

The Acquisition of Relative Clauses: Movement or no Movement?

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RUNNING HEAD: THE ACQUISITION OF RELATIVE CLAUSES

Abstract

French-speaking children of 3 to 6 (and older) produce relative clauses without moving a lexical relative phrase to a clause-initial position, even where the adult grammar requires it. This paper contrasts three accounts of this fact: (1) there is wh-movement of an abstract element; (2) the relative clauses are produced without syntactic wh-movement, by generating an abstraction operator in clause-initial position (Labelle 1990); (3) there is raising of a phrase from within the relative clause to the antecedent position (Guasti and Shlonsky 1995). It is shown that the second analysis is better able to handle the facts than either of the others.

1. INTRODUCTION

In previous work (Labelle 1988, 1989, 1990), I have shown that French-speaking children do not construct relative clauses by movement of a lexical *wh*-element to SpecCP, although this is obligatory in standard adult French for oblique relativization sites. Most relative clauses produced by French-speaking children are constructed with a complementizer in clause-initial position and either a resumptive pronoun (1a) or a gap (1b) in the relativization site.

(1) a Celle-là que le papa *lui* montre un dessin. (JF 5;00)

That one that the father *to her* is showing a drawing

'The one to whom the father is showing a drawing.'

b C'est la balle qu' i(l) dessine _____. (D 3;06)

It's the ball that he is drawing _____

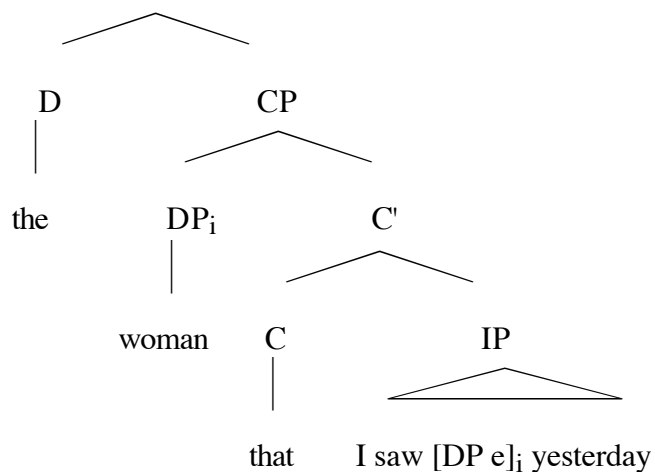
I have also shown that where there is a gap, it has the properties of a variable, since it obeys the ECP: gaps appear in subject position only if properly governed by the marked complementizer *qui*; they do not appear after prepositions, where they would not be properly governed (if one assumes, following Kayne (1984, 116, 167), that the ban on preposition stranding in French results from the fact that P's are not proper governors in this language). The puzzle is to account for the facts, since we know independently that *wh*-movement, with pied-piping, is used by French-speaking children in (direct and indirect) questions.

I proposed an analysis of the facts according to which there was no syntactic wh-movement at all in relative clauses. The empty operator heading relative clauses was identified with an abstraction operator generated in clause-initial position. The no-movement account has recently found support in work on serbo-croatian by Stojanovic and Goodluck (1995). In this paper, I contrast this no-movement analysis with two distinct alternatives involving movement: a conventional approach assuming wh-movement to SpecCP, and a raising analysis.

