial state. Vainikka and Young-Scholten (1994; 1996a; 1996b) argue that only lexical categories and head directionality are transferred from the L1 to the L2 and the L2 initial state consists of a lexical grammar with VP as the maximal projection in clauses. In their account, functional projections develop gradually in learners' interlanguage. They identify three early stages: (i) a VP-only grammar; (ii) a grammar with an underspecified functional projection (FP) above

VP, and (iii) a grammar with AGRP above VP. At stage (iii), learners have acquired verb movement and agreement morphology, but not necessarily tense distinctions. Thus, a possible extension of the Lexical Transfer/Minimal Trees (hereafter Minimal Trees) account would predict TP to be the next functional projection added to the grammar.

The Weak Transfer/Valueless Features (hereafter Valueless Features) account of Eubank (1993/94; 1994; 1996) is similar to the Minimal Trees account in that only limited transfer from the L1 is posited, and the L2 initial state does not include all the properties of a final state grammar. Eubank proposes that both lexical and functional categories transfer from the L1 into the L2, but that the parameter values associated with the functional categories do not transfer. Specifically, he claims that parameter-defining feature values, such as the strength value of <agr> which determines the presence of overt verb movement, do not transfer. He also assumes that <tns> is initially 'inert', meaning unspecified or valueless. He identifies two early stages. At the first stage, learners have no verb movement in their grammars, and no overt morphological manifestations of functional projections. Thus, the Valueless Features initial stage is comparable to that of the Minimal Trees account. At stage (ii) learners begin to acquire the target language value for the verb movement parameter, but verb movement is initially optional. Tense is not fully specified at this stage. Akin to Wexler's account of L1 acquisition, Eubank proposes that the unspecified value of <tns> explains the optionality of verb movement at stage (ii) (Wexler, 1994). As with the Minimal Trees account, we could extend the Valueless Features account by positing a third stage where <tns> is specified, and verb movement ceases to be optional.

One important commonality shared by these two accounts is the assumption that the status of abstract properties like functional features and heads in a learners' grammar is related to the acquisition of lexical material. In other words, evidence for the presence of AGRP/<agr> and TP/<tns> in the grammar can be inferred from the presence of the morphological items associated with them in learners' interlanguage. Vainikka and Young-Scholten (1994; 1996a; 1996b) adopt the lexical learning hypothesis from L1 acquisition (Clahsen *et al.*, 1994, for example) to explain the contingency between items in the lexicon and abstract syntactic structure. On this hypothesis, the syntactic structures in a learners' grammar are built up through the interaction of UG principles with the learners' lexical knowledge. It is assumed that as few positions in the grammar as possible are posited to accommodate the

learners' lexicon at any given stage. Thus, syntactic structure is projected from the lexical material acquired, and not imposed top-down like a template. For example, if no determiners have been acquired in the lexicon at stage n, the head DET will not be projected in clauses at stage n.

In a similar vein, Eubank (1996) distinguishes between dynamic and static views of syntactic structure, which hold for both final state and interlanguage grammars (see also Grimshaw, 1994). On the dynamic perspective, the structure projected in a clause is determined by what is lexically licensed. Functional projections must be licensed by the presence of semantic or phonetic content. On this view, the underlying syntactic structure will vary from clause to clause depending on the lexical material present. Clauses without overt lexical material licensing a functional head could be analysed as not having that head projected. In contrast, on the static view, the syntax supplies the same representation to every utterance, like a top-down template. Eubank adopts the dynamic perspective.

In contrast to Minimal Trees and Valueless Features, the Full Transfer/Full Access (hereafter Full Access) perspective includes a full competence account of the L2 initial state and assumes no direct relationship between the use of overt morphology and the presence of abstract grammatical properties. Schwartz and Sprouse (1994; 1996) claim that the L2 initial state consists of the full L1 grammar, including lexical and functional categories and feature specifications relating to parametric values. As learners assimilate more of the L2 data, they review the L2 grammar accordingly in such a way that each stage of their interlanguage corresponds to a possible final state grammar, even if it is not the target language grammar. Thus, contrary to the Minimal Trees and Valueless Features accounts, Full Access does not permit an intermediate truncated grammar, even at the early stages of L2 acquisition. A second key aspect of the Full Access perspective is that use of overt morphology is not considered relevant evidence for the presence or absence of abstract structures in the underlying grammar. In other words, the absence of determiners in the lexicon would not indicate the absence of DET in the grammar. The rationale of Schwartz and Sprouse (1996)'s position is based mainly on the difficulty of accounting for how truncated clauses would be interpreted at Logical Form.

With respect to the acquisition of agreement and tense, the Full Access account would predict that the initial state of the L2 grammar would include fully specified <agr> and <tns> features, as well as the functional heads, AGR and T, because these have been transferred from L1. Also, the absence of overt agreement and tense

morphology would not constitute evidence of any deficits in underlying structure. In fact, it might be argued that a sequence in the emergence of morphology marking agreement and tense would not be expected on this view. The reasons for this expectation are as follows. Optional use or any other lack of mastery of morphological inflections could not be related to the systematic aspect of language, i.e. grammar, on the Full Access account. Therefore, absence of mastery must be attributed to extra-grammatical factors, such as frequency of exposure, individual memory limitations and attentional differences. Because these factors would be subject to a high degree of variation between individual learners, it is doubtful whether one could expect such factors to yield a consistent sequence in the emergence of such morphology across L2 learners.

A priori, we have both empirical and conceptual reservations about the Full Access account. First, in spite of their claims of full transfer from L1, Schwartz and Sprouse (1994) failed to find a full transfer stage in the L2 German of the Turkish subject they studied. This learner had non-final finite verb placement from the earliest interviews in which he used utterances with verbs in German. In Turkish, finite verbs are in final position. In addition, other researchers report evidence of correct L2 parameter settings in the L2 initial state, where transfer from the L1 settings would have been expected on the Full Access account (Eubank, 1993/94; Grondin and White, 1996; Lakshmanan and Selinker, 1994; White, 1996). More importantly, we believe the Full Access account to be of limited explanatory value because the assumption that overt morphology is irrelevant to postulations about underlying structure renders this account difficult to falsify. By eliminating an observable source of evidence about L2 learners' grammatical competence, their account becomes compatible with a broad range of empirical findings, and thus its ability to explain those findings is diminished. We return to the Full Access account in light of our empirical findings in Section IV.

The present study examined the emergence of agreement and tense in childhood learners of French as a second language. We adopt the dynamic perspective on syntactic structure; therefore, we consider the use of inflectional morphology to constitute evidence for the presence and specification of the features <agr> and <tns> and the functional heads AGR and T in learners' grammars. To clarify the details of our analyses, it is necessary to discuss some aspects of French morphosyntax.

1 Some aspects of French morphosyntax

a Verb movement: **One central aspect of French grammar that English-speaking L2 learners must acquire is a strong <agr> feature. In French, thematic verbs with tense and agreement inflections, as well as modals and auxiliaries, move out of the VP in the syntax to check their features of <tns> and <agr> in the functional heads AGR and T. This contrasts with English, where thematic verb movement 'procrastinates' until Logical Form. The difference between the two languages is captured by the distinction between a strong and weak <agr> feature. Languages which have rich subject–verb agreement are typically analysed as having a strong value for <agr> and overt verb movement. Languages with impoverished subject–verb agreement systems have a weak value for <agr> and covert verb movement.**

The presence of overt movement in French is evident on the surface in clauses with a negative marker. When a negative marker is present, the verb moves around NEGP to land in AGR. Thus, in such clauses, verb movement is attested by a verb-NEG surface word order, as shown by the sentence (1a), where *pas* 'NEG' follows the thematic verb *voit* 'see'. In English, the negative marker appears before the thematic verb on the surface, as in (1b), because there is no overt movement of these verbs in the syntax.

