

University of Massachusetts Occasional Papers in Linguistics

Volume 17 *University of Massachusetts
Occasional Papers Special Edition Papers in the
Acquisition of WH: Proceedings of the UMass
Round Table, May 1990*

Article 5

1991

The Acquisition of Wh-Movement in Caribbean Spanish

Ana Teresa Perez-Leroux
UMass

Follow this and additional works at: <https://scholarworks.umass.edu/umop>



Part of the [First and Second Language Acquisition Commons](#)

Recommended Citation

Perez-Leroux, Ana Teresa (1991) "The Acquisition of Wh-Movement in Caribbean Spanish," *University of Massachusetts Occasional Papers in Linguistics: Vol. 17* , Article 5.

Available at: <https://scholarworks.umass.edu/umop/vol17/iss1/5>

This Article is brought to you for free and open access by ScholarWorks@UMass Amherst. It has been accepted for inclusion in University of Massachusetts Occasional Papers in Linguistics by an authorized editor of ScholarWorks@UMass Amherst. For more information, please contact scholarworks@library.umass.edu.

THE ACQUISITION OF WH MOVEMENT IN CARIBBEAN SPANISH

ANA TERESA PEREZ-LEROUX

UMASS SPANISH

1. Introduction

The empirical study of language acquisition can proceed in two distinct fashions, both equally indispensable to a deeper understanding of the nature of grammar and grammatical development. One is what I would call the deterministic view, in which the stages in children's grammar are considered from the perspective of how they bring the child closer to their parents' speech. The other perspective is the crosslinguistic approach, which consists of studying a feature of child grammar in different languages, in a sense, abstracting it from the language specific details. The connection between these two kinds of data is by no means trivial. The different approaches to parameter theory are one attempt to define the form this connection should have. The study presented in

Earlier versions of this paper were presented at the Wh-Movement Workshop at the University of Massachusetts at Amherst, on May 1990, and on the Fifth International Congress on Child Language, in Budapest, on July 1990. Many revisions are the result of the comments I received in those occasions. The people in the Wh-project have been a great source of support and ideas, in particular T. Roeper, J. de Villiers and M. Weverink. Special thanks to J. Uriagereka. I would also like to acknowledge the children and teachers of the Madre Cabrini Elementary School, and the Day Care Center at the University of Puerto Rico, Rio Piedras. They made working in San Juan a very special time for me.

this paper is primarily a contribution to the second class of research, but I will attempt to establish some connections with a particular view of parametric decisions.

The data from our experiments shows the development in comprehension of interrogative extraction from complex environments. These data, and the strong resemblance they bear to similar studies in other languages¹, are strongly suggestive of the innate existence of certain principles of grammar constraining the syntactic representation of questions. I will argue that some of the idiosyncrasies of the stages of development that will be described in this paper lend support to a view of grammatical development where all the stages are congruent with principles of Universal Grammar.

2. The Experiment

In research conducted in Rio Piedras, Puerto Rico², 26 preschool children, aged 2'10 to 6'6 were tested with respect to long distance extraction and the sensibility to barriers. The children were given 22 short narratives with pictures followed by a question, which was the target input. Their answers were taken as evidence of their interpretation of the structure of the interrogative sentence. After a story like that in (1), a question like (2), containing a sentential complement, followed:³

1. i.e. Roeper and de Villiers (1990), for English, Weissenborn and Roeper (1990), for German, and others.

2. There are good reasons to relativize the scope of this study to Caribbean Spanish. The dialects spoken in Puerto Rico, as well as in the Dominican Republic, Cuba, some coastal zones in Venezuela and Panamá, differ from most dialects of Spanish by the unmarked use of overt subject pronouns, lack of subject verb inversion in infinitival and some gerund constructions. In interrogative inversion first and second person singular subject pronouns appear preverbally, although other subjects invert. Some speakers of the dialect obey successive cyclic inversion with long distance extraction, like described by Torrego (1984), but others do only matrix clause inversion. As in many other dialects of Spanish, clitic doubling with human direct object is possible, as well as with indirect objects.

