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EVIDENCE FROM L1 ACQUISITION

FOR THE SYNTAX OF *WH*- SCOPE MARKING IN FRENCH

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1. Introduction

The goal of this paper is twofold. We first provide empirical arguments from L1 acquisition of French questions for the syntax of *wh*-in-situ in the adult grammar. In particular, we provide arguments for the existence of a non-lexical Q morpheme in French. (Cheng & Rooryck 2000; Mathieu 1999). The central claim we make is that this Q morpheme licenses both *wh*-in situ —be it in the child or the adult grammar— and partial *wh*-movement in French L1 acquisition (Oiry 2002).

The second goal of this paper is to provide empirical arguments for alternative *wh*-scope marking structures in L1 acquisition of French. We argue that the seemingly surprising syntax of certain Long Distance (henceforth, LD) questions in L1 French reflects the existence in the child grammar of alternative non-adult strategies for forming *wh*-questions. These strategies, which involve either an argumental/referential or a non argumental/referential scope marker in the matrix, are ungrammatical in the target language but reflect parameters settings for other languages. In particular, we identify two classes of scope marking strategies: **indirect vs. direct** dependency strategies. Direct dependency yields both partial *wh*-movement and *wh*-in-situ: a non-lexical Q morpheme merged in the matrix Spec CP ensures that the scope of a lower *wh*-phrase, either in situ or partially fronted at Spell-out, is extended over the matrix clause. Indirect dependency (Dayal 1996, 2000) involves an argument *wh*-phrase quantifying over propositions in the matrix clause and a subordinate *wh*-clause serving as a restriction on the matrix *wh*-quantifier. The latter appears either in situ or fronted to the matrix Spec CP in the overt syntax.

We then turn to the question of how are findings bear on the issue of the acquisition stages involved in the language development process. The experimental results from the production task carried out to elicit root questions does not validate the claim that *wh*-in situ is the default option in French child grammar (see Hulk & Zuckerman (2000) or Zuckerman (2001), for instance). Our findings suggest that, if indeed there a preference for forming root questions, the preference is for overt *wh*-movement; see Deprez (1995) and Soares (2003) for similar conclusions regarding the status of *wh*-in situ in L1 French and L1 European Portuguese, respectively. This preliminary generalization requires further careful and systematic investigation.

The syntax of long distance dependencies in French child grammar suggests, however, that the child goes through acquisition stages where long distance dependencies are not established via long movement but rather always involve **local** movement in the subordinate clause. The dependency between the matrix and the subordinate clause is then established via either (i): coindexation of an **argument *wh*-phrase** in the matrix clause quantifying over propositions with the subordinate *wh*-clause itself (indirect dependency strategy); or (ii) coindexation of a **Q morpheme** in the matrix clause with a lower *wh*-phrase itself fronted to the subordinate [-*wh*] Spec CP (direct dependency strategy).

We then suggest three stages in the acquisition of long-distance questions in French: 1) an indirect dependency stage which involves simultaneous **local covert** or **overt** movement of

an **argument** *wh*-phrase in both the matrix and the subordinate clause; 2) a direct dependency stage involving **local overt** *wh*-movement to the subordinate Spec CP —licensed by a **Q** morpheme, generated in a non-argument/operator position in the matrix; and 3) a long movement stage involving overt movement of a subordinate *wh*-phrase to the matrix Spec CP. This acquisition sequence reflects a semantic shift from scope marking structures where the scope marker is an argument of the matrix predicate and whose restrictor is a questioned proposition (indirect dependency), to scope marking structures where the scope marker is no longer an argument but a Q-morpheme merged directly in an operator/A'-position and whose restrictor is a *wh*-phrase, and, finally, to LD questions without a scope marker: overt long movement.

Our proposal supports the Intermediate State Default Grammars Hypothesis (Roeper 1999, Abdulkarim & Roeper 2003), according to which, the child goes through various acquisition stages involving default grammars that get gradually selected to match the adult grammar. Building on proposals in Abdulkarim & Roeper, we conclude by suggesting that the above acquisition sequence of LD questions could be correlated with the acquisition of subordination.

2. *Wh*-in situ in French

To account for cross-linguistic strategies in *wh*-movement, Cheng (1997: 22) proposes the Clausal Typing Hypothesis, which requires every interrogative clause to be overtly typed. Cheng identifies two strategies for typing a clause as interrogative: either a *wh*-particle is merged in C° or else the *wh*-word is fronted to Spec of CP—as illustrated in (1) and (2).


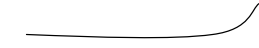
- (1) **Insertion of a Q-particle** (e.g. Japanese):
(anata-wa) [kare-ga **dare-o** aisiteita to] omoimasu **ka**
(you-TOP) he-NOM who-ACC loved COMP think Q
'Who do you think he loved?'
- (2) ***Wh*-movement** (e.g. English or French)
 - a. Which book_i do you want to read t_i?
 - b. Quel livre_i veux-tu lire t_i?

As is well known, both in situ and *wh*-movement strategies are attested in French. Since French lacks an overt scope marker, the question of how *wh*-in situ is licensed in French has been the subject of much debate in the literature.

- (3) Jean a acheté **quoi** ?
John has bought what

As shown in (3), no lexical Q morpheme appears in the clause licensing *wh*-in-situ. How then is the Clausal Typing Hypothesis satisfied in French?

Cheng & Rooryck (2000: 5) provide an attractive answer to this question. They argue that *wh*-in situ structures do in fact exhibit a phonological overt Q morpheme licensing both *wh*-in situ and intonational *yes/no* questions (that is, *yes/no* questions without raising of I° to C°). In particular, they note that in situ questions reveal a special intonation that is absent in sentences with *wh*-movement. They conclude that *wh*-in situ is licensed by an intonation morpheme inserted in the syntax as a Q-morpheme and spelled out at PF as a rising intonation. The Q-morpheme is a root morpheme merged in the syntax in a null C° position. It serves to check the [+*wh*] features carried by this null root C°.

- (4) a. 
Jean a acheté un livre ?
John has bought a book
'Did John buy a book?'
- b. 
[CP Q_i [Jean a acheté **quoi**_i ?]
John has bought what
'What did John buy?'

Mathieu (1999: 444) argues on independent grounds for the existence of a non-lexical Q morpheme in French. Under his analysis, *wh*-phrases in French consist of a variable and a null *wh*-operator, as illustrated in (5).

- (5) [CP **OP**_i [IP Jean aime [DP t_i **quoi**_i]]]
John likes what
'What does John like?'

The question operator moves to Spec CP full-filling three functions: it serves to indicate the scope of the stranded *wh*-phrase; to provide a binder for the *wh*-phrase; and to check the strong Q features of C°.

In conclusion, under both Cheng & Rooryck (2000) and Mathieu (1999) analysis, the syntax of *wh*-in situ in French involves a non-lexical Q morpheme. For Cheng & Rooryck, this Q morpheme is merged in the syntax in the matrix C° and is overtly realized via intonation. For Mathieu, the Q morpheme is phonologically null and moves in the syntax to Spec CP. At this stage, we leave open the question of whether the Q morpheme is null or intonational, as it cannot be answered without a thorough comparative study of the intonational properties of both children and adult *wh*-questions.¹

3. Partial *wh*-movement in First and Second Language Acquisition of English LD Questions

We now turn to the syntax of non-adult strategies for forming *wh*-questions in first and second language acquisition of English.

3.1. Thornton (1990): L1 English Acquisition of LD *wh*-questions

Thornton (1990) carried out an experimental task designed to elicit long-distance questions from English children. The results of this experiment revealed that some children either consistently or sporadically produce non-adult questions with an extra medial *wh*-phrase in the intermediate CP, as illustrated in (6).

- (6) **L1 English** (Thornton 1990: 246)
 - a. **What** do you think **which animal** says "woof woof"?
 - b. **What** do you think **which Smurf** really has roller skates?

Thornton draws a parallel between the syntax of exceptional questions in the child grammar of English and the syntax of so-called **partial** *wh*-movement in the adult grammar of languages such as German. The syntax of partial *wh*-movement in German is illustrated in (7) quoted from Mc Daniel (1989: 569).

- (7) *(**Was_i**) glaubt Hans **mit wem_i** Jakob jetzt **t_i** spricht?
 What believes Hans with who Jacob now talk to
 ‘With whom does Hans believe that Jacob is now talking?’