1) a. Le lion voit pas l'éléphant
'The lion does not see the elephant'
b. The lion does not see the elephant

b The status of clitics: **French has pronominal clitics which attach to a verbal host, whereas English pronouns behave syntactically like DPs (Kayne, 1975). A list of the subject clitics used in Quebec French is given in (2). Note that the *s* on *ils* and *elles* is silent, rendering these forms phonologically identical to their singular counterparts. Unlike standard French, first person plural is typically encoded with the clitic *on* in Quebec French.**

2) a. *je* (1st person singular)
b. *tu* (2nd person singular)
c. *il* (3rd person singular masculine)
d. *elle* (3rd person singular feminine)
e. *on* (1st person plural)
f. *vous* (2nd person plural)
g. *ils* (3rd person plural masculine)
h. *elles* (3rd person plural feminine)

There is no consensus among researchers concerning the theoretical status of clitics. Some adopt a syntactic analysis of clitics (for example, Kayne, 1991; Sportiche, 1992). In contrast, researchers looking specifically at Quebec French tend to argue that subject clitics in this dialect are agreement morphology (Auger, 1995; Cummins and Roberge, 1993, for example). Evidence for this position includes the semi-obligatory nature of subject doubling, clitic repetition in co-ordinated structures, and morphophonemic alternations between clitics and verbs. In subject-doubling constructions, a lexical subject or a strong pronoun and a coreferential clitic can appear together, as presented in (3). Kaiser (1994) notes that the absence of a pause between the lexical subject and the clitic indicates that these constructions are not left dislocations, but instead the lexical item occupies an argument position. Auger (1995) suggests that the presence of the subject clitic is becoming obligatory in colloquial Quebec French, as speakers tend to use clitics with lexical subjects 70–75% of the time.

3) a. Annie elle fume.
Annie 3rd sing fem-smokes
'Annie smokes.'
b. Moi j'aime la bouffe mexicaine.
me 1st sing-like the food Mexican
'I like Mexican food.'

In addition to subject doubling, speakers of Quebec French strongly prefer to repeat clitics in co-ordinated structures, while speakers of standard French can omit the second clitic (Auger, 1995). This contrast is illustrated in (4). Note that it seems preferable in English to not repeat the pronoun.

4) a. Je mange du pain et bois du vin. (Standard French)
1st sing-eat some bread and drink some wine
'I am eating bread and drinking wine.'
b. Je mange du pain et je bois du vin.(Quebec French)
1st sing-eat some bread and 1st sing-drink some wine
'I am eating bread and drinking wine.'

Finally, Auger (1995) notes individual cases of morphophonemic alternations between a clitic subject and verb, for example, *Je suis* 'I am' has become *Chuis* in colloquial speech. Such alternations would not be expected if clitics were not morphological elements. These cases cannot be attributed to fast speech processes because they do not apply 'across the board' to any clitic+verb combination.

We adopt the agreement morphology analysis of subject clitics for Quebec French. As prefixes, subject clitics do not occupy

argument positions in the syntax, and are attached to the verb before the syntax, in line with the assumptions of minimalist syntax (Chomsky, 1992). In the syntax, the clitic+verb raises to AGRP to check <agr> features.

c Verb paradigms: **Quebec French has both simple and composite verb tenses. Verb paradigms for the present tense first, second and third conjugations are presented in (5), adapted from Grondin and White (1996). Silent suffixes are enclosed in parentheses. Subject clitics are written as separate words, following French orthographic conventions. For most persons in the paradigm, the present tense consists of the verb stem only. It is only the third person plural suffixes for the second and third conjugations and the second person plural suffixes for all conjugations which are phonologically distinct. The third person plural is also phonologically distinct in irregular verbs such as, *aller* 'to go', *avoir* 'to have' and *être* 'to be'.**

5)	a. first	b. second	c. third
	donner 'to give'	finir 'to finish'	prendre 'to take'
	je donne	je fini(-s)	je prend(-s)
	tu donne(-s)	tu fini(-s)	tu prend(-s)
	il, elle donne	il, elle fini(-t)	il, elle prend
	on donne	on fini(-t)	on prend
	vous donne-z	vous fini-ssez	vous pren-ez
	ils, elles donne(-nt)	ils, elles fini-ssent	ils, elles prenn-ent

The composite past tense is formed with either *être* 'to be' or *avoir* 'to have' in the present tense as an auxiliary and the past participle of the verb. The composite future tense is formed with the present tense of the verb *aller* 'to go' as an auxiliary and the infinitive of the verb. The past tense and future tense paradigms for *donner* 'to give' are shown in (6).

6)	a. past	b. future
	donner 'to give'	donner 'to give'
	j'ai donn-é	je vais donn-er
	tu as donn-é	tu vas donn-er
	il, elle a donn-é	il, elle va donn-er
	on a donn-é	on va donn-er
	vous avez donn-é	vous allez donn-er
	ils, elles ont donn-é	ils, elles vont donn-er

French also includes an imperfect past tense, which was used by the children in our study in addition to the other tenses mentioned

above. The imperfect past is a simple verb tense, and a sample paradigm for the verb *finir* 'to finish' is presented in (7). Aside from the second person plural, the imperfect suffixes are pronounced the same, as [ɛ].

7) a. finir
je finiss-ais
tu finiss-ais
il, elle finiss-ait
on finiss-ait
vous finiss-iez
ils, elles finiss-aient

Thus, contrary to what the orthography indicates, Quebec French does not have rich agreement in the form of verbal suffixes. Following Rohrbacher (1994), Eubank (1993/94) defines a strong <agr> language as one where overt agreement affixes isolate different persons of the same number. If verbal suffixes were considered the only form of agreement, Quebec French would be classified as having marginally strong agreement according to this definition. However, if subject clitics are considered to be agreement morphology, Quebec French is certainly a rich agreement/strong <agr> language. Since French does have overt verb movement, and must be considered a strong <agr> language, this lends support to the hypothesis that subject clitics are agreement prefixes.

2 Relating morphosyntax to features and functional projections

In this section we specify how verb movement and verbal morphology relate to abstract grammatical elements such as features and functional heads.

Note that Quebec French has both fusional and non-fusional morphology. Subject clitics can be considered non-fusional because they mark nominal features like person, number and gender only and do not encode verbal features like past tense. The other forms of overt morphology we examined are fusional. For example, third person plural suffixes in the present tense encode both present tense, person and number. The composite past and future tenses encode both nominal and verbal features because they include an auxiliary with overt person and number encoding.

The list presented in (8) shows which features and feature values can be associated with some of the verbal morphology we have discussed.