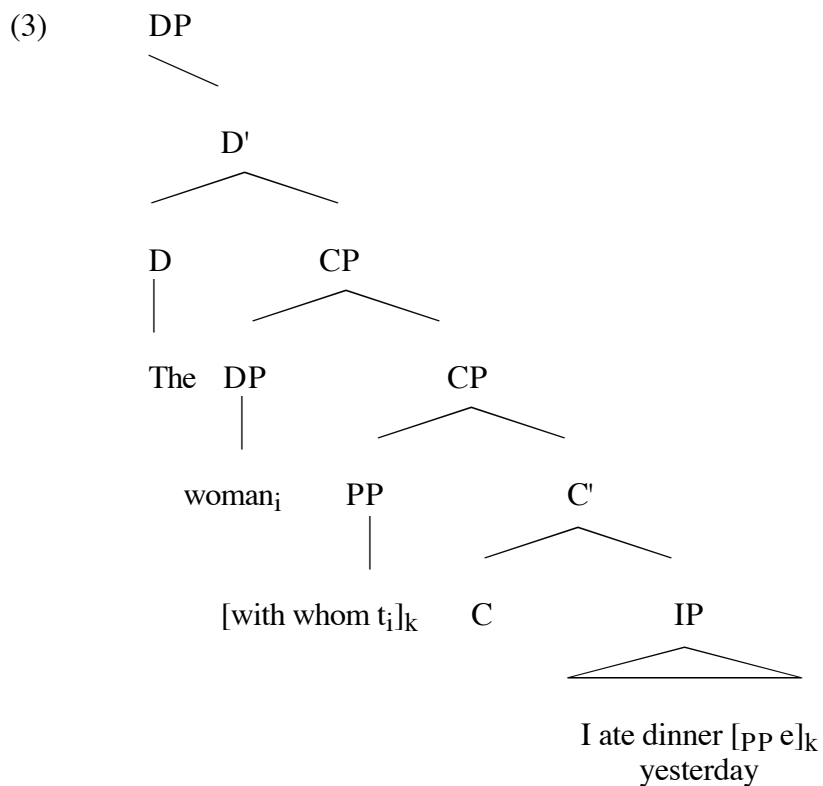
A wh-movement analysis would claim that the relative clauses produced by French-speaking children are the result of wh-movement of a null operator; in this account, one may assume that resumptive pronouns are spell-outs of the trace of the null operator. A specific implementation of such an analysis has been proposed by Law (1992) to account for the facts discussed here. A different approach is taken by Pérez-Leroux (1995). She appeals to the development of an initially unspecified [\pm variable] feature.

A second alternative to be discussed has been put forward by Guasti and Shlonsky (1995). Following Kayne (1993), they propose a raising analysis of relative clauses, a variant of an analysis initially proposed for French by Vergnaud (1974, 1985), but criticized by Hirschbühler (1976, 1992). The DP which ends up in antecedent position is base-generated in the relativisation site within the relative clause and moves to SpecCP where it is interpreted as the head (Vergnaud had the head move to an antecedent NP position within the main clause). Guasti and Shlonsky posit (2b) to account for (2a):

- (2) a ...la femme que j' ai vue hier...
 the woman that I saw yesterday
- b
- DP
- /
- D'



In relative clauses with pied-piping, the *wh* phrase is moved to SpecCP, then the head noun is extracted from this phrase and adjoined to CP.



The absence of *wh*-movement in pied-piped relative clauses in child French is related to the general unavailability before age 6 of 'linking operators' (operators which are coindexed with both an antecedent and a variable), an idea initially proposed by Wexler (1991). This is said to rule out (3).

Since it seems to me that the matter is not settled, I would like to review here a number of points in favour of an analysis which does not postulate movement.

2. THE DATA

Before entering into the core of the debate, it is worth pointing out that the data on which this analysis was based do not simply reflect a particular dialect of French. Apart from my own study (Labelle 1988), in which I interviewed 108 French Canadian children (3;0 to 6;0) of various socio-economic backgrounds — including children of diplomats — living in the Ottawa area (Canada), various studies of spontaneous and elicited speech undertaken in France report relative clauses with a gap or a resumptive element, but *no* relative clauses produced with overt *wh*-movement. It is worth mentioning Bouvier & Platone (1976) using an elicitation test for relative clauses on 62 children of 3 to 6 living in Paris (France); Hudelot (1977, 1980) studying a corpus of 540 relative clauses in a recording of spontaneous speech of nine Parisian children of 5;3 to 7;4; Méresse-Polaert (1969) studying elicited stories produced by 72 6-year old children of the area of Arras (France). Therefore, it is clear to me that the data presented reflect a general and consistent fact about the acquisition of French.

3. REVIEW OF THE NO-MOVEMENT ANALYSIS

It may be appropriate to start with a quotation from Chomsky (1982, 13):

“Consider the resumptive pronoun strategy. Normally, this involves no overt operator in Comp (...). The question then arises whether there is an empty operator in Comp binding the resumptive pronoun in this case, or no operator at all. Suppose that the latter is correct. (...) Then we might interpret relative clause constructions with resumptive pronouns as involving an operation of predication, the relative clause being regarded as an open sentence predicated of the head. Suppose, furthermore, that this is a general property of relative clause interpretation, whatever the internal structure of the relative clause.”