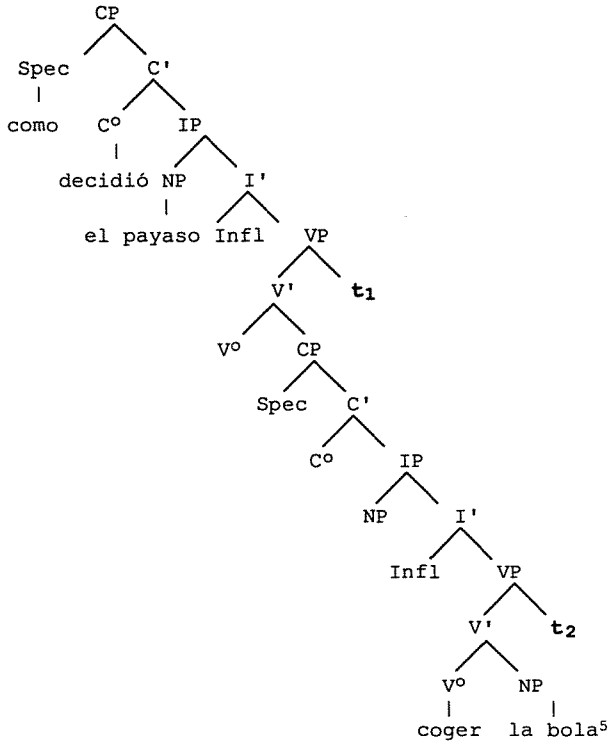
3. The design in this experiment is after de Villiers et al (1987).

- (1) "El payaso estaba preparando su nuevo acto para el circo. Tiró una bola en el aire y dió una vuelta de maroma antes de cogerla. Pero cada vez que iba a cogerla se le caía. Vió un gran colador en la tienda y se le ocurrió una idea. Entonces trató de dar la vuelta de maroma y coger la bola con el colador y así funcionó el acto."⁴
- (2) ¿Cómo decidió el payaso coger la bola?
how decided-3Sg the clown catch-INF the ball
- (3) con el colador
with the net
- (4) viendo el colador en la tienda
seeing the net in the store

Note that such a question is ambiguous. It can be a question about the manner of catching the ball, as in the answer in (3), or about the manner of arriving at a decision, as in the answer in (4). Such ambiguity comes from the two possible syntactic representations that can be assigned to the sentence, represented in (5):

4. "The clown was preparing his new act. He threw a ball in the air and did a summersault before catching it. Everytime the ball fell on the ground. He saw a big net in a store and got an idea. He then tried doing the summersault and catching the ball with the net afterwards. The act worked."

(5)



This representation of interrogatives presupposes two standard assumptions about the syntax. One is that question formation is a movement process. A constituent originates in the domain of the verb with which it is associated in the interpretation of the question. It is moved to the front of the sentence in a subsequent step in the derivation, leaving behind a phonologically null empty category. If the interrogative phrase originated

5. I am assuming verb preposing as in Torregó (1984). Although she leaves open the question of whether it is adjunction to comp or to IP. I am assuming head to head movement, although this will necessarily imply some further generation of C^o, in view of examples like:

(i) ¿Qué dijo Juan que había comprado María?
 what said Juan that had bought María

in the matrix clause (t_1), it is called short distance movement. If it originated in the subordinate clause (t_2), then it is called long distance movement. The other assumption is that long distance movement is cyclical, and that the landing site is the specifier position of the complementizer phrase.

Another component of the theory I am assuming is that long distance movement is constrained by other factors, in particular, by the presence of certain elements in the intermediate landing site, which create a barrier to movement. The kind of questions that this theory poses to a theory of language acquisition are presented in (a-c).

- a) When is long distance movement acquired by children? Is there a difference between different sorts of interrogative phrases?
- b) How is long distance movement constrained in child grammar? Do children obey some notion of barriers?
- c) In what respect is the grammar of interrogatives different in children from what we know of the adult?

In sections 3-5, I will try to develop some answers for this questions based on the findings of the Rio Piedras experiment.