8) a. Subject clitics *(je, tu, il . . .)* = <+agr <+strong>>, < Ø tns>
b. Passé composé *(ai donn-é)* = <+agr <+strong>>, <+tns < +past>>
c. Third plural *(prenn-ent)* = <+agr <+strong>>, <+tns < +pres>>
d. Verb stem *(donne)* = <Ø agr>, < Ø tns>
(donne + Ø) = <+agr <+strong>>, < Ø tns>
(donne + Ø) = <+agr <+strong>>, <+tns<+pres>>

Because subject clitics only encode agreement, they have a specification for <agr> but no <tns> specification, as shown in (8a). The composite past and third person plural suffixes have specifications for <agr> and <tns>, shown in (8b) and (8c). Three specification combinations are listed in (8d) for the verb stem. In a mature grammar, it could be assumed that this form has a null morpheme marking present tense and strong <agr>, However, in an interlanguage grammar which may lack some overt morphology specified for tense and agreement, it is ambiguous whether learners have acquired the properties of this null morpheme. We adopt the following conservative interpretation of the status of the verb stem in L2 learners' grammars. In an interlanguage French grammar which includes no movement and no overt tense and agreement morphology, we assume the verb stem to be unspecified for features. In a grammar that includes verb movement and subject clitics, it is possible to conclude that the verb stem has been specified for strong <agr>, since AGRP acts as a landing site to check these features. But, if tense alternations are absent from a grammar with overt manifestations of <agr>, the verb stem cannot be considered to have a <tns> specification at this stage. Other researchers have required the presence of tense alternations to motivate <tns> or TP in L1 acquisition (Malamud-Makowski, 1994; Meisel, 1994; Wexler, 1994). In brief, we consider the verb stem to be associated with three possible specification combinations, depending on the state of the interlanguage: (i) no specifications for <agr> or <tns>; (ii) specification for <agr> only; (iii) specifications for both.

Lastly, let us consider the relationship between verb movement, tense and agreement morphology and the presence of AGRP and TP in the grammar. Recall that on a dynamic analysis of syntax the use of lexical material indicates the presence of certain functional heads in a clause. The use of tense and agreement morphology signals the presence of AGRP and TP in a clause because the features <agr> and <tns> must be checked. Evidence of verb movement in a clause would indicate the presence of at least one functional head to act as a landing site, but not necessarily both. For example, in an utterance showing evidence of verb movement and overt agreement, but missing obligatory tense marking, AGRP

would be the only functional projection motivated by the morphosyntax. Therefore, we consider AGRP and TP to be part of a learner's grammar if there is evidence they are projected in *some* clauses. However, even if they are part of a learner's grammar in general, they may not be present in all clauses.

II Method

1 Subjects

Fifteen English-speaking children who were L2 learners of French, together with five native French-speaking children from the greater Montreal area of Canada, participated in the study. The English-speaking children had been attending French-medium schools from kindergarten. Because these were not immersion schools and because the children were not all in the same school, the majority of their classroom peers were native speakers. Also, because these were French-medium schools, the children were not being explicitly taught French as a second language. We began interviewing the children at the end of grade one, after they had had at least two years of daily exposure to French. The control group consisted of monolingual French speakers who were grade-matched with the anglophone children. A control group was included for establishing mastery of an item of morphosyntax. No difference between the rates of use of the L2 group and the native-speaker group for a certain item was used as an indication that the item had been mastered by the L2 learners.

2 Materials and procedure

The children were interviewed individually once a year for three years, from grade one until grade three, by a native speaker of Quebec French. We used the same structured interview each year which was similar to that used by Harley (1992). The interview included questions designed to elicit the use of the present, past and future tenses. Interview questions covered topics about the child's own routine, family and school experiences. Children were also asked to describe events depicted in cartoon sequences without captions. The interviews lasted about 30 minutes each and were recorded on audiotape.

We would like to comment briefly on our choice of method. Grondin and White (1996) have suggested that production-based data is likely to underestimate an L2 learner's underlying competence and thus may be a less accurate assessment of

competence than a receptive task. However, we concur with Schwartz and Sprouse (1994) that there are benefits in using naturalistic production data instead of a controlled receptive task. The principal benefit is that subjects are engaged in a task whose focus is communication rather than structure and consequently subjects are less likely to be consciously reflecting on grammatical knowledge. In a receptive task such as making grammaticality judgements, a subject's metalinguistic and explicit knowledge might interfere with the on-line processing desired in the procedure.[2] Moreover, as Schwartz and Sprouse (1994) point out, longitudinal production data can reveal systematic change in syntactic patterns over time, which are presumably subsumed by changes in underlying grammatical competence. In sum, we believe naturalistic production data to be an informative method of estimating L2 learners' competence, although converging evidence from comprehension and production is desirable in the long run.

3 Transcription and coding

The recorded interviews were transcribed using the CHAT transcription system (MacWhinney, 1991). We developed our own codes for morphosyntax based on the CHAT coding system. We coded the transcripts for the use of the following items in obligatory context: the finite verb stem, placement of the negative with respect to the verb, subject clitics, present tense third person plural morphology, and past and future tense morphology. Obligatory context was determined by discourse requirement: for example, a question asked about past events should be answered using the past tense verb form. Or, it was determined by the structure of the sentence itself; for example, a non-imperative finite verb without a lexical subject must have a clitic subject. We also verified the obligatory discourse requirement by examining whether the French native speakers used the form in the relevant context. We coded both regular and irregular verb forms for third person plural morphology. In addition, we included future tense even though the traditional tense feature breakdown is between past and present. It was included because our criterion for evidence of TP/ <tns> in the grammar is the presence of overt tense alternations, and we did not want this criterion to be limited to present–past alternations only.

Following Grondin and White (1996), we disregarded minor

[2] This limitation of grammaticality judgement tasks might not be present in all receptive tasks. One example is the sentence-matching technique (Eubank, 1993), which is designed to uncover covert processing of syntactic structures. Another example, pointed out by an anonymous reviewer, is a truth-value task.

inaccuracies in form when coding. For example, if a child used the wrong participle form in an otherwise correct past tense sequence, it was coded as past tense. The only exceptions were utterances where children used the verb stem with a first person singular clitic and an auxiliary for the past, for example *j'ai joue* 'I play(ed)'. Because of the phonological similarity between *je* 'I' and *j'ai* 'I have', it was difficult to determine whether the child was uttering a present tense or past tense statement. There were very few examples of this kind, and they were excluded from our analyses.

4 Analyses

We performed three principal analyses on the data: (i) use of morphosyntax items over the three years for the two groups; (ii) the status of clitics in the L2 grammars; and (iii) individual acquisition sequences among the L2 learners.

We first calculated proportions of use for each item of morphosyntax in obligatory context for each child at each year. Proportions and ratios are given in the Appendices. We averaged the scores for finite verb stems and negative placement to make one verb movement (strong <agr>) score per child. Subsequently, we analysed the data for differences in use of morphosyntax between the language groups, L2 and native, at each year to see what extent the L2 learners were approaching native speaker performance. We also examined the use of morphosyntax within the L2 learners' group at each year to see if items were being used at different rates.

Second, we examined the L2 learner's use of subject clitics in more detail, in order to determine whether they had misanalysed these pronominals as pronouns instead of clitics. We undertook this analysis because use in obligatory context is not sufficient to determine if the items had been correctly classified as clitics or, more specifically, as agreement morphology.

Finally, in addition to the group analyses, we examined the acquisition sequence of tense and agreement items for each individual. In order to facilitate between-subject comparisons, it was necessary to establish a criterion according to which an item of morphosyntax could be considered 'emerged' or 'acquired'. By emerged or acquired, we mean it was being used productively and not that it had been mastered. There are at least three cut-off points used in the literature for determining emergence. Grondin and White (1996) considered first use as an indication of emergence. In contrast, Vainikka and Young-Scholten (1994) used a 60% use in obligatory context as their criterion for whether an item had been

acquired. Finally, there is the 90% criterion, which has traditionally been used in psycholinguistic research. We wanted to use a criterion considerably lower than Vainikka and Young-Scholten's 60% because such a stringent criterion could bias results in favour of a sequence. However, we did not want to rely simply on first use because items may be memorized rather than fully productive in the beginning. Consequently, we used 30% use in obligatory context for our emergence/acquisition criterion. We recognize that this criterion is arbitrary and only serves to facilitate our analysis of individual sequences.