Chomsky goes on in a footnote (p. 92, n. 11). He suggests that, even where there is a relative pronoun, the head of the relative clause is not coindexed with it at LF. There is “a general principle of relative clause interpretation that applies to (not prior to) LF [and that] will determine that the relative clause, taken as an open sentence, is predicated of the head.” Thus, the LF representation of (4a) is (4b). A rule of Predication applies to (4b) to yield the LF' representation (4c), where the indices of the antecedent and the relative pronoun are identified (LF' is either a new level of interpretation or a stage in the interpretation of LF).

- (4) a the man who John saw
 b [the man]_i [who_j John saw *t_j*]
 c [the man]_i [who_i John saw *t_i*]

What was proposed in Labelle (1990) was a variant of this general approach. One may view the process of relative clause formation as involving a double process: (1) construction of a semantic predicate out of a clause; (2) coindexation of this predicate with its subject of predication. It is natural to suppose that the rule of predicate formation adjoins a predication operator to the clause. Suppose that there are two ways to achieve this: 1) by *wh*-movement of an element to SpecCP or 2) by introduction of an abstraction operator in a position of adjunction to the clause. The second operation, that of coindexing the relative clause to the NP head, applies in all cases at LF to yield an LF' representation where indices are identified.¹

This assumption is necessary whether one adopts a movement analysis (wh-movement or raising) of the data or, as here, an analysis without movement.

The base-generated operator hypothesis leads to a restricted conception of how predicates are created from sentences if we assume that an operator must bind a variable at all the levels at which it appears. Suppose that the rule of predicate formation can apply at any level provided that other components of grammar do not rule out the resulting structure. Given this hypothesis, the gap strategy is a consequence of applying the rule of predicate formation in syntax (or before), while the resumptive strategy requires the rule of predicate formation to apply no sooner than LF. In relative clauses with a gap, there is an empty category at S-structure. If we adopt the conjunctive formulation of the ECP, i.e. that empty categories must be properly head governed and have a proper antecedent (Rizzi 1990), then the empty category found in relative clauses must have an antecedent at S-structure. Therefore, for the sentence to be grammatical, the rule of predicate formation must have applied by S-structure, introducing an operator which can A' bind the empty category. When the gap is in subject position, it will be properly governed only if the complementizer is *qui*. In relative clauses with a resumptive pronoun, the presence of this pronoun forbids the presence of an operator at S-structure since pronouns do not function as syntactic variables at that level in French, as shown by the fact that resumptive pronouns are not found in questions.² The ban against vacuous quantification rules out the presence of an operator in syntax. Thus, in the case of the Resumptive Strategy, the rule of predicate formation must apply at LF (after Spell-out), where I assume that the pronoun can function as a semantic variable.³ Notice that in substandard French (as well as in English), resumptive pronouns may be used, even where movement is blocked; I would suggest that here, as in child language, there is predicate formation at LF, with the introduction of an abstraction operator in front of the relative clause, and interpretation of the resumptive pronoun as providing an appropriate relativization site:

(7) a L'homme_i que je me demande comment tu I_i' as rencontré.

The man that I wonder how you him met

'The man that I wonder how you met him.'

b L'homme \square x [je me demande comment tu as rencontré x]⁴

In other words, if there is a resumptive pronoun in a relative clause, the predicate is formed not before LF; if there is a gap, the predicate is formed at S-structure or before. We may assume, with Chomsky, that the identification of indices applies at some post-LF level (either at LF after predicate formation or at some later level), which we will call, following Chomsky, LF'. This analysis treats the gap as a syntactic variable, that is, as an empty category having the properties of a trace. But this is done without assuming that this element is the result of some abstract wh-movement of a null operator.

Notice that analyses involving base-generated null operators have been proposed before, for example by Cinque (1990, 158) and Tellier (1991). In fact Tellier (1991, 106) suggests that base-generated null operators are licensed by virtue of being assigned a predication index. The present proposal differs from those in being more in the spirit of Chomsky (1992) since it assumes that elements—in the present case an abstraction operator—may be added to the derivation at any moment provided the derivation doesn't *crash*. Notice moreover that in a representational view of language, empty categories may be freely base-generated. Their syntactic status is determined *a posteriori* by their properties, the only condition being that they be properly licensed (that their content and position be identified; cf. for ex. Chomsky (1982, 85) and Rizzi (1986)). Therefore, there is no theoretical problem in postulating a null operator binding a base-generated empty category, as long as the resulting structure does not violate any principle of grammar.