3. Arguments and Adjuncts in Simple Long Distance Extraction

The first section of the experiment consisted of simple long distance extraction out of sentential complements. The embedded complementizer nodes contained either nothing or the prepositional elements "a", in the infinitival examples, and the complementizer "que" in the tensed examples. Questions involving direct object extraction (this was the only unambiguous case in the adult grammar; only the long distance reading is available), subject, indirect object, and manner and time complements were tested. Our results show that all children in the experiment, from the youngest, were able to interpret the questions as long distance extraction for argument phrases like "que", 'what', "quien", 'who', "a quien", 'to whom'. However, long distance extraction of adjunct phrases like "cuando" and "como" was available only from age 3'7, as presented in Table 1.

Table 1

Long Distance Extraction of Arguments and Adjuncts:			
Sentence Type	Group I [2'10-3'6]	Group II [3'7-6'6]	Both
Argument Wh			
D.O.	66%	89%	87%
I.O	66%	28%	33%
SUBJ	33%	48%	46%
Adjunct Wh			
	0%	70%	61%

The percentages of long distance extraction responses are summarized in (6) and (7) for adjunct and argument interrogative phrases:

Argument Simple Long Distance Extraction

- (6) ¿A quien le dijo la mamá que no podía molestar?
 to who her-Dat said the mother that NEG could
 disrupt'
 [CP Arg-Wh_i [IP [CP [IP t_i]]]] 55.1%

Adjunct Simple Long Distance Extraction⁶

- 7) ¿Cuándo dijo la nena que se rompió su vestido?
 When said the girl that self tore her dress?
 [CP Adj-Wh_i [IP [CP [IP t_i]]]] 61.5%

6. A significant number of responses in the adjunct section were slightly ungrammatical, in a particular sense. Children gave certain responses that seemed to answer a similar question, but with a different interrogative adjunct. That is, they would give a manner answer to a "when" question, or a location to a "how" question. If the information provided was clear, I evaluated those answers, and included them accordingly, as lower or upper clause answers. 14% of the responses were of this type. However, it is not clear that adult performance is very different from that of the child, because often adults too fail to distinguish systematically between different adjunct Wh-words.

It seems from these data that long distance extraction poses no difficulty even for very young children. They gave answers to sentences like (6) in which they provided a NP that was the complement of either the higher or the lower verb. However, the answers to questions with adjuncts, like (7), given by the youngest children were only answers about when she said what she said, and not about when she tore her things. I would like to suggest that the difference between the younger children and the older reflects the existence of two different stages in the development of a grammar. However, since there were only four children in the younger group, this area must await further experimentation to support this conclusion. But assuming this fact to be indeed representative, there are two ways of interpreting it. One is to say that long distance movement is possible from the moment children acquire sentential complements. It is acquired earlier for arguments, and later for adjuncts. This proposal would imply that children's grammar of question formation contains the empty category trace from the beginning, and some further explanation would be required to explain why the long distance interpretation of adjuncts is delayed. Going back to Lasnik and Saito's original work on Proper Government, or the more recent formulation of that proposal put forth in *Barriers*, traces left by interrogatives (or Wh-phrases, as they are usually called) are one unified kind of empty category, that can be licensed by two mechanisms: antecedent government and lexical government. Wh-traces of arguments are licensed by both, adjunct traces are only licensed by antecedent government. So one can assume, because only arguments receive long distance interpretation, that lexical government is present at the earlier stage, and antecedent government is acquired later. However, for several reasons, this is a theoretically unappealing avenue to follow. One is that all work on proper government supposes it to be one formal mechanism, representing a single underlying principle that apply to traces. The other is that abstract, parameter independent principles such as government are supposedly not acquired from the input, but must be part of children's innate knowledge.

A different approach might prove more fruitful here. Previous work in the literature suggests that children's primitive empty category is not trace, but

the empty pronominal, **pro**.⁷ This would suggest that the earlier stage in acquisition of Wh-movement has the fronted Wh-phrase generated in a position adjoined to the sentence, functioning as a question marker, and binding a null pronominal.⁸ Note that if children understand the meaning of the predicates involved, there is ample evidence for the existence of the null pronominal. Such evidence is provided by the gap in the position that the arguments of the verb would normally occupy.

Adjuncts are not subcategorized by the verb. Manner, time, location complements are not required by these verbs in the sense that subject, direct object and indirect object complements are. Their absence does not necessarily presuppose a gap, and therefore, adjuncts are interpreted only with respect to the clause immediately adjacent to them. Under this proposal, there is no real movement in the first stage of the grammar, just coindexation between the null pronominal and the question marker. The final, adult stage would contain Wh-phrases functioning as real logical operators, and the traces of moved adjuncts and arguments.