III Results

1 Use of verb movement, agreement and tense

Three mixed two-way (language group X morphosyntactic item) ANOVAs were performed on the use-in-obligatory-context scores for each year. Categories within morphosyntactic items were: verb movement, subject clitics, third person plural, past and future tense. A significant interaction between language group and morphosyntactic item was obtained for each year (year one, $F(4, 72) = 10.923$, $p<.0001$; year two, $F(4, 72) = 11.335$, $p <.0001$; year three, $F(4, 72) = 9.224$, $p <.0001$).

Post hoc pairwise comparisons using the studentized range statistic (Tukey hsd test) were performed on the cell means. The results of the means comparisons for the between-group factor, language, are given in Table 1. These tests reveal that there was no difference between the French L2 learners' and French native speakers' use of verb movement and subject clitics across the three years. However, at year one, the L2 learners used third person plural, past tense and future tense significantly less than the native speakers. At year two and year three, the L2 learners' use of the past tense was no longer different from the native speakers', but their use of third person plural and future tense remained significantly below that of the native speakers.

Results for means comparisons within the L2 language group are given in Table 2. At year one, there was no difference between the use of verb movement and subject clitics, but both of these items were used significantly more than the other three items. There were no significant differences between the use of third person plural, past or future tense. At year two, the results remained the same except that the past tense was used significantly more than third person plural and the future tense. There were no significant changes between year two and year three.

Table 1 Post hoc pairwise comparisons between L2 learners' and native speakers' average percentage use of morphosyntax items for each year

Morphosyntax item	L2 French	Native French	Q
Year One			
Verb movement	.947	.984	.427
Subject clitics	.859	.972	1.305
Third person plural	.138	.846	9.63**
Past tense	.327	.872	6.29**
Future tense	.255	.718	5.35*
Year Two			
Verb movement	.929	.992	.708
Subject clitics	.943	.986	.483
Third person plural	.197	.934	8.28**
Past tense	.669	.924	2.87
Future tense	.347	.882	6.01**
Year Three			
Verb movement	.959	.992	.381
Subject clitics	.943	.982	.462
Third person plural	.375	1.00	7.22**
Past tense	.706	.948	2.79
Future tense	.424	.898	5.47**

Notes:
*$p<.05$
**$p<.01$

Table 2 Post hoc pairwise comparisons of average percentage use of morphosyntax items for the L2 learners for each year

	Year one		Year two		Year three	
Items	Means	Q	Means	Q	Means	Q
VM-SC	.947–.859	.326	.929–.943	.311	.959–.943	.372
VM-3PL	.947–.138	18.8**	.929–.197	16.27**	.959–.375	13.58**
VM-PAS	.947–.327	14.42**	.929–.669	5.78**	.959–.706	5.88**
VM-FUT	.947–.255	16.09**	.929–.347	12.93**	.959–.424	12.44**
SC-3PL	.859–.138	16.71**	.943–.197	16.58**	.943–.375	13.21**
SC-PAST	.859–.327	12.37**	.943–.669	6.09**	.943_.706	5.51**
SC-FUT	.859_.255	14.05**	.943–.347	13.24**	.943_.424	12.07**
3PL-PAS	.138–.327	4.40	.197–.669	10.49**	.375–.706	7.70**
3PL-FUT	.138–.255	2.72	.197–.347	3.33	.375–.424	1.14
PAS-FUT	.327–.255	1.674	.669–.347	7.16**	.706–.424	6.56**

Notes:
VM = verb movement, SC = subject clitics, 3PL = third person plural, PAS = past tense, FUT = future tense
*$p<.05$
**$p<.01$

To save space, results of the pairwise comparisons within the native speaker group are not given. There were no significant differences between the use of items at any of the three years for this group.

To summarize: these analyses reveal that the L2 learners differed from native speakers in the use of third plural, past and future tenses, all associated with TP/<tns>, but did not differ from them in the use of verb movement and subject clitics, both associated with AGRP/<agr>. Furthermore, at the outset, the L2 learners' use of verb movement and subject clitics was significantly greater than their use of the other items.

2 The status of clitics in the L2 grammars

We performed three tests of 'clitichood' on both the French L2 and native French children's clitic constructions. Our three tests were: (i) clitic-finiteness contingency; (ii) repetition of clitics in co-ordinated constructions, and (iii) use of subject doubling.

First,we looked for a contingency between finite verbs and clitics. Because a non-finite main verb has not moved out of the VP, it cannot host an <+agr> marker. However, a DP pronoun could appear with a non-finite verb. Consequently, a contingency between finite verbs and clitics attests that clitics are not subject pronouns (see Paradis and Genesee, 1996; Pierce, 1992). For years one, two and three, the L2 learners restricted their use of clitics to finite verbs 96% (range = 89–100%), 98% (range = 95–100%) and 98% (range = 98–100%) of the time, respectively. The native French-speaking children used so few non-finite main verbs that this contingency was not calculated for them. The use of non-finite main verbs among the L2 learners was more frequent, but in general quite low.

Recall that in co-ordinated structures with two finite verbs, it is required (or at least highly preferred) for the clitic to be repeated with the second verb. In contrast, in English, the repetition of a pronoun is optional and, arguably, it is preferable to omit it (see examples in (4) above). We calculated the number of co-ordinated structures with the clitic repeated out of the number of co-ordinated structures used by the children in both language groups. At year one, three L2 learners did not have any co-ordinated structures. Of those that did, 96% (range = 75–100%) of them had repeated clitics. At year two, only one L2 learner did not produce any co-ordinated structures. Of the remaining 14 children, 92% (range = 75–100%) repeated the clitic in the sentence. At year three, all the children produced co-ordinated structures and, of those structures, 90%

(range = 70–100%) had repeated clitics. These results are comparable to the native French-speaking children. At year one, 97% (range = 83–100%) of the French-speaking children's co-ordinated structures had repeated clitics, at year two, 100% (no range) and at year three, 94% (range = 80%–100%). Thus, it appears that the L2 learners had grasped this property of clitics.

For the third test, a contrast between L2 learners and native French speakers was observed. We calculated the number of utterances where a lexical subject appeared with a clitic subject out of the number of utterances with lexical subjects. In other words, we calculated how often the children chose to do subject doubling when it was structurally possible. As mentioned above, subject doubling is not required, although according to Auger (1995) it is becoming the preferred form in colloquial Quebec French. Also, the presence of any subject doubling, regardless of rate, is an indication that children were treating clitics as clitics and not as pronouns. At year one, 22% (range = 0–41%) of the L2 learners' eligible utterances contained subject doubling. Three children never subject doubled. At year two, the average dropped to 16% (range = 0–42%), with two children having no subject-doubled examples. At the third year, 15% (range = 0–47%) of the children's eligible utterances contained doubled subjects, with five children having no examples of these constructions. Rates of subject doubling were much higher among the French-speaking children. All the children had subject-doubled constructions each year. The first year, 59% (range = 25–92%) of their eligible utterances contained doubled subjects. At year two the average was 65% (range = 44–76%), and at year three it was 76% (range = 67–89%). Note that in the final year the average was close to what Auger (1995) found for adult usage. We can conclude from the L2 learners' use of subject doubling that clitics did not have the status of DP pronouns in their grammars. However, the discrepancy in frequency of use between the L2 learners and native francophones is noteworthy.

To summarize, these tests suggest that subject pronominals have the status of clitics (agreement morphology) in the L2 learners' grammars.