The matrix verb *believe* in (7) selects a [-*wh*] complement. Partial movement of the embedded *wh*-phrase to the intermediate [-*wh*] Spec CP position thus violates the *Wh*-criterion (Rizzi 1996, among others) which requires every *wh*-phrase to show up in the specifier of a [+*wh*] C°. Now, (7) would be ungrammatical if the *wh*-phrase (*was*) in the matrix [+*wh*] Spec CP were omitted. The latter is analyzed as a base-generated dummy *wh*-phrase acting as a scope marker—that is, signaling where the medial *wh*-phrase is to be interpreted.

Since the syntax of the exceptional questions in (6) parallels the syntax of partial *wh*-movement in (7), Thornton concludes that children produce questions involving partial *wh*-movement. *What* in (6) is thus analyzed as a base-generated scope marker indicating the (matrix) scope of the intermediate *wh*-phrase.

Thornton (1990) and Crain & Thornton (1998) conclude that the non-adult LD questions illustrated in (6), are determined by principles of Universal Grammar. That is, children produce questions that, although not well-formed in the target language (English), are nonetheless well-formed in other languages (e.g. German). This is expected under the Continuity Hypothesis according to which children’s developing grammars can differ only in the way adult grammars can differ from each other.

In section 6 below, we will take the proposal that children go through a stage involving *wh*-scope marking strategies, ungrammatical in the target language but reflecting the parametric setting for other languages, a step further by arguing for the existence of **alternative *wh*-scope marking strategies** in L1 French acquisition—that is, scope marking strategies involving either a **direct** or an **indirect** dependency between the matrix and the subordinate clause. The classic reference for direct dependency is German partial *wh*-movement whereas the classic reference for indirect dependency is Hindi (Dayal 2000).

3.2. Gutierrez (forthcoming): L2 / L3 English Acquisition of LD *wh*-questions

We now turn to the acquisition of LD questions by subjects learning English as a second or third language. Using an adaptation of Crain & Thorntons’ (1998) protocol for inducing oral production of LD questions, Gutierrez (forthcoming) elicited LD questions from a total of 260 bilingual Basque/ Spanish children and teenagers ranging in age from 8 to 18. Note that the parameter setting for both Basque and Spanish *wh*-questions is the same as in English, i.e. *wh*-movement (in the overt syntax).

Out of the 260 subjects tested, 32 (12,3%) produced the same type of non-adult questions as those reported in Thornton (1990). The paradigm in (8) illustrates the partial *wh*-movement questions produced by these L3 learners of English:

- (8) **L3 English** (Gutierrez forthcoming: 25)
 a. **What** do you think **which baby** had eaten the cake?
 b. **What** do you think **who** lived in that house?

Gutierrez further reports that according to Wakabayashi and Okawara (2003: 231-232), Japanese university students learning English as an L2 also produce partial *wh*-movement questions. Partial *wh*-movement structures produced by these adult Japanese learners of English are illustrated in (9).

- (9) **L2 Japanese** (Gutierrez forthcoming: 17)
 a. **What** do you think **who** loved Mr. Yellow?
 b. **What** do you think **who** did he loved?

In both (8) and (9), a *wh*-phrase appears in the intermediate Spec CP position and a dummy *wh*-phrase is inserted in the higher CP to signal that the medial *wh*-phrase has matrix scope. Gutierrez concludes that since partial *wh*-movement structures are ungrammatical in both the subject’s L1 (Basque/Spanish or Japanese) and the target language (English), they must be determined by UG—and, hence, that L2 learners have access to UG.

4. Long-Distance *wh*-questions in L1 Acquisition of French

The goal of this section is to first provide empirical evidence for a partial *wh*-movement strategy in L1 acquisition of French. We then draw out the implications that the overt syntax of partial movement in child French has for the syntax of *wh*-in situ in the adult grammar.

4.1. Participants, Method and Results

The results reported here are based on an elicited production protocol originally designed by Celia Jakubowicz (see Jakubowicz 2004) to induce both root and LD *wh*-questions in French. The elicitation technique engages the child in a guessing game which leads the child to ask a question to a teddy bear called ‘Tommy’ in relation to a situation acted out with toys and props in front of the child—as in Crain & Thornton (1998).

We tested 20 monolingual children consisting of 9 boys and 11 girls in a kinder garden setting. The children ranged in age from 3; 02 to 5; 11. The subjects were divided into 3 chronological age groups: 3 children between 3; 02 & 3; 05 (mean: 3; 03.10) — 8 children between 3; 07 & 4; 02 (mean: 3; 11.08) — and 9 children between 4; 06 & 5; 11 (mean: 5;05.11). 12 adult controls were also tested, ranged in age from 22 to 54 (mean 26 ;4).

Table 1 below presents the general results reported in Oiry (2002) for the 20 children tested—in raw numbers and in percentages. The subjects’ responses are divided into 4 categories. **Fronted-*Wh*** groups together all LD questions involving long **extraction** of a *wh*-phrase. The syntax of these questions is illustrated in (10) below. **Medial-*wh*** includes all LD questions with a *wh*-phrase occurring at the left-periphery of the [-*wh*] complement clause; see examples in (12-14) and section 6 below. ***Wh*-in situ** refers to LD questions involving a *wh*-phrase in situ. The last category characterizes unfelicitous adult like questions—that is, **root or yes/no questions** produced when a LD *wh*-question is expected.

Table 1- Typology of questions produced

Fronted- <i>wh</i> LD	87	(60%)
Medial- <i>wh</i> LD	11	(8%)
<i>Wh</i> -in situ LD	3	(2%)
Root / yes-no questions	43	(30%)
Total	144	

The result show that most subjects, 19/20 (95%), produced adult-like LD *wh*-questions. In contrast, only 2 children (10%) volunteered in situ LD questions. 8 out of the 20 subjects tested (40%) produced non-adult questions with a medial *wh*-phrase occurring in the intermediate CP domain of the embedded clause.

Strik (2003) conducted an experimental study of the acquisition of *wh*-questions by L1 learners of French based on the protocol designed by Celia Jakubowicz to induce oral production of root and LD *wh*-questions. 32 children ranged in age from 3 to 6 were tested. The general results reported in Strik (2003) are consistent with those presented in Table 1. In particular, although the percentage of both *wh*-in situ and medial-*wh* LDs questions is higher in Strik (2003), the distribution of responses across question types is comparable. *Wh*-in situ represents 8% of the total number of LD questions elicited (11 items out of 130), and medial-*wh* questions represent 25% of the total number of responses (33 items out of 130). Both studies thus converge on the same pattern of comparative preferences for establishing LD dependencies: long movement > partial movement > *wh*-in situ. It should be noted that the subjects tested in Strik (2003) and Oiry (2002) are from different geographical areas (Paris and Loire Atlantique, respectively).

(10) **Fronted-Wh** Oiry (2002)

- a. Qui tu crois qui saute ?
Who you believe C° jumps
'Who do you believe/think is jumping?'
- b. Quoi tu penses qui saute ?
What you think C° jumps
'What do you think is jumping?'
- c. Quel animal tu penses qui saute ?
Which animal you think C° jumps
'Which animal do you think is jumping?'

WH + ESK / KESK

- d. Qui est-ce que tu crois qui saute ?
Who-is-it C° you believe C° jumps
'Who do you believe/think is jumping?'
- e. Qu'est-ce que tu crois qui saute ?
What-is-it C° you believe C° jumps
'What do you believe/think is jumping?'

Clefts

- f. C'est qui que tu penses qui saute ?
It's who C° you think who jumps

(11) **Wh-in situ** Oiry (2002)

- a. Tu crois que lequel saute ?
You believe C° which one jump
'Which one do you believe/think is jumping?'
- b. Tu penses que Lala aime quoi, le sac, le chapeau ou ballon ?
You think C° Lala likes what the bag the hat or ball
'What do you think Lala likes, the bag, the hat or the ball?'

- c. Tu crois c' Tinky Winky, il aime quoi ?
You believe DEM Tinky Winky he likes what
'What do you believe/think this Tinky Winky, he likes ?'