4. Constraints on Long Distance Extraction of Adjuncts

In the second section of our experiment the children were given questions containing a second Wh-phrase in the embedded comp, like (8) and (9):

- (8) ¿A quiénes les contó la niña cómo los había
atrapado?
to whom-PL them-DAT told the girl how them-ACC
had caught
- (9) ¿Cómo decidió el niño qué comer?
how decided-3PSING the boy what eat-INF

7. See Hyams (1984). More relevant for this case are Nishigauchi and Roeper's (1987) treatment of children's sentences of the type "Vitamin C is for to grow", and "I forgot my pants to pull up", Roeper et al (1984) work on bound variables, where it is argued that the resetting of the prodrop parameter takes place in different steps, in construction-specific subparameters, and especially, de Villiers et al (1987), where this particular solution was argued for English. That this could be the case for Spanish was also suggested to me by J. Uriagereka (p.c).
8. This is similar to a proposal for the structure of *why* questions made by de Villiers (this volume).

Table 2

Long Distance Movement over Medial Wh			
Sentence Type	Group I [2'10-3'6]	Group II [3'7-6'6]	Total
Tensed			
Arg/Adj	16%	15%	15.4%
Adj/Arg	0%	2.1%	1.9%
Adj/Adj	0%	4.3%	3.8%
Infinitival			
Arg/Adj	16%	10.8%	11.5%
Adj/Arg	0%	2.1%	1.9%
Adj/Adj	0%	0%	0%

The conclusion that can be drawn from these results is that children in our experiment seemed to be aware of the existence of barriers to movement, and did not extract Wh-phrases from improper domains. They occasionally extracted out of Wh-Islands (sentential complements containing a second Wh-phrase in the embedded comp), but only with an initial argument Wh-phrase, as can be observed in the summary of the percentages of long distance extraction over a medial Wh-phrase given to the structure types represented below. Adult judgements allow extraction in precisely those contexts.

Long Distance Extraction of Argument over Adjunct

- (11) ¿A quiénes les contó la niña como los había atrapado?
 'To whom did the girl said how she had caught?'
 [CP Arg-Wh_i [IP [CP Adj-Wh_j [IP t_i t_j]]]] 13.5%

Long Distance Extraction of Adjunct over Argument

- (12) ¿Cómo decidió la niña qué ponerse?
 'How did the girl decided what to wear?'
 [CP Arg-Wh_i [IP t_i [CP Adj-Wh_j [IP t_j t_i]]]] 1.9%

Long Distance Extraction of Adjunct over Adjunct

- 13) ¿Cuando dijo el hombre como se había lastimado el pié?
 'When the man said how he hurt his foot?'
 [CP Adj_i [IP t_i [CP Adj_j [IP t_j t_i]]] 1.9%

These data show that children appear to be aware of the argument/adjunct distinction with respect to Wh-Island violations. These results are almost identical to comparable research carried out by Roeper and de Villiers (1990), with English speaking children⁹, in German by Weissenborn et al (1990)¹⁰, and French by Weissenborn and Roeper (1990), where it is concluded that the presence of a medial Wh-phrase constitutes a barrier to the movement of adjuncts. Although a remarkable accomplishment on the part of the children, from a learnability point of view, these results, and their crosslinguistic coincidence are not surprising. Abstract innate principles such as proper government, the ECP, and barriers are not visible *prima facie* in the data. One does not expect them to be the kind of linguistic property that the child has to acquire, but to be part of their genetic endowment. The fact that children seem to obey these constraints on movement at all points in their development is indicative of their principled and innate character, and in this sense our results are supportive of certain developments in linguistic theory.

5. Medial and Bound Variable Answers

I have already discussed answers of first and second type. The third class of answers, the medial answer, appeared when I asked the child a question like (8) and he or she answered as in (14):

- (14) con un zapato
 with a shoe

or when a question like (9) received an answer as in (15):

9. The English data, as in de Villiers (1990), shows a stronger contrast between adjunct and argument long distance extraction. This effect is dimmed in Spanish by the fact that a larger percentage of responses were given to the medial question. 10. Interestingly, this adjunct/argument distinction was maintained in German, where children extracted arguments over medial adjuncts, as in the other languages, in cases where this was not possible for the adult.