3 Acquisition sequences

In addition to examining group means for the use of morphosyntax, we looked at the acquisition sequence of the morphosyntax items for each of the L2 learners. Sizeable standard deviations in the use of third person plural, past and future tense (see Appendices) indicate that the rate of acquisition varied among the children and

motivates an analysis of individual patterns. Our analysis is based on comparisons of individuals' productive versus non-productive use of the morphosyntax items identified above. Recall that the criterion for productive use was set at 30%.

The productive use values are presented for years one, two and three in Tables 3, 4 and 5, respectively. A [+] value indicates a use level at or greater than 30%, and a [–] value indicates a use level below 30%. In addition to the [+/–] values given for productive use, we assigned a value of zero to those cases where fewer than two tokens of an obligatory context occurred. If fewer than two tokens occurred, it was judged to be an insufficient number to conclude that the item was being used productively or not. For example, a ratio of 1/2 would yield a proportion of .50, which may not be reliable. Thus, for scores of 0/0, 0/1, 0/2 and 1/2, a zero value was given. There were no 2/2 scores. There was no variation in the values assigned to the French-speaking controls, and therefore, they are not given, in order to save space. Each francophone child received a positive value for each item every year.

Notice that at year one (Table 3) all the children used verb movement and subject clitics productively, but only 47% (7/15) used past and future tense productively. Only two children received a positive value for third person plural. At year two (Table 4), all the

Table 3 Evidence of verb movement, subject clitics, third person plural suffixes, past and future tenses at year one

Children	Verb movement	Subject clitics	Third person plural	Past	Future
Amanda	+	+	0	–	0
Chad	+	+	–	–	–
Charlene	+	+	0	0	–
Gary	+	+	–	–	0
Jason A.	+	+	0	–	–
Jason B.	+	+	–	–	–
Bradley	+	+	0	–	–
Jennifer	+	+	–	–	–
Kerin	+	+	–	–	+
Lindsay	+	+	–	+	–
Sandra	+	+	0	–	+
Marylin	+	+	0	+	+
Jeffrey	+	+	0	+	+
Jon	+	+	+	+	–
David	+	+	+	+	+

Note:
A positive value means that the item was used at least 30% correctly in obligatory context. A negative value means the item was used less than 30% correctly in obligatory context. A value of zero indicates that insufficient tokens (two or less) for that item occurred in the interview.

children were using the past tense productively and 60% (9/15) were using the future tense productively, but only four children received a positive value for third person plural. At year three (Table 5), 53% (8/15) were using the third person plural productively.

The vast majority of scores changed from negative to positive values from year one to year three, but there were a few reversals. For instance, Jeffrey received negative values for third person plural, past and future tense at year three, although he had received positive values at year two for these items. These reversals could be an artefact of our 30% cut-off point, because Jeffrey's use proportions for these three items were .28, .28 and .28. A similar explanation most likely underlies Jason A.'s reversal for future tense at year three, where his proportion was .25. Out of all the values for the three years, only 4% were reversals.

To examine the sequence of acquisition in individual grammars, we compared the order in which items emerged in the children's interlanguage regardless of year. First we examined the relative order of agreement and tense. We considered at least one form of agreement or one tense distinction sufficient evidence for the presence of the grammatical feature. We calculated how many children acquired productive use of agreement before tense, tense

Table 4 Evidence of verb movement, subject clitics, third person plural suffixes, past and future tenses at year two

Children	Verb movement	Subject clitics	Third person plural	Past	Future
Amanda	+	+	–	+	–
Chad	+	+	–	+	–
Charlene	+	+	–	+	–
Gary	+	+	–	+	+
Jason A.	+	+	+	+	+
Jason B.	+	+	–	+	–
Bradley	+	+	–	+	+
Jennifer	+	+	–	+	+
Kerin	+	+	–	+	+
Lindsay	+	+	–	+	+
Sandra	+	+	–	+	–
Marylin	+	+	–	+	+
Jeffrey	+	+	+	+	+
Jon	+	+	+	+	–
David	+	+	+	+	+

Note:
A positive value means that the item was used at least 30% correctly in obligatory context. A negative value means the item was used less than 30% correctly in obligatory context. A value of zero indicates that insufficient tokens (two or less) for that item occurred in the interview.

Table 5 Evidence of verb movement, subject clitics, third person plural suffixes, past and future tenses at year three

Children	Verb movement	Subject clitics	Third person plural	Past	Future
Amanda	+	+	–	+	+
Chad	+	+	+	+	+
Charlene	+	+	–	+	+
Gary	+	+	+	+	–
Jason A.	+	+	+	+	–
Jason B.	+	+	+	+	–
Bradley	+	+	–	+	+
Jennifer	+	+	+	+	+
Kerin	+	+	–	+	–
Lindsay	+	+	+	+	+
Sandra	+	+	–	+	+
Marylin	+	+	+	+	+
Jeffrey	+	+	–	–	–
Jon	+	+	–	+	+
David	+	+	+	+	+

Note:
A positive value means that the item was used at least 30% correctly in obligatory context. A negative value means the item was used less than 30% correctly in obligatory context. A value of zero indicates that insufficient tokens (two or less) for that item occurred in the interview.

before agreement, or had both present at year one. The results of this calculation are in Table 6. All the children who showed a sequence used agreement before tense. For the children who had two or all of these items at year one, a sequence could not be determined.

In addition to comparing the sequence of the major categories, we compared the sequence of third person plural morphology, past tense and future tense. First, we compared the acquisition order of the third person plural morphology and tense distinctions. Table 7 reveals that the children who showed a sequence acquired the use of tense distinctions before they acquired the use of third person plural morphology. Second, we calculated how many children acquired the past before the future tense, the future before the past

Table 6 Distribution of acquisition sequence for agreement and tense

	Sequences		
	Agreement before tense	Tense before agreement	Agreement and tense[1]
Number of children	8	0	7

Note:
[1]Present at the same time in year one

Table 7 Distribution of acquisition sequence for third person plural and tense

	Sequences		
	3 person plural before tense	Tense before third person plural	Third person plural and tense[1]
Number of children	0	12	3

Note:
[1]Present at the same time in year one or year two

Table 8 Distribution of acquisition sequence for past and future tense

	Sequences		
	Past before future	Future before past	Past and future[1]
Number of children	6	2[2]	7

Notes:
[1]Present at the same time in year one or year two
[2]One child's score reversed in year two; the other's reversed in year three

tense, or acquired both in the same year. The results in Table 8 reveal that, of those children who showed a sequence, the majority acquired the past before the future tense.

IV Discussion

Both our group analyses and our analyses of individual sequences revealed that those items of morphosyntax associated exclusively with agreement (verb movement and clitics) were used productively and were mastered earlier than items associated primarily or in part with tense (third person plural, past and future tense). The individual children who did not show such a sequence during the study are not necessarily counterexamples to this generalization for the following reasons. For those who had evidence of both tense and agreement at year one, an acquisition sequence could have occurred before the study began, as individual rates of acquisition varied. For those who had evidence of both simultaneously at year two, an acquisition sequence could have occurred between interview sessions because the observation interval was a year. Finally, among the children who did show a sequence, not one child showed the opposite sequence.

These results suggest that two stages are observable in the L2 learners' interlanguage grammars. On the basis of the individual sequence analysis, it appears that some children were at the second stage even at the outset of the study, but 8/15 passed through both

stages. We refer to the first stage as 'stage n' and not 'stage one' because our subjects were not at the initial stage of L2 acquisition when the study began. Stage n grammars have the following characteristics. The feature <agr> has been specified as strong, and is associated with subject clitics and the verb stem. The use of agreement morphology is obligatory rather than optional because mean use levels are above 90% and are not different from those of native speakers. Thus, AGRP is projected in virtually all clauses. There is no evidence that the verb stem has been specified for <tns> at this stage because it does not alternate with the productive use of other morphological forms marked for tense, such as third person plural suffixes and the past and future tenses. Since <tns> is not specified at stage n, a TP projection in clauses is not supported by overt evidence, and it is possible that AGRP is the only landing site for verb movement.