The strategies for forming LD questions illustrated in (10) and (11) reflect parameter settings of the target grammar. Note, however, that the status of *wh*-in situ in tensed subordinate clauses is highly controversial in the literature. For authors such as Boeckx (1999a,b), Chang (1997), Cheng & Rooryck (2000) or Mathieu (2002), LD *wh*-in situ is restricted to infinitive or subjunctive subordinate clauses. In contrast, for authors such as Aoun et al (1981), Baunaz (2004), Tellier (1991) or Starke (2001), *wh*-in situ is allowed in finite complement clause. Judgments elicited from our own informants confirm that there are two dialects when it comes to *wh*-in situ in French. The paucity of in situ LD questions elicited could thus be correlated with dialectal variation in the status of LD *wh*-in situ in adult French. We return to LD *wh*-in situ in section 7.1 below (see also footnotes 6 and 10).

4.2. *Partial Wh-movement Questions in L1 Acquisition of French*

We now turn to the syntax of LD questions where a medial-*wh* appears at the left-periphery of the [-*wh*] complement clause, illustrated in (12) through (14).

- (12) a. Tu crois **quoi** qui est caché dans l'sac ? Oiry (2002)
you believe what C° is hidden in the-bag
'What do you believe/think is hidden in the bag?'

- b. Tu penses **quoi** c'qui est caché dans le sac ?
You think what DEM-C° is hidden in the bag

- c. Tu penses **quoi** dans l'sac qu' il-y- a ?
you think what in the-bag C° there is
'What do you think there is in the bag?'

- d. Tu penses **quoi** # que # Tinky Winky l'adore ?²
you think what C° Tinky Winky CL-loves
'What do you think that Tinky Winky likes?'

- (13) Tu veux **lequel** caresser ? Chaussy (2002)
you want which one pet
'Which one do you want to pet?'

- (14) a. Tu penses que c'est **quoi** que je lis ? Strik (2003)
you think C° DEM-is what C° I read
'What do you think I'm reading?'

- b. Tu penses **quoi** que je lis ?
you think what C° I read
'What do you think I'm reading?'

- c. Tu penses que c'est **qui** qui me lit des histoires ?
you think C° DEM-is who C° me read DET stories
'Who do you think reads me stories?'

- d. Tu penses **qui** qui me lit des histoires ?
 you think who C° me read DET stories
 ‘Who do you think reads me stories?’
- e. Tommy, tu penses **quoi** que Laa Laa préfère ?
 Tommy, you think what C° Laa Laa prefers
 ‘Tommy, what do you think Laa Laa prefers?’

The above data show that children acquiring L1 French produce the same type of non-adult questions first reported by Thornton (1990) for the acquisition of L1 English.

All the non-adult questions in (12) to (14) involve partial movement of a *wh*-phrase to the left periphery of the CP/IP domain of the complement clause. We conclude that French children, just like English children, produce questions that are not part of the target grammar, involving partial movement of the *wh*-phrase to the intermediate Spec CP/IP.

There is, however, a crucial difference in the syntax of partial *wh*-movement questions in L1 French vs. English acquisition. Recall that in both L1/L3 English and adult German, a scope marker appears in the matrix clause. In contrast, in (12) through (14), no overt scope marker appears in the matrix clause to license the medial *wh*-phrase and indicate that the latter has wide (matrix) scope.

The hypothesis of a non-lexical Q morpheme in French provides a straightforward explanation for the syntax of French children’s exceptional LD questions. We assume that this non-lexical Q morpheme licenses **both** *wh*-in situ —be in the child or the adult grammar— and partial *wh*-movement in the child grammar.

Under this proposal, the syntax of partial *wh*-movement in L1 French parallels the syntax of *wh*-in situ. In both (15a) and (15b), a non-lexical Q morpheme is merged in the matrix [+*wh*] Spec CP in the syntax. The Q-morpheme serves three functions: it types the clause as interrogative; checks the [+*wh*] features of the null matrix C° and acts as a scope marker signaling that the medial or in-situ *wh* is to be interpreted as having wide (matrix) scope.

- (15) a. **Partial *wh*-movement**
 [Q_i] Tu penses [CP **quoi_i** [que [je lis t_i]]]
 you think what C° I read
- b. ***Wh*-in situ**
 [Q_i] Tu penses lire **quoi_i**
 you think read what

In sum, once we adopt the proposal that French has a non-lexical Q morpheme, then the syntax of partial *wh*-movement in L1 acquisition of French is no longer surprising.³

This proposal is further supported by the fact that partial *wh*-movement structures without an overt scope marker are attested cross-linguistically in languages such as, Quechua (16), Bahasa Indonesia (17) or Kitharaka (18). We analyze these partial movement structures as involving a null Q morpheme signaling where the medial-*wh* is to be interpreted at LF.

- (16) **Ancash Quechua** (Cole and Hermon 1994: 240)
 Ø Jose munan **may-man** Maria away-na-n-ta ?
 Jose wants where-to Maria go-NOM-3-ACC
 ‘Where does Jose want Maria to go?’

- (17) **Bahasa Indonesia** (Saddy 1991: 189)
 Ø Bill tahu **siapa** yang Tom cintai ?
 Bill knows who FOC Tom loves
 ‘Who does Bill know that Tom loves?’
- (18) **Kitharaka** (Muriungi 2004: 10)
 Ø U- ri-thugania ati **n-uu** John a- ring-ir- e- t ?
 2ndSG-T°-think that FOC-who John SUBJ-beat-T°-FINALVOWEL
 ‘Who do you think that John beat?’

Finally, partial *wh*-movement without an overt scope marker is also attested in L2 acquisition of English by Japanese adult learners, as illustrated in (19) from Wakabayashi and Okawara (2003: 231-232), quoted from Gutierrez (forthcoming: 17).

- (19) Ø Do you think **what** is in the bag?

Under the analysis outlined here, the grammar of child French (and presumably of Japanese L2 learners of English) differs from the target adult grammar exactly in the same way as the grammar of adult French (or adult Japanese) differs from Bahasa Indonesia or Ancash Quechua. We thus conclude that the syntax of the non-adult long-distance questions produced by English and French children reflects a parameter setting which, although not part of the target grammar, is part of Universal Grammar: partial *wh*-movement licensed by a lexical vs. non-lexical Q morpheme. The existence of UG constrained child language variation from the target language is expected under the Continuity Hypothesis (see Crain & Thornton (1998) for discussion of this issue with respect to medial-*wh* questions in the L1 grammar of English) or the Intermediate State Default Grammars Hypothesis (see Roeper 1999, Abdulkarim & Roeper 2003), according to which language development is a process involving stages of default multi-grammars that get gradually selected to match the adult input.⁴

We close this section with a comment on the variation in the syntax of partial *wh*-movement in child language uncovered above: an overt scope marker appears in L1 English (see (6)) whereas no overt scope marker appears in L1 French (see (12-14)). Fanselow (to appear) observes that “Simple Partial Movement”—that is, in our terms, partial movement without an overt scope marker— always coexists with the ***wh*-in situ strategy**, as well as full *wh*-movement. Variation in the syntax of partial movement in L1 French vs. L1 English very nicely fits this generalization. That is, in French, which allows *wh*-in situ, as well as full *wh*-movement, no lexical scope marker appears in L1 partial movement questions. In contrast, in English, which does not allow *wh*-in situ, a lexical scope marker appears in L1 partial movement questions. Fanselow’s generalization thus allows to nicely correlate the lexical vs. non lexical status of the scope marker in L1 LD questions with the availability of the in-situ strategy in the target language.⁵

5. Direct Dependency Scope Marking Strategies: *Wh*-in situ in French and Partial *wh*-movement in L1 French

We now argue that both partial *wh*-movement in the child grammar and *wh*-in situ (be it in the child or adult grammar) are *wh*-scope marking strategies involving a **direct** dependency between the scope marker and the *wh*-phrase —itself either in-situ or fronted to the intermediate Spec CP, by Spell-out.

Direct dependency analyses have been proposed for partial *wh*-movement in German (illustrated in (7) above), by McDaniel (1989), Beck & Berman (2000), Cheng (1997) or

Riemsdijk (1982) among others. The basic tenet underlying direct dependency is that the *wh*-element (*Was* in (7)) appearing in the matrix clause is merely a **scope marker**—directly merged in the matrix Spec CP—whose function is to mark the syntactic scope of a lower *wh*-phrase stranded in the [-*wh*] Spec CP position immediately subordinate to the scope marker (*mit wem* in (7)). The scope marker presumably also serves to overtly type the matrix clause in which it occurs as interrogative. In contrast, under Dayal's (1996, 2000) indirect dependency analysis of Hindi scope marking structures (discussed in section (6) below), the scope marker is not merged directly in Spec CP—rather, it is an **argument** *wh*-phrase quantifying over propositions and, as such, base-generated directly in an A-position within the matrix VP.