- (15) galletas y helado
cookies and ice cream

Similar to these were the answers of the fourth type, in which a paired reading was supplied. For example, to question (9), some children said:

- (16) las galletas en un plato y el helado en un
barquillo
the cookies in a plate and the ice cream in a cone

These were answers where both the object eaten and the manner of eating were provided. I will return later to this issue.

The number of medial responses is presented in Table 3:

Table 3

Medial answers			
Sentence Type	Group I [2'10-3'6]	Group II [3'7-6'6]	Total
Tensed			
Arg/Adj	50%	54%	54%
Adj/Arg	100%	80%	82%
Adj/Adj	33%	26%	27%
Infinitival			
Arg/Adj	0%	22%	19%
Adj/Arg	50%	45%	46%
Adj/Adj	16%	28%	27%

The crosslinguistic evidence on Wh-movement shows that the children in the different languages studied¹¹ go through a stage where they productively answer not the first Wh-phrase in the structure but the second. The immediate idea that comes to mind is that maybe the children have not totally developed their parsing abilities, and are only listening to the second half of the sentence. This analysis might appear to be supported by the fact that more of these responses (roughly twice as many) are elicited when the subordinate clause is finite. However, several

11. As in the work by Roeper, de Villiers, Weissenborn, cited above.

objections can be raised. Children at the age we tested have already acquired different types of subordination, and to do so, they should have been able to parse the relevant input. Furthermore, they are given the other type of answers at the same time. Any explanation of this sort will be reduced to saying that the child's comprehension of these sentences is sometimes complete and sometimes incomplete.

Another piece of evidence against this hypothesis comes from Roeper and de Villiers' testing of English speaking children's comprehension of questions containing an extraposed relative clause. If the children were only attending to the last part of the sentence, they should answer the relative clauses too. The results were completely negative. So they propose that it is possible that the children are treating the first Wh-phrase as a scope marker for the second Wh-phrase.

I will pursue this proposal using a typical parameter theory/continuity hypothesis approach¹², which is to ask if this kind of behavior is found in other languages. Nicely enough, there are languages that have this kind of strategy. A phenomena occurring in some northern German dialects, Romani, and Hungarian, where visible Wh-movement occurs only to the embedded specifier of C, and a "dummy", expletive Wh-word marks the scope position. McDaniel (1989) shows in her study of this construction that the scope marker and the operator (the real Wh-phrase) are connected in successive cyclic fashion by intermediate Wh-expletives. She shows that these constructions, which she calls "partial Wh-movement", as well as others (like multiple Wh-movement), are subject to Subjacency, as formalized in the Barriers framework. These partial movement questions, as she calls them, occur with tense independent (i.e. indicative) subordinates only.¹³

12. As in Hyams (1987), following the assumption that the intermediate stages in grammatical development all fall within Universal Grammar.

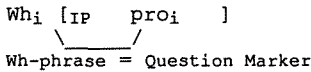
13. In addition to this there is an interesting proposal by Torrego and Uriagereka for a use of a similar syntactic strategy for extraction from indicative clauses in Spanish. Like McDaniel, they attribute more structure to indicative subordinate clauses than to other sentential complements. In their view, indicative dependent clauses are a DP containing an epistemic nominal head, which sometimes appear as a pronoun, plus a prepositional aboutness predicate, which sometimes is syntactically realized as a pronoun. Thus, this would not be a transparent domain for

The next logical step is to consider the stage during which the children answer medial Wh-phrases as having the structure of a possible adult grammar. The obvious candidates are Romani and the northern dialects of German containing the partial Wh-movement construction. Since the children learning a language like English or Spanish go through a stage where partial movement is possible, and then grow out of that, one could assume that partial movement to be part of core grammar. With this in mind, I am ready to propose an outline of the development of Wh-movement.