Let us now turn to a number of arguments which suggest that an analysis without movement, of the type just described, is to be preferred to either a wh-movement or a raising analysis. These are reviewed below.

4. RELATIVE CLAUSES CONTAINING NO OBVIOUS RELATIVIZATION SITE.

Some of the relative clauses produced by the children contain no obvious relativization site as in (5a-d), from Labelle (1988), and (5e-g), from Méresse-Polaert (1976:100). In my data, I have counted about forty relatives of this kind out of a total of 1,348 relative clauses. The same type of construction is attested in (adult) substandard French (Frei 1929, Deulofeu 1981).⁵

- (8) a La maison que la maman dorté (N 4;07) (also LE 3;08)
 The house that the mother is sleeping
 (picture: the mother is dreaming of a house—not sleeping in a house)
- b Le petit garçon qu' il a un chapeau. (G 3;00) (also: M 4;09)
 The little boy that he has a hat
 'The little boy that he (child points to the dog) has a hat.'
- c Sur la boîte que la poupée i dit coucou. (G 4;07)
 On the box that the doll he says 'hi'
 'On the box where the doll says 'hi'.'
- d Sur celle qu' i y a une madame. (A 5;02)
 On the one that there is a madam
 'On the one where there is a lady.'
- e Un truc qu' on fait les jardins. (J.Pierre P., 6 yrs old)
 A thing that one makes gardens
 'Something that is used for gardening.'
- f Un poste qu' on fait comme ça. (Guy P., 6 yrs old)
 A radio that one does like that
- g Une voiture qu' on pédale. (Guy M., 6 yrs old)
 A car that one pedals

In that case, there is a pragmatic interpretation of the relative clause as a predicate on the antecedent noun, much like that of the marginal *such that* relative clauses of English, as in the following examples, from Pullum (1985):

- (9) a It was one of those situations such that I was forced to just slink out of the door when no one was looking and pretend the whole thing had been a nightmare.
- b The old crone had a manner such that even the children who saw her pass in the street would shudder and turn away.

One way to account for this is to assume that there is a marked process whereby when the clause contains no semantic variable (gap or resumptive element), the rule of predicate formation applies later than LF. The entire clause is then pragmatically interpreted as a characteristic function of the head noun, i.e. as dividing the set of entities denoted by the head noun into those which may be described by the proposition and those which may not.

A formal way to implement this idea is to suppose that the child assumes a process of relativization whereby, at some post-LF level where the pragmatic interpretation of the clause takes place (say LF'), a variable with an adverbial function meaning something like "with respect to" is introduced by accommodation into the clause, and is bound by the predication operator; (10a) (=8a) would then be interpreted as (10b).

- (10) a La maison_i [λ x [que la maman dort x]_i] (N 4;07)
- b λ (x) maison'(x) & [la-maman-dort-wrt(x)]

The introduction of an appropriate "relevance" argument in the clause, suggested by an anonymous reviewer, is also proposed by Higginbotham (1984, cf. also 1985) who claims that gap-less *such that* clauses, like his *the number system such that 2 and 3 make 5*, are interpreted as elliptical for a sentence which contains a gap into which binding is possible, for example: *the number*

system such that 2 and 3 make 5 therein. As there is no syntactic evidence for such extra arguments, this type of approach introduces in the clause material which in essence corresponds to pragmatically interpreted information. Therefore I suppose that if such a relevance argument is inserted, it has to be by some pragmatic operation.

This analysis is a marked but minimally distinct variant of the analysis proposed for the gap and the resumptive strategies. It accounts in a rather plausible way for the relative frequency of such constructions in child language. An analysis with *wh*-movement for the resumptive and gap strategies has to propose some totally distinct strategy of relativization in order to account for (8), probably of the no-movement type. The raising analysis faces similar problems since there is no relativization site within the relative clause where the antecedent NP may have started off.