McDaniel (1989) suggests that the scope marker (in scope marking structures involving partial movement) be directly coindexed with the contentful medial *wh*-phrase with which it is associated. It is kind of an expletive *wh*-phrase forming a *wh*-chain with the *wh*-phrase whose scope it marks in the overt syntax and replaced by the latter at LF.

We do not assume here that the scope marker licensing both partial *wh*-movement in the child grammar of French and *wh*-in situ (be it in the child or adult grammar) is a semantically vacuous element subject to expletive replacement at LF, for at least three reasons. First, LF-raising of the associate to the expletive position is argued not to be conceptually motivated in Chomsky (1998)—that is, expletives do not attract and need not be replaced. The associate simply does not move. Moreover, as Fanselow & Mahajan (2000) point out, merging an expletive into Spec CP is in fact no longer even an available option in the framework. Second, we do not take the scope marker base-generated in the matrix Spec CP and licensing partial *wh*-movement/*wh*-in situ in child/adult French to be semantically vacuous—but rather to be a full-fledged Q morpheme serving three functions. It types the matrix clause as interrogative, binds the medial/in-situ *wh*-phrase and checks the later's *wh*/Q feature via Agree (see discussion below). Thirdly, this proposal allows us to draw a principled distinction between the grammar of overt long movement in French on the one hand, and that of *wh*-in situ and partial movement on the other, as shown in (20).

- (20) a. **Partial *wh*-movement (at Spell-out & LF)**
 [_{CP} [_{Q_i}] *tu* veux [_{CP} **lequel_i** [_{PRO} caresser **t_i**]]]
 'Which one do you want to pet?'
 b. ***Wh*-in situ**
 [_{CP} [_{Q_i}] *il* mange **quoi_i**]
 'What does he eat?'

- (21) **Long *wh*-movement**
 [_{CP1} **wh_i** [_{IP1} ... [_{CP2} **t_i** [_{IP2} ... **t_i**]]]]

Long movement in (21) involves overt phrasal movement to the matrix Spec CP to check the [+*wh*] feature of C°. In contrast, partial *wh*-movement and *wh*-in situ are scope marking strategies which do not involve movement of the medial/in-situ *wh*-phrase to the matrix Spec CP—be it in the covert or overt syntax. Rather a non-lexical Q-morpheme is base-generated directly in the matrix Spec CP. The question then is how to compositionally assign matrix scope to the medial/in situ *wh*-phrases in (20a-b)—without further (covert) movement. There are at least two well-defined semantic mechanisms available in the literature for encoding scope without movement. (i) Unselective Binding as in Pesetsky (1987) and Nishigauchi (1990): the lower *wh*-phrase is analyzed as an indefinite introducing an individual variable subject to existential closure, and the matrix Q provides the existential binder—see Fanselow & Mahajan (2000) for an analysis of partial movement in German along these lines.

(ii) A choice function analysis (Reinhart 1997): the lower *wh*-phrase is analyzed as an indefinite introducing a variable over choice functions, and the matrix Q provides the existential quantifier binding this variable—see Brandner (2000) for an analysis of partial movement in German along these lines. We leave open the question here of what exactly is the appropriate mechanism for capturing matrix scope in (20) without movement.

In sum, under the proposal in (20), *wh*-in situ in child/adult French and partial movement in child French are scope marking strategies assigned the same syntax: the medial/in-situ *wh*-phrase in (20a/b) is bound by the matrix Q at LF. We now provide an indirect argument for the parallel we draw between *wh*-in situ and partial movement in French.

As is well known, partial *wh*-movement is blocked by negation. The incompatibility of negation with partial movement is illustrated below with examples from German (Rizzi 1991, in Beck 1996: 3). The ungrammaticality of (22a) contrasts with the grammaticality of the corresponding question involving overt long movement (22b).

- (22) a. **Partial *wh*-movement**
 * Was glaubst du nicht mit wem Maria gesprochen hat ?
 what believe you not with who Maria spoken has
 b. **Long *wh*-movement**
 ✓ Mit wem glaubst du nicht dass Maria gesprochen hat ?
 with whom believe you not that Maria spoken has
 'Who don't you believe that Maria talked to?'

Negation is likewise incompatible with *wh*-in situ in French, as the paradigm in (23) illustrates. The ungrammaticality of (23a) contrasts with the grammaticality of the corresponding question involving overt long movement (23b).

- (23) a. ***Wh*-in situ**
 * Il ne mange pas quoi ?
 He NEG eat NEG what
 b. **Overt *wh*-movement**
 Qu'est-ce qu'il ne mange pas ?
 What is-it that-he NEG eat NEG
 'What doesn't Jean eat?'

Summarizing, there are no negative intervention effects with either long overt movement in German, or long overt movement in French. In contrast, negative intervention effects show up with both partial *wh*-movement crosslinguistically and *wh*-in situ in French. We take, the incompatibility of negation (and other scopal elements) with both *wh*-in situ in adult French and partial movement cross-linguistically to indirectly provide support for the parallel we have drawn in (20) between the syntax of partial movement and *wh*-in situ in French. We refer the reader to Mathieu (1999) for further arguments for the parallel drawn. In particular, Mathieu argues that constraints on *wh*-in situ in French are similar to those governing partial movement in German: scopal elements (e.g. negation), as well as an overt C°, count as interveners for the licensing of a lower *wh*-phrase.

We follow Fanselow & Mahajan (2000) in assuming that interventions effects and, more generally, the locality constraints governing partial *wh*-movement—and, by extension, *wh*-in situ in French—follow from the *wh*-agreement relation established between the matrix Q and the lower *wh*-phrase in order to ensure that the latter checks its *wh*/Q feature. That is, since there is no covert movement of the lower *wh*-phrase in (20), the latter must agree directly with the matrix Q for the feature [+*wh*]. Locality effects then follow from the locality

of this agreement relation. For an alternative account of the locality constraints governing both *wh*-in situ in French and partial *wh*-movement cross-linguistically, see Mathieu (1999).⁶

To conclude this section, under the proposal illustrated in (20), both partial *wh*-movement in French L1 and *wh*-in situ in child/adult French are *wh*-scope marking constructions involving a scope marker generated in a **non-argument/operator position** in the matrix clause (Spec CP) and **directly associated** (via binding) with a lower *wh*-phrase, itself either in situ or stranded in the specifier of [-*wh*] C°. We now provide evidence from L1 French for scope marking strategies where the scope marker is, this time, merged in an **argument-position** and where the lower *wh*-phrase is **not directly associated** with the scope marker — rather, it is the CP containing the lower *wh*-phrase that is itself associated with the scope marker.

6. Indirect Dependency *Wh*-Scope Marking Strategies in L1 French

In the preceding sections, we have discussed two *wh*-scope marking strategies: *wh*-in situ and partial *wh*-movement. These options do not exhaust the *wh*-scope marking strategies attested cross-linguistically for forming long distance dependencies without having recourse to overt long movement. Two proposals have been made to account for the typology of *wh*-scope marking strategies employed by natural languages: direct vs. indirect dependency.

We now argue for the existence of *wh*-scope marking strategies in L1 acquisition of French involving an **indirect** dependency between the matrix and the subordinate clause. The classic reference for indirect dependency is Dayal's (1996, 2000) analysis of Hindi.

6.1. Indirect Dependency in Hindi

The *wh*-scope marking construction in Hindi is illustrated in (24), from Dayal (2000: 160-162). Notice that two *wh*-phrases appear in (24): *kyaa* ('what') appears in the object position of the main clause, and *kisse* ('who') in the object position of the embedded verb *talk*.

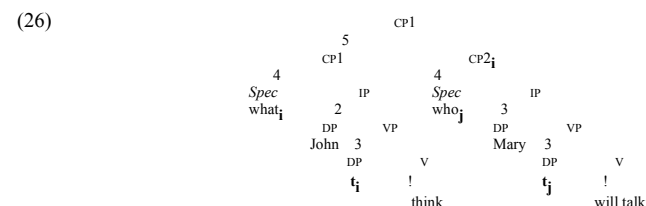
(24) Jaun **kyaa** soctaa hai ki merii **kis-se** baat karegii?
 Juan what think-PR that Mary who-INS talk do-FUT
 'Who does John think Mary will talk to?'