All children start with the assumption that Wh-movement is local.¹⁴ In this initial stage, when the only empty category is *pro*, questioning inside a dependent clause is only possible for arguments. In this stage there is no real syntactic movement, and the Wh-word functions like a question marker. In the second stage children acquire traces, and thus chain formation, but take the broadest definition of chain possible, as in McDaniel: well formed chains contain Wh-expletives (scope markers), Wh-phrases and traces, in that order. In a latter stage they learn that their language does not really contain Wh-expletives, and restrict their grammar to overt movement. These stages are summarized below:

Stages in the Acquisition of Wh-Movement:

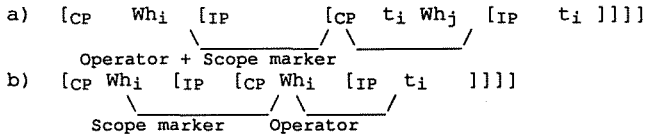
I. Local Movement.



extraction. Their claim is precisely that extraction is only apparent, and that the nominal head contains an empty operator and that the sentence initial Wh-phrase is base generated there, acting as a scope marker. They make some very interesting learnability claims that are very relevant to this issue and deserve further consideration, but that are beyond the scope of this paper.

14. Of course, this statement is pertinent only to syntactic Wh-movement languages. The parameter that will differentiate, let's say Chinese on one side and English and Spanish on the other, would be set prior to these stages, or at some point in stage I.

II. Real Movement with broad definition of Chain.



III. Restricted definition of Chain.

Only option (a) remains.

In the intermediate stage, as in dialects containing partial Wh-movement, structures containing two Wh-words are ambiguous between a full movement (option a) and a partial movement (option b) interpretation. The full movement (i.e. long distance movement) is subject to barriers as in the adult grammar, which means that option (a) represents only instances of long distance movement of an argument over a medial Wh-phrase. Option (b) also obeys subadjacency, as long as each intermediate Spec,CP between the operator and the scope position, contains an expletive Wh-phrase.

There are several gains in establishing a logical connection between the adult grammars of languages with partial Wh-movement to the intermediate stage of the acquisition of Wh-movement in Spanish.¹⁵ One is a non trivial explanation for the tense distinctions with respect to the elicitation of medial answers. As mentioned before, an increased amount of those responses were found with indicative embedded clauses. If the children's grammar was constrained by the same principles as in Romani, then we should expect them not to answer the medial Wh-phrases when the embedded clause was infinitival. As a matter of fact, in the children older than 5'10, we found that the tendency was precisely to maintain a high rate of medial answer for the indicatives (0.3) while the number of medial answers with an infinitival subordinate was declining (.087).¹⁶

15. However, one fact is crucially different between the adult languages and the children's behavior, and that is that the former have one specialized, "dummy" Wh-word serving as a scope marker, and the latter seem to give partial movement answers regardless of what Wh-phrase happens to be heading the matrix CP. As suggested by T. Roeper, children's grammar show lots of lexical errors, and children do not learn words as single cohesive items, but as a function from specific contexts.

16. A fact in the data that has not been addressed is that of the disproportion between medial answers when the first Wh-phrase is

It is not clear at this point what is causing the shift in the child's grammar, but the fact remains that Spanish speaking children abandon medial answers for infinitivals before they do for tensed clauses.

The other important connection that can be made with respect to these medial answers is the possibility of giving multiple answers to the two Wh-word construction. The experiment was not designed to test multiple questions, and their appearance was rather an accident in the construction of some of the stories. But their productivity (almost 5% of the total data in the second section of the experiment) show that they are available in the grammar. Typically these answers were paired answers in which both Wh-words had a dependent clause reading.

A follow-up study on adult's interpretation of these structures, using similar materials to those in the children study, yielded several interesting results. One is that adult speakers of Caribbean Spanish give bound variable answers when the second Wh-phrase is in specifier position of Comp.¹⁷ Approximately 23% of the answers were of this kind, and in a subsequent judgement task, these were judged acceptable universally. Note that this is not possible in a language like English¹⁸ with the Wh-in Specifier of Comp. I should add that contrastive stress is required in the second Wh-phrase for this reading to be available, but that is not different from the usual stress required when the embedded CP was a complement as supposed to an adjunct.¹⁹ In this respect, only CPs with an adjunct Wh-phrase were read without stress on the Wh, and then interpreted as manner/time adverbial clauses. When that was the case,

an adjunct and when it is an argument. This same fact is even more evident in English, where few medial answers occur when the first Wh-is not an adjunct. There are different possibilities that one can suggest, but I will not attempt a solution here. 17. This result, and my own judgements, contrasts with the data in Uriagereka and Torrego (1990), where those cases only allow for a non-exhaustive, "singular" interpretation (on Higginbotham and May's (1980) terms). This restriction is not operating in Caribbean Spanish.