5. THE CASE OF THE RESUMPTIVE NP

Among the relative clauses produced with the resumptive strategy, some contain what we may call a *resumptive NP*:⁶

- (11) a Sur la balle_i qu' i(l) lance la balle_i .
 'On the ball that he is throwing the ball' (5;01)
- b Celle_i que la maman a (=elle) rêve à une maison_i .
 The one that the mother she is dreaming of a house
 'The one (=the house) that the mother is dreaming of a house.' (3;11)

A *wh*-movement analysis would have to say that the NP in the relativization site is some type of marked way of spelling-out the trace. This type of approach would have to explain why no resumptive element is attested in the questions produced by the children.

Guasti and Shlonsky assume that in (11), the NP (in their terms, the DP) in the relativization site is a case of the relative head in situ while the one in the head position functions as a pleonastic NP. They then postulate LF movement of the NP in the relativization site to the head position, a process which they assume is a case of expletive replacement. Such an approach would find support if there were evidence for internally headed relative clauses in the language of French-speaking children, reflecting a stage where children would leave the relativisation head in situ, as they do with *wh* words in questions. But at no stage of the acquisition of relative clauses does one find relative clauses with the head in the relativisation position and no explicit antecedent, that is something like (12), with *couverture* 'blanket', as the internal head.

- (12) *J' ai acheté la [Marie a fabriquée couverture].
 I bought the [Mary made blanket]
 'I bought the blanket that Mary made.'

With a no-movement hypothesis, relative clauses with resumptive NPs may follow from predication at LF, a process independently necessary to account for (5), with accidental coindexation of an NP in the relative clause to the antecedent NP.

6. WH-ELEMENTS IN CLAUSE-INITIAL POSITION

Some of the constructions produced by the children do indeed contain a *wh*-element in clause-initial position, as in (13) below. However, this *wh* element is often not coreferential with the antecedent.

- (13) [La petite fille_i] [où_k le garçon lui_i dit bonjour t_k] (J 5;07)
 The little girl where the boy to her is saying 'hi'
 'The little girl where the boy is saying 'hi' to her'

In (13), the pronoun *lui* is coreferential to the antecedent, but not the *wh*-element *où*.⁷ (14) is a similar example from an independent source (Bouvier & Platone 1976: 128):

- (14) La voiture_i [où_k l'gendarme l_i ' arrête t_k] (5 yrs old)
 The car_i [where_k the policeman it_i arrests t_k]
 'The car that the policeman stops'

An analysis of (13) or (14) in terms of *wh*-movement of an empty operator with spell-out of the trace as a resumptive pronoun raises the question of where this empty operator would move to, given that SpecCP is already filled by the locative pronoun *où*, which doesn't have the same theta role as the clause-internal pronoun. Similarly, one wonders how the NP-movement analysis would handle such sentences, since the head-noun presumably originating in the position of the pronoun could not have moved to SpecCP.

An analysis of (13) must account for the fact that it receives an interpretation similar to that of (15), where the NP head is the antecedent of a relative clause which itself contains a free relative denoting a location and predicated of the subject of the copula, therefore, ultimately, the antecedent:

- (15) The little girl [who is [where the boy is greeting her]].

In the present analysis, one may assume that *wh*-movement of *où* takes place in syntax, yielding a free relative which denotes a location — free relatives, like indirect questions, involve obligatory *wh*-movement. Then, the rule of predicate formation, applying at LF, adjoins an empty operator to the free relative, this operator binding the resumptive pronoun. This operation is available at LF where multiple adjunction of operators to a clause is allowed:⁸

- (16) [La petite fille]_i [où_j [le garçon lui dit bonjour t_j]] ∅ Predicate formation ∅
 [La petite fille]_i [Op_x [où_j [le garçon lui_x dit bonjour t_j]]] ∅ Coindexation ∅

[La petite fille]_i [Op_x [où_j [le garçon lui_x dit bonjour t_j]]];

Among the relative clauses introduced by *où* in my data, six look like standard relative clauses with relativization from a locative position. But the very same children who produced those 6 also produced 17 propositions which contain a pronoun (13) or an NP (17a) coreferential with the antecedent, or no element coreferential with the antecedent (17b), (17c).