(25) Jaun **kyaa** soctaa hai?
 Juan what think-PR
 'What does John think?'

Dayal argues that the *wh*-scope marker *kyaa* occurring in the matrix clause is crucially not a non-referential (expletive) scope marker. Rather, it is an ordinary *wh*-phrase appearing in its base argument position. Dayal thus draws a parallel between the matrix clause in (24) and the independent clause in (25). In both (24) and (25), the object *wh*-phrase *kyaa* occurs in the internal argument position of the verb 'think' and is used to question over the set of propositions that John stands in the *think* relation to. In (24), we thus have two clauses, each containing a contentful *wh*-phrase and interpreted as a *wh*-question in its own right. The matrix (CP1) is a question over propositions, and the subordinate clause (CP2), syntactically analyzed as an appositive clause adjoined to the matrix, is a question over individuals.

The LF for (24) is given in (26). The in situ *wh*-phrases each move to the specifier position of the CP dominating them, yielding two local *wh*-dependencies. The connection

between the two clauses is established **indirectly** by coindexing the matrix *wh*-phrase and the subordinate *wh*-question, as shown in (26).



Semantically, the subordinate *wh*-question forms the restriction of the *wh*-quantifier in the matrix clause: it restricts the set of propositions that are possible answers to the matrix question to all and only those propositions that are also possible answers to the subordinate question. *e.g.*, in (26), CP2 restricts the matrix *wh*-question (*What does John think?*) to propositions concerning the possible people that Mary will talk to. The interpretive procedure given for indirect *wh*-dependencies thus creates the effect of long distance *wh*-extraction.

Dayal further argues that languages can differ with respect to the syntactic realization of indirect dependency. She identifies three syntactic options: (i) juxtaposition of two clauses, CP1 and CP2 are adjoined; (ii) indirect syntactic subordination, CP2 is embedded within IP1; and (iii) direct subordination, CP2 is generated as the internal argument of the matrix verb.

Dayal illustrates the first option with sequential questions in English and parenthetical *was* constructions in German. She takes sequential questions to have properties characteristic of scope marking. In (27a), the *wh* occurring in CP2 is construed as taking scope outside its syntactic domain as the possible answers to (27a) show: the answer in (27b) embeds the proposition corresponding to CP2 as a complement to the verb in CP1, supplying a value for the variable in CP2. (27a) is assigned the representation in (27c). Syntactically, the two independent clauses are adjoined. Semantically, the *wh*-phrase in CP1 is a quantifier over propositions restricted by the *wh*-question with which it is coindexed (CP2).⁷

- (27) a. What do you think? Who will Mary see?
 b. I think Mary will see Tom.
 c. LF: [[CP1 what_i do you think t_i] [[CP2_i who_j t_j will Mary see]]

- (28) a. **Indirect dependency**
 Was glaubst du wohin **ist** er gegangen?
 what think you where **has** he gone
 b. **Partial *wh*-movement**
 Was glaubst du wohin er gegangen **ist**?
 what think you where he gone **has**
 c. 'Where do you think he has gone?'

(28a) illustrates the syntax of so-called parenthetical *was* constructions in German. The syntax of this construction differs from the corresponding partial movement question (28b), in that **V2** occurs in CP2 — signaling that the clauses in (28a) are independent / root questions, which in turn entails that *was* in (28a) is not a scope marker but an ordinary *wh*-phrase. Conversely, the absence of V2 in the partial movement structure (28b) signals that CP2 is a subordinate

clause. Indirect dependency straightforwardly explains how the two root questions in (28a) combine together to yield the meaning of the LD question in (28c).

6.2. Indirect Dependency in L1 French

We now argue that L1 acquisition of French provides empirical evidence for indirect dependency *wh*-scope marking strategies as a means of forming LD dependencies. The relevant data are given below.

- (29) a. **Qu'est-ce que** tu crois **qu'est-ce** caché dans le sac ? Oiry (2002)
 what-is-it-that you believe what-is-it hidden in the bag
 'What do you think that is hidden in the bag?'
- b. **Qu'est-ce que** tu penses **qu'est-ce que** j'aime lire ? Strik (2003)
 what-is-it-that you think what-is-it-that I like read
 'What do you think that I like to read?'
- c. **Ce qu'**il pense # c'est **qui** qui est caché dans le sac ? Oiry (2002)
 DEM.what-CL thinks DEM-is who C° is hidden in the bag
 'What do you believe is hidden in the bag?'
- (30) a. Tu crois **quoi** # lala elle aime bien **quoi** ? Oiry (2002)
 you believe **what** Lala she likes well **what**
 'What do you believe Lala likes?'
- b. Tu crois **quoi** que je bois **quoi** ? Strik (2003)
 you believe what C° I drink what
 'What do you believe I'm drinking?'
- (31) Tu crois **quoi qui** est caché dans l'sac ? Oiry (2002)
 you believe what who is hidden in the-bag
 'What do you believe is hidden in the bag?'

Consider first the paradigm in (29). Questions introduced by *qu'est-ce que* are matrix questions in standard French. We take the occurrence of *qu'est-ce que* in CP2 to signal that the clauses in (20) are independent/root questions. Note that there are alternative analyses of these root questions in the literature. The first option is that their derivation involves two movements: *wh*-raising of the interrogative object pronoun *que*, and V2 —that is, raising of the verb *est* over the subject *ce*. The second option is fronting of the object *wh*-phrase *que* into the specifier of the complex interrogative C° ESK. The third option would be to front the object *wh*-phrase KESK analyzed as a single word. Notice, however, that in (29a) repeated below as (32), the complementizer *que* ('that') in CP2 has been elided. Elision of *que* argues against the last two alternatives which take *est-ce que* and *qu'est-ce que* to be unanalyzable, undecomposable words (standing for the complex interrogative C° ESK and the *wh*-word KESK, respectively). We thus conclude that *qu'est-ce que* root questions involve V2 with subsequent raising of the *wh*-phrase *que*.

The crucial point for us here is that the syntax of the questions in (29a-b) is exceptional in that it involves two **root**/independent questions. Under Dayal's proposal, however, the syntax and the semantics of these surprising non-adult questions become transparent.

(32) Overt syntax of *wh*-scope marking in L1 French

[CP1 **Qu'est-ce que** [tu crois t_i] [CP2 **qu'est-ce** [t'_j caché t_j dans le sac]
 what-is-it-that you believe what-is-it hidden in the bag
 'What do you think that is hidden in the bag?'

We conclude that the **overt** syntax of the exceptional questions (29)/(32) in L1 French transparently reflects the **covert** syntax of *wh*-scope marking structures in Hindi, illustrated in (33).

(33) Covert syntax of *wh*-scope marking in Hindi (24)/(26)

[CP1 **kyaa_i** [Jaun t_i soctaa hai] [CP2 **kis-se_j** ki Merii t_j baat karegii]
 what John think-PR who-INS that Mary talk do-F
 'Who does John think Mary will talk to?'

The same analysis can be extended to the exceptional question in (29c), to which we assign the representation in (34):

(34) [CP1 **Ce qu'**il pense t_i] # [CP2 c'est **qui_j** qui est t'_j caché t_j dans le sac]
 DEM.what-CL thinks DEM-is who C° is hidden in the bag
 'What do you believe is hidden in the bag?'

Note that we have analyzed *que* in CP1 as the neutral interrogative pronoun 'what', and not as the complementizer 'that'. The evidence for this analysis is diachronic. *ce que*, in contemporary adult French, introduces indirect questions involving extraction of an object, as in (35). However, according to Grévisse (1980: 1282), bare interrogative *que* (derived from latin *quid*) was used as an interrogative direct object pronoun in both direct and indirect *wh*-questions. Bare *que* in indirect interrogatives disappeared in the XXVII century.

(35) Je me demande ce que Jean pense
 I me ask DEM what John thinks
 'I wonder what John thinks.'

Notice finally the phonological pause after the matrix 'think' in (34). The occurrence of this pause supports our analysis of (34) as involving two independent clauses, neither of which is subordinated to the other, each containing a contentful *wh*-phrase and interpreted as a *wh*-question in its own right.