18. See Roeper and others for similar data on English speaking children.

19. See Rooth (1985), on the semantics of Focus. The relevant insight for our purpose is that the result of focus is to raise at LF. In this view, the surprising fact is that some languages (i.e. English and other dialects of Spanish) fail to allow bound variable readings when the second Wh-is focused.

a question like (17), received exclusively short distance answers, as in (18)

- (17) ¿Cómo dijo la niña cuando se le rompió el zapato
 "How did the girl say/speak when she tore her shoe?"
- (18) En el momento en que se rompió el zapato no dijo nada.
 "at the time when she tore her shoe, she didn't say anything"

The difference between the adults' bound variable answers and the children's is that the latter had both questions originate in the lower clause, while the former had the first Wh-phrase answered with respect to the matrix clause, and the second answered with respect to the dependent clause. Compare, for example adult answer (19) with (16) which was given by a child, both to the question in (10), above:

- (19) probando el helado y oliendo las galletas
 tasting the ice-cream and smelling the cookies

A key proposal in McDaniel's work is that the rule of Absorption, which forms complex operators in questions that require multiple paired answers,²⁰ applies also at S-structure in languages with partial Wh-movement. This allows her to provide an unifying account for both partial and multiple Wh-movement. If this idea of connecting the possibility of partial Wh-movement to that of Absorption in the syntax is right, then the multiple answers of the children could be analyzed as in (20):

- (20) [CP Wh₁ [IP [CP t₁ Wh₂ [IP t₁ ... t₂]]]]
 absorption rule : Wh₁ + Wh₂ --> WH(1,2)
 t₁ + Wh₂ = Complex operator WH(1,2)
 Wh₁ = scope marker

Note the similarities between the partial movement answers and the structure in (19), with the lower specifier containing a complex operator with both indices, and the higher specifier containing one of the Wh-words acting as a scope marker, this question has the same structure as partial Wh-movement. I will illustrate both interpretations of the question (10),

20. As in Higginbotham and May (1980).

repeated in (21a) in (21b), for partial movement and (21c) for bound variable interpretation (multiple paired answers). In (21c) the intermediate trace with index *j* and the Wh-operator with index *i*, form a complex operator containing both indices. The Wh-phrase in the higher specifier is serving as a scope marker.

- (21) a. cómo decidió el niño que comer
 b. [Wh Scope marker [_{IP} [_{CP} Wh operator_i [_{IP} *t_i]]]]
 c. [Wh Scope marker_j [_{IP} [_{CP} *t_j* Wh operator_i [_{IP} *t_i*]]]]*

The formation of this complex operator in the syntax, as in McDaniel, is dependent on the availability of both scope markers and a syntactic rule of Absorption.

This part of my analysis departs from the original analysis for partial movement in child grammar in de Villiers and Roeper's work. Their analysis was developed to handle the syntactic facts, but the appearance of what seems to be relevant semantic distinctions between the adult and the child grammar requires additional mechanisms.²¹

6. Conclusion

To conclude I would like to summarize briefly the empirical results observed in this study. The acquisition of interrogatives, as can be inferred from the children interpretations of our test questions, seemed to be composed of several stages. In the initial stage, only short distance and partial movement were available. What seemed like long distance movement of arguments could be the result of coindexation with null pronominals. In the second stage, when long distance extraction is available, it seems to obey conditions on movement such as barriers. Long distance and short distance movement coexist with partial movement, and this latter option is then eliminated from the grammar, first for infinitival clauses, then for all clauses altogether. The scope of this conclusion is limited to

21. This analysis would make the prediction that the adult should not have a bound variable interpretation of the relevant structures where both questions originate in the subordinate clause. Of course, this is only relevant for the sentences where the second wh-phrase is in specifier position, not *in situ*. The facts in our adult test seem to support this. No bound variable responses of this kind were elicited, although they were often judged as grammatical.