(17) a. Sur la balle où que le petit garçon i lance la balle. (4;10)

On the ball where that the little boy he throws the ball

'On the ball where the little boy throws the ball.'

b. Sur la maison où la mère rêve (5;07)

'On the house where the mother is dreaming.'

c. Sur la petite fille où la madame montre le dessin. (5;07)

'On the little girl where the woman shows the drawing'

Under the present analysis, these examples may be accounted for as in (16) for the relative clauses with a pronoun, and as in (10) for the other ones. There is no example with a gap in direct or indirect object position.

Similarly, in (18), the adverbial *wh* word *quand* 'when' is not a relative pronoun (at least not in the adult language), and it is clearly not coreferential with the antecedent, which does not denote a time. Here again, there is a pronoun in the clause which *is* coreferential with the antecedent.

(18) [Celle-là]_i [quand_k la fille lui_i fait un sourire t_k]. (JF 5;00)

That one when the girl to her is making a smile

'The one where the girl is smiling to her.'

Neither the *wh*-movement nor the NP movement analysis provide a satisfactory account for (18)⁹.

7. AN EXPLANATION FOR THE LACK OF RESUMPTIVE PRONOUNS IN QUESTIONS

In the language of French-speaking children, one observes a strict dichotomy between operators: question and free relative operators are always lexically realized¹⁰ while operators in relative clauses with an antecedent are always null. The present hypothesis accounts for this fact.

Within a *wh*-movement analysis, the explanation for this fact is not straightforward. A possible solution, suggested by Law (1992), is that in the grammar of children, trace theory "has not fully developed", with the consequence that children tend to avoid chains formed of null elements. Thus, when the operator is null, it must bind an overt pronoun.¹¹ This analysis faces empirical difficulties since it predicts that very young children should produce only relative clauses with resumptive pronouns. The gap strategy should appear later, when the ban on phonetically null operator-variable chains is relaxed. However, this is not what one finds. Young children seem to initially prefer the gap strategy. In the data which I collected, it is initially used over 60% of the time for all sites of relativization with the exception of indirect objects; from 3 to 6, the use of this strategy then tends to increase for subjects and indirect objects, to decrease for locative and genitive objects, and to stay more or less the same for direct objects (cf. Labelle 1990). Similarly for English, while Pérez-Leroux (1995) has elicited relative clauses with resumptive elements from English-speaking children of 3;5 to 5;5, and Spanish-speaking children of 3;5 to 6;8, she does not report a gap-less stage, nor does Limber (1973).

8. RAISING?

Let us consider in more detail the raising analysis of relative clauses proposed by Guasti and Shlonsky for the child as well as the adult language. According to this analysis, the NP which will end up as the relative clause head is base-generated in the relativisation site within the relative clause;

it then moves to SpecCP. With pied-piped relative clauses, the whole PP moves to SpecCP, then a DP (probably without determiner) is extracted from the PP to a position of adjunction to CP from where it functions as antecedent.

This analysis raises a number of questions, not the least of which is the problem of accounting for (adult) examples like that in (19):

- (19) L'homme [[avec le fils de la soeur de qui] je suis allé
 The man [[with the son of the sister of whom] I went
 au collège] se présente aux élections municipales.
 to high school] is running for the municipal elections.
 (from: I went to high school with the son of the sister of the man)

The proposed raising analysis would assume a D-structure such as (20a) for the relative clause, then raising of the PP to SpecCP, as in (20b), followed by extraction of the noun *homme* to the antecedent position, creating an additional layer of CP (20c).

- (20) a [CP [IP je suis allé au collège avec le fils de la soeur de qui homme]]
 'I went to high school with the son of the sister of whom man'
 b [CP [avec le fils de la soeur de qui homme]_i [IP je suis allé au collège t_i]]
 c [CP [homme]_k [CP [avec le fils de la soeur de qui t_k]_i [IP je suis allé au collège t_i]]]

Apart from the fact that there is no evidence for the existence of PPs of the type *de qui homme* 'of whom man',¹² the extraction in (20c) should be ruled out as a subjacency violation.

Also, assuming that this process of relativization is the one used by English speaking children, it predicts that English speaking children should not be able to produce relative clauses of

the type illustrated in (21) before 6 years of age, as these suppose the type of movement involving so-called "relative operators".

(21) The boy who hit me.

According to the raising analysis proposed in Guasti and Shlonsky, the derivation of (21) would be as in (22), with movement of *who boy* to SpecCP, and extraction of *boy* to a position of adjunction to CP.