At stage n+1, <tns> is specified for some relevant morphemes in the lexicon, and TP is present in the grammar, but the appearance of TP in clauses is optional. The optionality of tense is indicated by the following. First, not all morphology marking tense emerges simultaneously. For example, the use of past tense morphology precedes the use of third person plural and future tense in most individual cases and for the L2 group as a whole. Second, although the L2 learners used the past tense at a rate statistically indistinguishable from native speakers at year two, individual rates of use varied considerably for the past tense, future tense and third person plural (see Appendices). This stands in sharp contrast to the uniformly high and stable individual use levels for agreement markers.

At first glance, our findings seem compatible with either the Minimal Trees account or the Valueless Features account, in that we have found evidence for the sequential acquisition of tense and agreement. However, upon examining how stages are interpreted in each account, we consider a Valueless Features account of our data to be preferable. On the Minimal Trees perspective, strict stages are proposed for the acquisition of functional categories. That is, functional heads are either totally absent from or present in the grammar at certain stages. But, in order to explain apparent optionality in the use of functional categories, Vainikka and Young-Scholten (1996a) suggest that grammars can overlap or compete. On this view, our stage n+1 would consist of two competing grammars: one with a maximal AGRP projection, and one with a maximal TP projection. While a competing stages analysis offers an account of optionality, it also raises many questions about how two distinct grammars are represented and how language processing

unfolds under such a system. In contrast, the dynamic view of syntactic structures in the Valueless Features account provides a less problematic interpretation of our stage n+1. On this view, the optionality of tense at stage n+1 can be explained as follows: TP is present in the grammar as a whole but is not projected in clauses where <+tns> morphology does not appear. Morphology specified for <+tns> would not appear either because it has not been acquired yet (for example, third person plural) or because it has not been accessed in production (for example, absence of past tense morphology after productive use has been established).In the latter case, we assume that gradual accuracy in the use of newly acquired lexical material is an expected outcome of language learning because processing routines take time to perfect. One important difference between our account and Eubank (1993/94; 1994; 1996) is that he identifies a stage where <tns> is unspecified and verb movement (strong <+agr>) is optional. In our data, strong <+agr> can be obligatory before <tns> is specified. It is possible that we have observed a later (and somewhat overlapping) stage in acquisition than the one Eubank investigated.

While our findings are consonant with the Minimal Trees and Valueless Features perspectives, they pose some challenges for the Full Access account. Recall that on the Full Access account <agr>, <tns>, AGRP and TP are specified and present in the initial state of L2 acquisition as the result of transfer from L1. Learners need only fill in these pre-existing categories with L2 lexical material and make adjustments in specifications accordingly. As mentioned in Section I, this account most likely predicts that, other factors being equal, lexical material associated with <agr> and <tns> would not be acquired in any sequence. Rather, it would be expected for use to increase from 0% to 90% roughly in parallel. Clearly, this is not consistent with our findings. Our group analyses showed that tense and agreement did not emerge in parallel. Furthermore, some children had 75% or greater use rates for subject clitics and verb movement at the same time as 30% or lesser use rates for third person plural, past and future tense (see Appendices for examples). Moreover, it is doubtful that this sequence reflects the influence of extragrammatical factors, which are the only factors that could be used to explain such findings on the Full Access account. For instance, could the sequence we observed reflect nothing more than timing and frequency of the input? Such an explanation is unlikely because the L2 learners in this study attended four different French schools and were exposed to natural, not pedagogical, French input from teachers and peers. Therefore, no systematic and controlled sequence in each child's input would have occurred. With respect

to frequency, it is difficult to accept that structures like the past tense were so rare in natural conversation that a significant and consistent delay in acquisition was caused. However, it is conceivable that subject clitics would be very frequent in the input because of their status as semi-obligatory agreement markers.

It could also be proposed on the Full Access account that, at the stages where overt morphological marking was missing, learners were using covert marking with the appropriate feature specifications. In other words, these L2 learners would have passed through a stage where they had incorrectly assumed French marked all tense forms with null morphemes. While this hypothesis permits an analysis of the underlying grammar as 'complete', it has certain shortcomings. First, it would be difficult on this account to explain why learners would posit null morphemes for tense and not for agreement. Second, it would be difficult to explain how learners could shift from null marking to marking tense obligatorily with overt morphology. Positive evidence would presumably indicate to them that overt marking was an option, but without indirect negative evidence how would they assume it was obligatory? (see also Eubank, 1994).

1 Why would agreement emerge before tense?

We are contending that the systematic sequence in the emergence of morphosyntax associated with tense and agreement must reflect changes in learners' underlying competence. That is, the functional category AGR and specifications for the feature <agr> emerge earlier than T and <tns> in interlanguage grammars of French. The next logical step is to inquire what mechanisms might explain this particular sequence in grammatical acquisition. Let us briefly consider two possible explanations.

The traditional distinction between fusional and non-fusional morphology might be linked to the earlier emergence of verb movement and subject clitics. Fusional morphemes are specified for both tense and agreement features, while non-fusional morphemes are specified for only one of these features. Recall from the list given in (8) that subject clitics are only specified for <agr>, while the other morphemes are specified for <agr> and <tns> in the mature grammar. It is possible that multiply specified morphemes are acquired later than singly specified morphemes. Thus, clitics are acquired before past tense morphology which results in the emergence of agreement before tense in the grammar. However, there is one problem with this account: the verb stem. We have assumed that it is doubly marked in a final stage grammar, yet this

form emerges early along with subject clitics and participates in verb movement. Perhaps the verb stem is initially considered to be singly marked by learners for strong <agr> only with no other nominal or verbal features.

There is some support for a fusional morphology account from first language acquisition. For example, it has been found that children acquiring first languages with fusional morphology acquire inflections later than children acquiring non-fusional or agglutinative languages (Slobin, 1982). Also, this proposal is consistent with Malamud-Makowski (1994)'s analysis of L1 English. She reports that children used the *-ed* past tense marker before they used the *-s* third person singular present tense marker. Consequently, she argues that tense distinctions emerge before agreement distinctions in L1 English. The late emergence of present tense *-s* has also been documented in morpheme order studies of L2 learners (Dulay and Burt, 1974, for example). This sequence could be explained by the non-fusional status of *-ed*, which encodes past tense without any overt agreement properties, and the fusional status of *-s*, which encodes present tense and third person singular agreement (see also Schütze and Wexler, 1996).

There is a functional/pragmatic reason which may also explain the primacy of agreement in French interlanguage. Malamud-Makowski (1994) suggests that agreement may emerge later in languages like English because of the absence of a rich agreement paradigm. In English, agreement is encoded sparsely, and because English is a fixed word order language with no pro-drop, subject–verb agreement is not essential to conveying meaning. The absence of rich agreement in the input, together with the absence of a communicative need for overt agreement might explain why AGRP appears later than TP in English. If our analysis of subject clitics is correct, then French is a pro-drop language with rich agreement. Thus, learners of French have rich input in the form of subject clitics and overt verb movement, and the communicative need to acquire agreement morphology. Hence, AGRP appears early in French interlanguage grammar.