We have established a parallel between the overt syntax of *wh*-scope marking in non-adult French questions and the covert syntax of *wh*-scope marking in languages such as Hindi. We now take this syntactic parallel a step further.

Consider (30) above. Notice that the overt syntax of the French non-adult question in (30) and that of the Hindi adult question in (24)/(26) are identical in all relevant respects. That is, both (24)/(26) and (30) exhibit two in-situ *wh*-phrases: the first *wh*-phrase appears in the object position of the matrix verb ('believe'/'think'), and the second *wh* in the object position of the subordinate verb. We assign (30) the representation in (36). The higher *wh*-phrase quantifies over the set of propositions that the subject stands in a *belief* relation to. CP2 restricts the denotation of the matrix *wh*-question to propositions concerning the possible things that Lala likes. Indirect dependency thus creates the effect of LD *wh*-extraction.

- (36) [CP₁Tu crois **quoi**_i] # [CP₂lala elle aime bien **quoi**_j]
 you believe **what** Lala she likes well **what**
 ‘What do you believe Lala likes?’

The occurrence of a phonological pause in (36) after the *wh*-phrase occupying the internal argument position of ‘believe’ signals once again a *wh*-scope marking strategy involving juxtaposition of two syntactically independent questions.

The proposal that the L1 French questions illustrated in (29) through (31) are *wh*-scope marking structures instantiating indirect dependency explains the seemingly ungrammatical syntax of these non-adult questions. In particular, the syntax of these questions involves two root questions with a *wh*-phrase occurring in both the matrix and the subordinate clause. Both *whs* can either remain situ or be fronted in the overt syntax. The *wh* occurring in the first clause can be any of the *wh*-phrases used to quantify over propositions in French —that is, either *quoi*, *quel/KESK* or *(ce) que*. Indirect dependency straightforwardly explains how these two root questions combine semantically together to yield the meaning of a long distance question.

6.3. Direct or Indirect Dependency?

Finally, consider (31) repeated below.

- (31) Tu crois **quoi** **qui** est caché dans l’sac ?
 you believe what ? is hidden in the-bag

We now have two possible analyses for this exceptional question, depending on the status of *qui*. If we analyze the latter as the subject *wh*-pronoun *qui*, then (31) instantiates an indirect dependency scope marking strategy, as in (37a). That is, we have two semantically contentfull *wh*-phrases appearing in argument positions: *quoi* appears in situ in the object position of *croire* and *qui* appears in a derived argument position, the subject position of the embedded passive verb.

- (37) a. **Indirect dependency**
 [CP₁Tu crois **quoi**_i] [CP₂[IP₂ **qui**_j est caché t_j dans l’sac]]
 you believe what who is hidden in the-bag
 b. **Direct dependency**
 [CP₁ Q_i [Tu crois [CP₂ **quoi**_i [C° qui] [t’_i est caché t_i dans l’sac]]]]
 you believe what that is hidden in the-bag

Alternatively, *qui* could be the complementizer *que* that becomes *qui* (*que/qui* alternation)⁸ when a subject is extracted, as in (37b). (31) would then instantiate a direct dependency scope marking strategy. That is, the *wh*-phrase *quoi* has undergone partial movement to the intermediate Spec CP, and is bound by the non-lexical Q morpheme in the matrix. No further movement ensues at LF.

To conclude, we have argued that the syntax of exceptional questions in child French reveals the existence of alternative *wh*-scope marking strategies for forming long distance dependencies. We have identified two classes of *wh*-scope marking strategies: *indirect* vs. *direct* dependency. Direct dependency yields both partial *wh*-movement and *wh*-in-situ: the matrix non-lexical Q morpheme is merged in the matrix in an operator/A’ position and **directly associated** (via binding) with a lower *wh*-phrase, itself either in situ or stranded in the specifier of [-*wh*] C° at Spell-out. The indirect dependency strategy (in the sense of Dayal

2000) involves two clauses, each containing a contentful *wh*-phrase, and interpreted as a *wh*-question in its own right. Both *whs* can simultaneously appear at Spell-out either in situ or else fronted to the specifier position of the CP in which they occur. The *wh*-phrase in the matrix is **not directly associated** with the *wh*-phrase in the subordinate clause —rather, it is associated (coindexed) with the CP containing the latter. This proposal is recapitulated in (38).

(38) L1 French *wh*-Scope Marking

	Direct dependency	Indirect dependency
	Partial <i>wh</i>-movement (14b)	Overt <i>wh</i>-movement + V2 in both CP1 & CP2 (29a-b)
Q _i	Tu penses quoi _i que je lis you think what that I read	Qu _i ‘est-ce que tu crois t _i [CP ₁ qu _j ‘est-ce (que) j’aime lire t _j] what-is-it-that you believe what-is-it-(that) I-like to read
	LD <i>wh</i>-in-situ (11a)	Covert <i>wh</i>-movement in both CP1 & CP2 (30a)
Q _i	Tu penses que lequel _i saute you think that which one jumps	Tu crois quoi _i # [CP ₁ lala elle aime bien quoi _j] you believe what Lala she likes well what

7. Acquisition Stages

We conclude with a brief discussion of how are findings bear on the question of the stages involved in language acquisition

7.1. *Wh*-in Situ as the least marked strategy?

The experimental results from the production task carried out to elicit root questions (Chaussy 2002) are presented in Table 2 in raw numbers and in percentages. Note that the same 20 children were tested for both root and LD questions.

Table 2- Typology of root questions produced

Fronted- <i>wh</i>	81	(65%)
<i>Wh</i> -in situ	28	(22,5%)
In-situ/Fronted	15	(12,5%)
Total	124	

The category In-situ/Fronted in table 2 refers to subject *wh*-questions analyzable as either *wh*-in situ or *wh*-fronting questions (e.g. *Qui saute ?* ‘Who jumps?’). Note that the category *wh*-in situ receives only 22,5% of the children’s responses (or maximally 34% if we take into consideration the ambiguous In situ/Fronted responses). Moreover, we did not find any correlation between age and in situ responses (younger children did not produce more in situ responses than older children⁹). These findings do not validate the claim that *wh*-in situ is the default option in French child grammar —see Hulk & Zuckerman (2000) or Zuckerman (2001), where *wh*-in situ is ranked as the most economical option. Recall further that only 3 *wh*-in situ LD questions were produced out of a total of 144 items (by two subjects). These results are surprising under the view that overt movement is more costly than either non-movement or covert movement.¹⁰ We conclude that our findings do not reflect a preference for *wh*-in situ as the least marked strategy for forming (non) local *wh*-dependencies in L1 French.

This conclusion supports the claim in Deprez (1995), based on Deprez & Pierce (1990), (1993), according to which *wh*-movement is enforced very early in child French and there is no stage reflecting a preference for *wh*-in situ. Note finally that a similar conclusion is put forth in Soares (2003) for L1 European Portuguese (EP). According to Soares, the in situ strategy only becomes available in child EP much later than *wh*-movement to the left periphery.

7.2. Long-Distance Dependencies

We have argued that the seemingly surprising syntax of certain LD questions in L1 French reflects alternative non-adult scope marking strategies for forming long-distance dependencies in the child grammar. The existence of these scope marking strategies suggests that the child goes through acquisition stages where long distance dependencies are not established via long movement —be it, covert or overt— but rather always involve *local movement* in the subordinate clause. The dependency between the matrix and the subordinate clause is then established via coindexation of either (i) an **argument *wh*-phrase** in the matrix clause quantifying over propositions with the subordinate *wh*-clause itself (indirect dependency strategy), or (ii) a **Q morpheme** in the matrix clause with a *wh*-phrase itself fronted to the subordinate [-*wh*] Spec CP (direct dependency strategy).

This leads us to suggest the following sequence in the acquisition of LD questions, which would reflect a semantic shift from scope marking structures where the scope marker is an argument of the matrix predicate and whose restrictor is a questioned proposition, to scope marking structures where the scope marker is not an argument but a Q-morpheme merged directly into an operator/A'-position and whose restrictor is a *wh*-phrase, yielding LD extraction at the last stage—that is, LD questions without a scope marker.