(22) [DP the [CP boy_i [CP [who t_i]_k [IP t_k hit me]]]]

9. ACQUIRING THE ADULT GRAMMAR

Resumptive pronouns in adult substandard relative clauses do not obey subjacency (Bouchard 1984). They are therefore presumably not spell-outs of traces. In the no-movement account, substandard adult French and child French are similar with respect to the grammar of the resumptive strategy: it involves a rule of predicate formation at LF.

Both the *wh*-movement and the raising accounts must rely on imperfect maturation of some grammatical principle: trace theory in the first case and transference of referential features on the second. Therefore, as such, they do not account for the relation between substandard adult French and child French. There is no indication that adults speaking substandard French have an immature UG! Recognizing this problem, Guasti and Shlonsky suggest that "in so far as the resumptive strategy is retained in the adult grammar, it also implicates an operator, though one that is not moved, but base generated in Spec/C." With the no-movement account, a base-generated operator is postulated from the start and the difficulty for the French-speaking child lies in abandoning a

strategy of relativization compatible with UG and perfectly efficient, and in reanalyzing relative clauses as involving the formation of a predicate through syntactic wh-movement.¹³

I must point out that to my knowledge, there is no evidence that pied-piped relative clauses appear in the language of the child at around 6, contrary to what is predicted if this age marks the maturation of the relevant aspect of UG (as suggested by Guasti and Shlonsky). The exact developmental pattern of relative clause development after 6 needs to be documented, but scattered evidence suggests that pied-piped relative clauses still pose problems to 11-16 year olds (cf. for example Morsly 1974). In Serbo-Croatian, on the other hand, children of 4 to 6 do not seem to have difficulty with pied-piping (Stojanovic and Goodluck 1995), which suggests that a UG approach to the absence of pied-piping in French is probably not appropriate.

10. CONCLUSION

In short, it may be premature to reject a no-movement account of the relative clauses produced by French-speaking children. The wh-movement account and the raising account face a number of technical and empirical difficulties. They rely on quite marked avenues of explanation. The raising account relies on movement of an XP to SpecCP, with extraction of a determinerless nominal head to a position of adjunction to CP as well as on a strategy of relativization involving internally headed relatives and expletive replacement of a pleonastic NP head at LF. The wh-movement hypothesis fails to account for the difference between questions and relative clauses, unless one adopts the idea of an immature trace theory according to which at least one element of a chain must be lexicalized (and apparently only one, since resumptive pronouns are not found in questions).

The no-movement account postulates that relative clause formation implies two distinct processes which are necessary even for relative clauses produced by wh-movement: 1) predicate formation and 2) coindexation. It accounts for the data by assuming that the most straightforward

(and perhaps 'primitive') way of forming a predicate out of a clause is to adjoin to it an abstraction operator. The difference between the different structures is explained in terms of the level at which predicate formation applies. The gap strategy is the result of applying it in syntax, the resumptive strategy results from its application at LF, and the constructions without relativization site require predication formation at LF'. Moreover, the proposed analysis accounts for the relative clauses involving a wh-element in clause-initial position and a distinct resumptive pronoun inside the clause.

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Notes

¹ Another possibility is to assume that there is only one operation in this case: coindexation of the clause with the NP head, without predicate formation. In fact, Williams (1980: 204 n.2) considers the predication index on relative clauses as being equivalent to an abstraction operator.

² Except as a last resort strategy, where an empty category would not be properly governed.

³ I distinguish here syntactic variables, i.e. A-bar bound empty categories, and semantic variables (as opposed to constants) like pronouns and other pronominal or anaphoric elements, which may but need not be syntactically bound.

⁴ A reviewer correctly notes that the resumptive pronoun does not function as a syntactic bound variable here. He suggests that the relation between the resumptive pronoun and its antecedent here may be linking rather than binding. In any case, the resumptive pronoun provides a semantic element which is interpreted as the site of relativization.

⁵ This construction, attested in substandard French, is generally not dismissed as some type of performance error. As it is relatively frequent in child language, and as this construction has been noted and discussed by every scholar who has studied the relative clauses produced by French-speaking children, I consider it to be in need of an explanation.