We found not only that subject clitics were acquired before the doubly marked morphology, but that there was a sequence within the doubly marked forms, namely that past tense emerged before future and third person plural. We have no explanation for the future tense results, but we can consider two possible explanations for why third person plural lagged behind other manifestations of <agr> and <tns>. One reason could be that third person plural marking is only semi-systematic and might be less frequent than other morphological marking in the input. For instance, it does not

occur on first conjugation verbs, which comprise the bulk of French verbs (Pierce, 1992). However, irregular verbs like *aller* 'to go', *être* 'to be', *avoir* 'to have' and *faire* 'to do/make' are all high-frequency verbs, as are some third conjugation verbs like *prendre* 'to take' (Harley, 1989), and these all mark third person plural overtly. Therefore, it seems unlikely that frequency alone can explain the lag behind past tense marking. A second, complementary reason for the late emergence of third plural is that person agreement can be considered a more important grammatical relation than number marking, especially for pro-drop languages (Meisel, 1994). Third person plural can be considered as primarily marking number. According to this explanation, singular–plural distinctions in the present tense should be acquired later than the person distinctions marked by subject clitics. In fact,researchers have found that person agreement (clitics) appears before number agreement (suffixes) in child L1 French (Meisel, 1994; Clark, 1985) and child L2 French (Grondin and White, 1996).

These explanations for grammatical acquisition sequences are tentative and further examination of a variety of languages with different morphosyntactic realizations of tense and agreement would be required to substantiate them. Because many others have also argued for sequential emergence of functional categories (Bhatt and Hancin-Bhatt, 1996; Eubank, 1993/94; 1994; 1996; Vainikka and Young-Scholten, 1994; 1996a; 1996b),investigating the mechanisms underlying these sequences merits our future consideration.

V References

Auger, J. 1995: Les clitiques pronominaux en français parlé informel: une approche morphologique. *Revue québécoise de linguistique* 24(1), 21–60.

Beck, M. 1966: Verb-raising in English–German interlanguage: first you see it, then you don't. Paper presented at the 16th Annual Second Language Research Forum (SLRF96), University of Arizona, Tucson, AZ.

Bhatt, R. and Hancin-Bhatt B. 1996: Phrase structure acquisition and the status of CP in early adult syntax.Paper presented at the 16th Annual Second Language Research Forum (SLRF96), University of Azizona, Tucson, AZ.

Chomsky, N. 1992: A minimalist program for linguistic theory. *MIT Occasional Papers in Linguistics* 1, 1–69.

Clahsen, H., Eisenbeiss, S. and Vainikka, A. 1994: The seeds of structure: a syntactic analysis of the acquisition of case marking. In Hoekstra, T. and Schwartz, B., editors, *Language acquisition studies in generative*

grammar. Philadelphia: Benjamins, 85–117.

Clark, E. 1985: The acquisition of Romance, with special reference to French. In Slobin, D., editor, *The crosslinguistic study of language acquisition*, Volume 1, *The data*. Hillsdale, NJ: Erlbaum, 687–782.

Cummins, S, and Roberge, Y. 1993:A morphosyntactic analysis of romance clitic constructions. In Mazzola, M., editor, *Issues and theory in Romance linguistics*. Washington, DC: Georgetown University Press, 239–57.

Dulay, H. and Burt, M. 1974: Natural sequences in child second language acquisition. *Language Learning* 24, 37–53.

Eubank, L. 1993. Sentence matching and processing in L2 development. *Second Language Research* 9, 253–80.

—— 1993/94: On the transfer of parametric values in L2 development. *Language Acquisition* 3, 183–208.

—— 1994: Optionality and initial state in L2 development. In Hoekstra, T. and Schwartz, B., editors, *Language acquisition studies in generative grammar.* Philadelphia: Benjamins, 369–88.

—— 1996: Negation in early German–English interlanguage: more Valueless Features in the L2 initial state. *Second Language Research* 12(1), 73–106.

Gavruseva, L. and Lardiere, D. 1996: The emergence of extended phrase structure in child L2 acquisition. In Stringfellow, A. Cahana-Amitay, D., Hughes, E. and Zukowski, A. editors, *BUCLD 20 Proceedings*, 225–36.

Grimshaw, J. 1994: Minimal projection and clause structure. In Lust, B., Suñer, M. and Whitman, J., editors, *Syntactic theory and first language acquisition: cross-linguistic perspectives*, Volume 1, *Heads, projections and learnability*. Hillsdale, NJ: Erlbaum, 75–84.

Grondin, N. and White, L. 1996: Functional categories in child L2 acquisition of French. *Language Acquisition* 5(1), 1–34.

Harley, B. 1989: Verb lexis in the written compositions of young L2 learners. *Studies in Second Language Acquisition* 11, 415–39.

—— 1992: Patterns of second language development in French immersion. *Journal of French Language Studies* 2, 159–83.

Kaiser, G. 1994: More about INFL-ection and agreement: the acquisition of clitic pronouns in French. In Meisel, J., editor, *Bilingual first language acquisition: French and German grammatical development.* Amsterdam: Benjamins, 131–60.

Kayne, R. 1975: *French syntax: the transformational cycle.* Cambridge: MIT Press.

—— 1991: Romance clitics, verb movement, and PRO. *Linguistic Inquiry* 22, 647–86.

Lakshmanan, U. 1993/94: The boy for the cookie – some evidence for the non-violation of the case filter in child second language acquisition. *Language Acquisition* 3, 55–91.

Lakshmanan, U. and Selinker, L. 1994: The status of CP and the tensed complementizer 'that' in the developing L2 grammars of English. *Second Language Research* 10(1), 25–48.

MacWhinney, B. 1991: ***The CHILDES project: tools for analyzing talk.*** **Hillsdale, NJ: Erlbaum.**

Malamud-Makowski, M. 1994: **The structure of IP: evidence from acquisition data. Paper presented at the 18th Annual Boston University Conference on Language Development, Boston, MA.**

Meisel, J. 1994: **Getting FAT: finiteness, agreement and tense in early grammars. In Meisel, J., editor, *Bilingual first language acquisition: French and German grammatical development.* Amsterdam: Benjamins, 89–130.**

Paradis, J. and Genesee, F. 1996:**Syntactic acquisition in bilingual children: autonomous or interdependent? *Studies in Second Language Acquisition* 18, 1–25.**

Pierce, A. 1992: ***Language acquisition and syntactic theory: a comparative analysis of French and English child grammars.*** **Dordrecht: Kluwer.**

Pollack, J-Y. 1989: **Verb movement, universal grammar and the structure of IP. *Linguistic Inquiry* 20, 365–424.**

Prévost, P. 1996: **Truncation in second language acquisition of French. Paper presented at the 21st Annual Boston University Conference on Language Development, Boston University, Boston, MA.**

Radford, A. 1994: **Tense and agreement variability in child grammars of English. In Lust, B., Suñer, M. and Whitman, J., editors, *Syntactic theory and first language acquisition: cross-linguistic perspectives*, Volume 1, *Heads, projections and learnability*. Hillsdale, NJ: Erlbaum, 135–58.**

Rohrbacher, B. 1994: **The Germanic VO languages and the full paradigm. Doctoral dissertation, University of Massachusetts at Amherst.**

Schütze, C. and Wexler, K. 1996: **Subject case licensing and English root infinitives. In Stringfellow, A., *et al*., editors, *BUCLD 20 Proceedings*, 670–81.**

Schwartz, B. and Sprouse, R. 1994: **Word order and nominative case in non-native language acquisition. In Hoekstra, T. and Schwartz, B., editors, *Language acquisition studies in generative grammar.* Amsterdam: Benjamins, 317–68.**

—— 1996: **L2 cognitive states and the Full Transfer/Full Access model. *Second Language Research* 12(1), 40–72.**

Slobin, D. 1982: **Universal and particular in the acquisition of language. In Wanner, E. and Gleitman, L., editors, *Language acquisition: the state of the art.* Cambridge: Cambridge University Press, 128–69.**

Sportiche, D. 1992: **Clitic constructions. Unpublished manuscript, UCLA.**

Vainikka, A. and Young-Scholten, M. 1994: **Direct access to X-theory: evidence from Korean and Turkish adults learning German. In Hoekstra, T. and Schwartz, B., editors, *Language acquisition studies in generative grammar.* Amsterdam: Benjamins, 265–316.**

—— 1996a: **Gradual development of L2 phrase structure. *Second Language Research* 12(1), 7–39.**

—— 1996b: **The early stages in adult L2 syntax: additional evidence from Romance speakers. *Second Language Research* 12(2), 140–76.**

Wexler, K. 1994: **Optional infinitives, head movement and the economy of**

derivations. In Lightfoot, D. and Hornstein, N., editors, *Verb Movement*. Cambridge: Cambridge University Press, 305–63.