(39)	
a. INDIRECT DEPENDENCY STAGE	
Local covert movement in both CP1 & CP2	Local overt movement in both CP1 & CP2
Overt syntax	Overt syntax & LF
[Tu penses quoi_i] [_{CP1} lala elle aime bien quoi_j]	[qu_i 'est-ce que tu crois t_i] [_{CP1} qu_j 'est-ce j'aime lire t_j]
you think what Lala she likes well what	what-is-it-that you believe what-is-it I-like read
LF	'What do you believe that I like to read?'
[quoi_i tu penses t_i] [_{CP1} quoi_j lala elle aime bien t_j]	
'What do you think that Lala likes?'	
b. DIRECT DEPENDENCY STAGE	
Partial <i>wh</i> -movement	
[_{CP} Q_i [_{IP} Tu penses [_{CP} quoi_i [_C que [_{IP} je lis t_i]]]]	
you think what ^{c°} I read	
'What do you think (that) I am reading?'	
c. OVERT LONG MOVEMENT STAGE	
[_{CP} Qui_i [_{IP} tu penses [_{CP} ^{e°} [_C qui [_{IP} ^{e°} est caché t_i dans le sac]]]]	
who you think ^{c°} is hidden in the bag	
'Who do you think is hidden in the bag?'	

Now, recall that for Dayal (2000), languages differ with respect to the syntax of indirect dependency, which can involve either juxtaposition of two clauses, indirect syntactic subordination, or direct subordination (Section 6.1). She further argues that variation in the syntax of scope marking, from juxtaposition to genuine subordination, reflects diachronic stages in the process of language change. Thus, for instance, Reis (2000) argues that the diachronic evolution of partial movement scope marking structures in German involves a syntactic shift from juxtaposition to genuine subordination that can be correlated with a semantic shift from indirect to direct dependency.

Roeper (1999) and Abdulkarim & Roeper (2003) argue for a sequence in the acquisition of subordination moving from adjunction, to VP-complement, to subcategorized V°-complement. Their proposal raises the question of whether the acquisition sequence in (43) which reflects a semantic shift from scope marking structures where the scope marker is referential/an argument of the matrix verb (indirect dependency) to scope marking structures where the scope marker is a non-referential/a Q morpheme (direct dependency) can be correlated (and, if so, to what extent) with the acquisition of subordination. That variation in the syntax of scope marking in L1 French correlates with the acquisition of complementation would be the null hypothesis. This question, which we hope to answer in the future, is a matter of empirical investigation requiring tests to determine the syntactic status (juxtaposition/adjunction vs. true subordination) of the "complement" clause in LD questions in the child grammar of French.

Selected References

- Abdulkarim, L. 2001. *Complex WH Questions and Universal Grammars: New evidence From the Acquisition of Negative Barriers*. Unpublished Ph.D. Thesis. University of Massachusetts, Amherst.
- Abdulkarim, L., Roeper, T. and De Villiers J. 1997. "Negative islands in language acquisition." In *New Perspectives on Language Acquisition: Minimalism and Pragmatics*. University of Massachusetts, Amherst.
- Abdulkarim, L. and Roeper, T. "From universal to language-specific grammars: How do children acquire embedded *Yes/No* questions in English?" Ms. University of Massachusetts, Amherst.
- Aoun, J. and Li, Y. A. 1981. "The interaction of operators." In *Principles and Parameters in Comparative Grammar*, R. Freiden (ed.), 163-181. MIT Press. Cambridge.
- Baunaz, L. 2004. "Un NPs and *Wh* In Situ: An argument for an indefinite analysis". In *Generative Grammar in Geneva 4*.
- Beck, S. 1996. "Quantified structures as barriers for LF movement". *Natural Language Semantics* 4: 1-56.
- Beck, S. and Berman, S. 2000. "*Wh*-Scope marking: direct vs. indirect dependency". In *WH-Scope Marking*, Lutz, Müller & v. Stechow (eds), 17-44. John Benjamins Publishing Company.
- Boeckx, C. 1999. "Decomposing French questions." In *University of Pennsylvania Working Papers in Linguistics* 6.1, *Proceedings of the 23 Annual Penn Linguistics Colloquium*, in J. Alexander, W.R. Han & M. Minnick Fox (eds.), 69-80.
- Boeckx, C. 1999. "Decomposing French Questions". Ms. U. Penn.
- Boskovic, Z. 2000. "Sometimes in [Spec CP], sometimes in situ". In *Step by Step: Essays on Minimalist Syntax in Honor of H. Lasnik*. R. Martin, D. Michaels & J. Uriagereka (eds), 53-88. Cambridge: MIT Press.

Brandner, E. 2000. "Scope marking and clausal typing". In *WH-Scope Marking*, U. Lutz, G. Müller & A. Von Stechow (eds), 45-76. John Benjamins Publishing Company.

Chaussy, F. 2002. *Acquisition des Questions Racines*. MA Thesis. University of Nantes.

Cheng, L. L.-S. 1997. *On The Typology of Wh-Questions*. Garland publishing, Inc. New York & London.

Cheng, L. L.-S. and Rooryck, J. 2000. "Licensing *Wh*-in-situ". *Syntax* 3: 1-19.

Chomsky, N. 1998. "Minimalist inquiries: the framework". Ms. MIT.

Cole, P. and Hermon, G. 1994. "Is there LF movement?" *Linguistic Inquiry* 25 (2): 239-262. MIT.

Crain, S. and Thornton, R. 1998. *Investigations in Universal Grammar. A guide to experiments on the acquisition of syntax and semantics*. MIT Press.

Dayal, V. 2000. "Scope marking: cross-linguistic variation in indirect dependency". In *WH-Scope Marking*, U. Lutz, G. Müller & A. Von Stechow (eds), 157-193. John Benjamins Publishing Company.

De Villiers, J., Roeper, T. and Vainikka. 1990. "The acquisition of long-distances rules." In *Language Processing and Language Acquisition*, L. Frazier and J. De Villiers (eds), 257-297. Kluwer Academic Publishers.

Demirdache, H. and Oiry M. In progress. "*Wh*-scope marking in child and adult French".

Deprez, V. 1995. "Sous-spécification, projections fonctionnelles et fixation des paramètres". In *Recherches Linguistiques de Vincennes* 24: 177-207. Presses Universitaires de Vincennes.

Fanselow, G. To appear. "Partial movement". *SYNCOM (the Syntax Companion): An electronic encyclopedia of syntactic case studies*. In Everaert, M. & H. Van Riemsdijk (in prep). The LingComp Foundation.

Fanselow, G. and Mahajan, A. 2000. "Towards a minimalist theory of *wh*-expletives, *wh*-copying and successive cyclicity." In *WH-Scope Marking*, U. Lutz, G. Müller & A. Von Stechow (eds), 195-230. John Benjamins Publishing Company.

Gutierrez, M. J. In preparation. *The acquisition of English LD wh-questions by Basque/Spanish bilingual subjects in a school context*. PhD dissertation. University of the Basque Country.

Hulk, A. and Zuckerman, S. 2000. "The interaction between input and economy: acquiring optionality in French *wh*-Questions". *BUCLD Proceedings* 24: 438-449.

Jakubowicz, C. 2004. "Is movement costly?". *Proceedings of the JEL conference*. University of Nantes.

Mathieu, E. 1999. "French *wh*-in situ and the intervention effect". *UCL Working Papers in Linguistics* 11: 441-472.

Mathieu, E. 2002. *The Syntax of Non-Canonical Quantification: A Comparative Study*. PhD Dissertation. UCL.

McDaniel, D. 1989. "Partial *wh*-movement". Kluwer Academic Publishers. *Natural Language Theory* 7: 565-604.

Muriungi, P. K. 2004. "*Wh*-movement in Kitharaka as focus movement". *Proceedings of the Workshop on the Syntax, Semantics and Pragmatics of Questions*, ESSLI 16.

Nishigauchi, T. 1990. *Quantification in the Theory of Grammar*. Kluwer, Dordrecht.

Oiry, M. 2002. *Acquisition des Questions à Longue Distance*. MA Thesis. University of Nantes.

Oiry, M. 2003. *Acquisition Syntaxique: La Compréhension des Questions à Longue Distance*. DEA Thesis. University of Nantes.

Pesetsky, D. 1987. "*Wh*-in situ: movement and unselective binding." In E. Reuland and A. ter Meulen (eds.), *The Representation of (In)definiteness*. MIT Press, Cambridge.

Reinhardt, T. 1997. "Quantifier scope: how labor is divided between QR and choice functions". *Linguistics and Philosophy* 20, 335-397.