⁶ As these account for 16% of relative clauses with a relativization site in direct object position (21 out of 132) and 29% of relative clauses with a relativization site in indirect object position (30 out of 102), they cannot be dismissed as performance errors. They are also not produced in particularly long clauses, nor are they produced systematically (or more than for the gap or the resumptive pronoun cases) in clauses where the child stops, hesitates, and can be thought to be confused and to finish his sentence in a way not consistent with the beginning. Furthermore, the intonation is not one of right dislocation of what I have called the "resumptive NP", and examples like *la boîte qu'a va sur la boîte pis là, a est pu capab de descendre (3;00)* 'the box that she goes on the box and then, she is not able to come down.' are not easily interpretable as cases of right dislocation.

⁷ There are 29 clauses introduced by *où* with an explicit antecedent. They were produced by seven children of 4;6 or older. All these children produced clauses of the type illustrated in the text, where the antecedent is not coreferential with *où*.

⁸ One reviewer suggests that *où* may be an operator wrongly analyzed as some type of all-purpose operator; for example, in (i), *où* could be mistakenly used to mean "to whom", with the clitic used as spell-out of the trace.

(i) la petite fille_i [où_i le garçon lui_i dit bonjour].

This would imply that the child does not know the locative meaning of *où*. However, as is well documented, *où* is one of the first interrogative words understood and produced by the child. For example, questions introduced by *où* are noted by Grégoire (1947) at 2;0,21, by Lurquin (1977) at 1;7, 9, by Cohen (1924) at 22 months, and by Déville (1891) at 22 months. On the other hand, relative clauses introduced by *où* are mostly produced by 4 and 5 year-olds (the same observation is made by Bouvier & Platone 1976). It would be quite surprising that children who produce interrogatives introduced by *où* since they are 2, would not, by 5, understand the meaning of this word, and would confuse it with some type of general purpose operator.

⁹ Examples like (18) are admittedly quite exceptional, but they are interesting in that they do not sound totally odd. In my data, only 4 relative clauses are introduced by *quand*; the fact that they are produced by two different children shows that this construction is not a specific strategy of one child. What is interesting with these clauses, as well as with those introduced by *où* 'where', is that they cannot simply be rejected as production errors. The relative clause is a free relative involving wh-movement. This is a complex construction requiring some sophisticated grammatical planning, which is not what one would expect of performance errors.

¹⁰ Except for early examples of wh-questions without a wh-word: *il fait camion?* [it does truck] (Phi 2;02) = "what does the truck do?" (Hulk 1994: 6), *tu sais elle est, la girafe?* [you know she is, the giraffe] = "do you know where is the giraffe?" (3 yrs old) (Redard 1976:109)

¹¹ When the operator is lexical, as in questions, there would be no need to lexicalize the trace. Note that this analysis provides no principled account for why lexicalization of the trace appears to be *prohibited* in questions (it is also contradicted by examples of the type cited in note 10). To my knowledge, questions (direct or indirect) or free relatives with resumptive pronouns have never been reported in French child language. (On the acquisition of questions, cf. Hulk 1994, Redard 1976). Pérez-Leroux's (1995) approach predicts that resumptives would be found both in relative clauses and in questions and, in a comprehension study, she found resumptive responses to potentially ambiguous questions and free relatives of the type *Who did Mary help _ to feed him? Show me who Mary helped _ to feed him*. As not only children, but even adults produced resumptive responses, it is possible that the results reported are a consequence of the use of a comprehension paradigm.

¹² Guasti and Shlonsky (p. 3) suggest in a note that in *the [woman_i [with whom t_i]_k I ate dinner t_k yesterday]*, *whom* is the determiner of the DP *whom woman*. But this leaves unanswered the question of why *whom* does not function like a determiner, by contrast to *whichever* for example: *I'll take whichever book you tell me to read*. The same problem surfaces for the purported DP *qui homme*.

¹³ An anonymous reviewer suggests that there might exist some relationship between the no-movement strategy of relativization and the availability of clitic left dislocation in French: the left dislocated element is base generated and related to the clitic via a predication relation. This would account for the preference for this strategy exhibited by French-speaking children.

Special characters

French diacritics:

´ : Acute accent: é, É

` : Grave accent: è, à, ù

ˆ : Circumflex accent: â, ê, î, Â

ç : c cédille

German diacritic:

¨ : Umlaut: ü