White, L. 1996: Clitics in L2 French. In Clahsen, H., editor, *Generative perspectives on language acquisition: empirical findings, theoretical considerations, cross-linguistic comparisons*. Philadelphia: Benjamins.

Appendix A

Percentage use of verb movement, subject clitics, third person plural suffixes, past and future tenses in obligatory context at year one

Children	Verb movement[1]	Subject clitics	Third person plural	Past	Future
Amanda	.88	.77 (14/18)	.00 (0/1)	.00 (0/12)	.50 (1/2)
Chad	.95	.95 (64/67)	.00 (0/3)	.00 (0/11)	.10 (1/10)
Charlene	.93	.50 (11/22)	.00 (0/1)	.50 (1/2)	.00 (0/3)
Gary	.95	.77 (23/30)	.00 (0/3)	.11 (1/9)	.00 (0/2)
Jason A.	.90	.84 (26/31)	.00 (0/0)	.18 (2/11)	.10 (1/10)
Jason B.	.90	.91 (32/35)	.20 (1/5)	.25 (2/8)	.00 (0/6)
Bradley	.98	.90 (54/60)	.00 (0/2)	.25 (3/12)	.00 (0/7)
Jennifer	.97	.83 (79/96)	.25 (3/12)	.23 (5/22)	.12 (1/8)
Kerin	.98	.99 (82/83)	.27 (3/11)	.27 (3/11)	.33 (5/15)
Lindsay	.97	.97 (61/63)	.00 (0/3)	.42 (13/31)	.08 (1/13)
Sandra	.94	.91 (52/57)	.00 (0/2)	.17 (1/6)	.60 (6/10)
Marylin	.98	.88 (36/41)	.00 (0/0)	1.00 (7/7)	.67 (2/3)
Jeffrey	.95	.83 (43/52)	.50 (1/2)	.60 (9/15)	.60 (9/15)
Jon	.96	.93 (57/61)	.45 (5/11)	.43 (3/7)	.11 (1/9)
David	.97	.91 (62/68)	.40 (4/10)	.50 (9/18)	.62 (5/8)
Means	.947	.859	.138	.327	.255
Ranges	.88–98	.50–.99	.00–.50	.00–1.00	.00–67
SDs	.032	.119	.189	.259	.266

Note:

[1]Ratios not given because these percentages are averages of the percentages of finite verb use and correct negative placement

Appendix B

Percentage use of verb movement, subject clitics, third person plural suffixes, past and future tenses in obligatory context at year two

Children	Verb movement[1]	Subject clitics	Third person plural	Past	Future
Amanda	.97	.91 (64/70)	.00 (0/9)	.76 (13/17)	.18 (2/11)
Chad	.97	.92 (95/103)	.00 (0/10)	.48 (11/23)	.00 (0/6)
Charlene	.98	.83 (49/59)	.00 (0/4)	.45 (5/11)	.14 (1/7)
Gary	.95	.97 (91/94)	.00 (0/6)	.65 (15/23)	.33 (6/14)
Jason A.	.99	1.00 (80/80)	.54 (7/13)	.50 (13/26)	.30 (3/10)
Jason B.	.93	.97 (61/63)	.25 (1/4)	.69 (11/16)	.00 (0/9)
Bradley	.97	.86 (70/81)	.00 (0/4)	.83 (15/18)	.86 (6/7)
Jennifer	.96	.96 (95/99)	.17 (1/6)	.91 (20/22)	.30 (3/10)
Kerin	.95	.99 (11/112)	.20 (1/5)	.80 (16/20)	.50 (7/14)
Lindsay	.74	.98 (105/107)	.00 (0/9)	.89 (24/27)	.86 (12/14)
Sandra	.83	.96 (91/95)	.00 (0/7)	.38 (8/21)	.00 (0/10)
Marylin	.98	.96 (74/77)	.00 (0/5)	.95 (19/20)	.62 (8/13)
Jeffrey	.88	.98 (84/86)	.50 (3/6)	.64 (16/25)	.38 (5/13)
Jon	.87	.96 (85/89)	.43 (3/7)	.37 (10/27)	.18 (2/11)
David	.96	.90 (70/78)	.86 (6/7)	.73 (16/22)	.56 (5/9)
Means	.929	.943	.197	.669.	.347
Ranges	.74–99	.83–1.00	.00–.86	.37–.95	.00–.86
SDs	.70	.049	.270	.194	.285

Note:
[1]Ratios not given because these percentages are averages of the percentages of finite verb use and correct negative placement

Appendix C

Percentage use of verb movement, subject clitics, third person plural suffixes, past and future tenses in obligatory context at year three

Children	Verb movement[1]	Subject clitics	Third person plural	Past	Future
Amanda	.97	1.00 (72/72)	.00 (0/12)	.95 (19/20)	.40 (2/5)
Chad	.96	.96 (101/105)	.71 (5/7)	.54 (12/22)	.31 (4/13)
Charlene	.94	.95 (42/44)	.28 (2/7)	.83 (5/6)	.33 (2/6)
Gary	.96	.96 (93/97)	.33 (2/6)	.88 (15/17)	.14 (1/7)
Jason A.	.94	.92 (68/74)	.42 (5/7)	.68 (13/19)	.25 (2/8)
Jason B.	.93	.91 (49/54)	.71 (5/7)	.40 (6/15)	.14 (1/7)
Bradley	.93	.95 (77/81)	.00 (0/10)	.90 (18/20)	.67 (4/6)
Jennifer	.96	.95 (93/98)	.50 (2/4)	.74 (14/19	.60 (3/5)
Kerin	.98	.93 (126/136)	.27 (3/11)	.77 (24/31)	.10 (1/10)
Lindsay	1.00	.98 (164/167)	.62 (8/13)	.95(53/56)	.69 (9/13)
Sandra	.94	.89 (57/64)	.00 (0/7)	.57 (8/14)	.82 (9/11)
Marylin	.98	.96 (75/78)	.40 (2/5)	.83 (10/12)	.43 (3/7)
Jeffrey	.94	.87 (52/60)	.28 (2/7)	.28 (2/7)	.28 (2/7)
Jon	.96	.94 (77/82)	.11 (1/9)	.33 (5/15)	.40(2/5)
David	.99	.98 (62/63)	1.00 (6/6)	.94 (17/18)	.80 (4/5)
Means	.959	.943	.375	.706	.424
Ranges	.93–1.00	.87–.1.00	.00–1.00	.28–95	.10–.82
SDs	.022	.035	.295	.230	.239

Note:
[1]Ratios not given because these percentages are averages of the percentages of finite verb use and correct negative placement