Reis, M. 2000. "On the parenthetical features of German *Was...* *W*-constructions and how to account for them". In *WH-Scope Marking*, U. Lutz, G. Müller & A. Von Stechow (eds), 359-407. John Benjamins Publishing Company.

Riemsdijk, H. v. 1982. "Correspondance effects and the Empty Category Principle". *Tilburg Papers in Language and Literature*.

Rizzi, L. 1991. "Argument/adjunct (a)symmetries". Ms. University of Genève.

Rizzi, L. 1996. *Parameters and Functionnal heads: Essays on Comparative Syntax*. New York, NY: Oxford.

Soares, C. 2003. "The C-domain and the acquisition of European Portuguese: the case of *wh*-questions". In *Probus* 15: 147-176.

Starke, M. 2001. *Move dissolves into Merge: a Theory of Locality*. PhD Dissertation. University of Geneva.

Strik, N. 2003. *Où tu as caché ton sac? Qu'est-ce que tu penses que je lis? Acquisition des Questions Wh- chez les Enfants Francophones de 3 à 6 Ans*. DEA Thesis. University of Paris 8.

Tellier, C. 1991. *Licensing Theory and French Parasitic Gaps*. Kluwer Academic Publishers, Dordrecht.

Thornton, R. 1990. *Adventures in Long-Distance Moving: the Acquisition of Complex Wh-Questions*. PhD dissertation. University of Connecticut.

Saddy, D. 1991. "*Wh* scope mechanisms in Bahasa Indonesia". *MIT Working Papers in Linguistics* 15: 183-218.

Weissenborn J., Roeper T. and De Villiers J. 1995. "*Wh*-acquisition in French and German". *Recherches Linguistiques* 24: 125-155.

Zuckerman, S. 2001. "The Acquisition of "Optional" Movement". Ms. University of Groningen.

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²The results of the preliminary acoustic studies we have carried out do not confirm the strict correlation established by Cheng & Rooryck (2000) between *in-situ* and *yes-no* questions in the adult grammar. Indeed, our results suggest that there are different intonational patterns associated with *wh*-in situ, as argued by Baunaz (2004) who distinguishes, alongside the raising intonation (also characteristic of *yes-no* questions, see (4)), two other intonational patterns for *wh*-in situ. Whether Cheng & Rooryck's correlation proves to be correct or not (at least as stated), the proposal that intonation licenses *wh*-in situ in French remains an intuitively correct and attractive idea.

³The symbol # indicates a phonological pause.

⁴An anonymous reviewer asks if, assuming Cheng's & Rooryck analysis, one might not expect there to be a non lexical Q-morpheme in English, since this language has *yes no* questions without an overt Q⁰ morpheme. This is not the case since, for Cheng & Rooryck, English *yes no* questions further differ from French *yes no* questions in that the former instantiate Aux to Comp—which serves precisely to overtly type the matrix C⁰ as interrogative. In contrast, French has *yes no* questions without either raising of I⁰ to C⁰ or an overt particle, to type the matrix as interrogative (see (4a)). Note that none of the (roughly) 300—root and LD—questions elicited instantiated Aux to Comp.

⁵An anonymous reviewer points out that UG constrained child language variation from the target language in the syntax of *wh*-questions (be it in English or French) is at odds with the idea that parameters are set at a very early stage and asks what would distinguish the parameter for *wh*-movement from other parameters. We offer two comments in reply to this question. First, under multiple grammar models of language development (e.g. the Intermediate State Default Grammars Hypothesis, see Roeper 1999, Abdulkarim & Roeper 2003), we would expect UG constrained variation from the target language to extend well beyond the acquisition of *wh*-questions. Second, as far as French is concerned, it is not clear that the two *wh*-scope marking strategies that we identify in French L1 acquisition in this paper—that is, direct dependency (partial *wh*-movement; section 5) and indirect dependency (section 6) are actually confined to the child grammar.

First, take the indirect dependency strategy. Dayal (2000) argues that this strategy is in fact universally available in all languages for forming LD *wh*-questions—since all languages have sequential questions (see section 7 for discussion).

Turning next to the direct dependency strategy. To our surprise, we elicited 3 LD questions involving a (clefted) medial *wh*-phrase from 3 out of 12 adults in the control group. Note that syntax of partial movement in (i-iii) parallels in all relevant respects (i.e. null scope marker, medial focused/clefted *wh*-phrase) the syntax of partial movement in Bahasa Indonesia and Kitharaka, illustrated in (17-18) in the text.

- i. Tu penses que c'est **qui** qui joue du tambour ?
you think c° DEM-is who c° play drums
'Who do you think is playing drums?'
- ii. Tommy, tu crois que c'est **qui** qui saute ?
Tommy you think c° DEM-is who c° jumps
'Tommy, who do you think is jumping?'
- iii. Tommy, tu crois qu'est **quel animal** qui saute ?
Tommy you think c°-DEM-is which animal c° jumps
'Tommy, which animal do you think is jumping?'

Now, although clefted **medial** *wh*-questions have never been reported (to our knowledge) in the literature on French *wh*-questions and are certainly not part of the grammar of standard French, the question in (i-iii) sound perfectly fine to our ears and to those of others speakers we have consulted. These findings suggest that partial *wh*-movement is in fact a licit (albeit marginal?) strategy in colloquial French. See Demirdache & Oiry (in progress) for a discussion of the implications of these data for both the adult and the child grammar of LD questions in French.

²This correlation can be extended to variation in the syntax of scope marking in L2 acquisition of LD questions. The appearance of an overt scope marker in partial movement questions (see (8)) in L3 acquisition of English by bilingual Basque/Spanish learners correlates with the unavailability of the in-situ strategy in either the L1 or the L2 grammar of these learners. In contrast, the occurrence of a null scope marker in L2 acquisition of English by Japanese learners (see (19)) correlates with the availability of the in-situ strategy in the L1 grammar of these learners.

⁶Note that both Mathieu's account of the locality constraints governing partial movement and French *wh*-in situ, and Fanselow & Mahajan's account, which as we have suggested here can be extended to cover *wh*-in situ in French, would have to be parametrized in order to explain why locality constraints can be relaxed for those speakers of French who allow single *wh*-questions with *wh*-in situ in finite complement clauses (see section 4.1). Note, however, that even for these speakers, the distribution of *wh*-in situ is not as free as it is in 'true' *wh*-in situ languages (e.g. Chinese). For instance, *wh*-in situ in French is not allowed in an indirect single *wh*-question or a strong island. Moreover, further embedding the finite complement clause containing *wh*-in situ yields a question whose status ranges from degraded to uninterpretable as a non-echo question. Note further that, if Baunaz (2004) is correct, then in dialects of French, which allows *wh*-in situ in non-root finite contexts, there are different locality effects correlated with the interpretation of *wh*-in-situ (whether it is +/-specific and +/-presuppositional).

⁷Dayal nicely supports the claim that sequential questions are *wh*-scope marking structures by arguing that they are subjects to constraints characteristic of scope marking. For instance, negation cannot occur in the first question of a sequence of questions, as the contrast in (i-ii) illustrates.

- i. What do you think? Who is coming?
ii. *What don't you think? Who is coming?

Recall that negation in the matrix clause is illicit with scope marking strategies such as partial *wh*-movement in German or *wh*-in situ in French (see section 5 for discussion).

⁸Note that we found no errors regarding the *que/qui* alternation in all elicited LD questions involving overt long extraction of a *wh*-phrase (illustrated in (10)): the complementizer *qui* appeared systematically and only when a subject was LD extracted.

⁹In particular, in the youngest age group (3,2,3 to 3,5), the category object in situ received only 20% of the children's responses, as compared with 70% for fronted questions (including 30% for KESK questions).

¹⁰Recall (from section 4.1) that there are two dialects when it comes to *wh*-in situ in French: for some speakers LD *wh*-in situ is restricted to root and infinitive complement clauses, for others, *wh*-in situ is allowed in finite complement clauses. In this context, it is not clear how to interpret the paucity of LD questions elicited. We can take this finding either, to be all the more surprising since LD *wh*-in situ is indeed an option available in certain grammars of French, or we can merely take it to reflect dialectal variation in the status of LD *wh*-in situ.

Interestingly, the percentage of LD in situ responses is higher in the adult control group: 38% (20/53). 5 out of 10 adults were responsible for these in-situ responses.