Caribbean Spanish, although if my analysis is correct it may extend to other languages.²²

The data presented in this paper strongly support the universal status of certain theoretical constructs assumed in theories of movement, as exemplified in the Barriers framework. It also lends support to the Continuity Hypothesis, if not as an acquisition theoretic primitive, at least as a strong research strategy. One important problem remains to be solved, and that is the motivation for the evolution of the developmental steps. As always, the developmental problem escapes any obvious answer. The results presented here show that children acquiring Spanish go through a long stage where long distance movement coexists with partial movement, until the latter disappears from the language. It is unclear what the possible information could be that would trigger the disappearance of partial movement. This problem can be circumvented if one takes an indirect negative hypothesis, combined with a notion of projection of levels in the grammar, such as in Lebeaux's (1988) model of acquisition. Assuming that the transition between stages depends on the projection of more abstract levels, development occurs to the next level, unless there is overt confirmation in the parents language that you should remain in a lower level. Children in the partial movement languages will not modify their grammars as to eliminate that option, because they will receive confirmation of the existence of Wh-expletives. Children learning Spanish will not find support of such hypothesis and eventually will realize that partial movement is not an option in their language.

22. It seems likely that the infinitival facts follow from the subjunctive/indicative distinction, since in Spanish infinitivals generally pattern with subjunctive. Torrego and Uriagereka's work seems to suggest that the claim I am making about medial answers with indicative clauses persisting after medial answers in infinitivals have dropped from the child grammar might be relevant only for languages with a strong indicative/subjunctive distinction. I would like to speculate that the acquisition of this distinction might be relevant for the transitions in that stage, but further empirical work is necessary to examine this idea.

REFERENCES

- Chomsky, Noam 1986. *Barriers*, MIT Press, Cambridge, Mass.
- de Villiers, Jill 1990. "Acquisition of Wh-movement", paper read at the Fifth International Conference on Child Language, Budapest.
- de Villiers, Jill & Thomas Roeper 1990. "Learning Bound variables", paper read at the Fifth International Conference on Child Language, Budapest.
- de Villiers, Jill, Thomas Roeper & Anne Vainikka 1988. "The Acquisition of Long Distance Rules", paper read at the B.U. Conference on Language Acquisition.
- Higginbotham, James & Robert May 1980. "Questions, Quantifiers and Crossing", *Linguistic Review* 1, 41-80.
- Hyams, Nina 1984. *Language Acquisition and the Theory of Parameters*, Reidel, Dordrecht.
- Lasnik, Howard & Mamoru Saito 1984. "On the nature of Proper Government", *Linguistic Inquiry* 15, 235-289.
- Lebeaux, David 1988. *Language Acquisition and the Form of the Grammar*, Ph.D. diss., U. of Massachusetts, Amherst.
- McDaniel, Dana 1989. "Partial and Multiple WH-Movement", *Natural Language and Linguistic Theory* 7, 565-604.
- Nishigauchi, Taisuke & Thomas Roeper 1987. "Deductive Parameters and the Growth of Empty Categories", in Thomas Roeper and Edwin Williams (Eds), *Parameter Setting*, D. Reidel, Dordrecht.
- Roeper, Thomas, Mats Rooth, Lourdes Mallis & Satoshi Akiyama 1984. "The Problem of Empty Categories and Bound Variables in Language Acquisition", Ms., U. of Massachusetts, Amherst.

- Roeper, Thomas & Jill de Villiers 1989. "Ordered parameters in the acquisition of Wh-questions", Ms., U. of Massachusetts, Amherst, and Smith College.
- Rooth, Mats 1985. *Association with Focus* Ph.D. Diss., UMASS/Amherst.
- Torrego, Esther 1984. "On Inversion in Spanish and Some of Its Effects", *Linguistic Inquiry* 15, 103-129.
- Torrego, Esther & Juan Uriagereka, 1990. "Indicative Dependents", Work in progress, U. of Massachusetts, Boston, and U. of Maryland.
- Weissenborn, Juergen, Thomas Roeper, & Jill de Villiers 1990. "The Acquisition of Wh-Movement in German", paper read at the Fifth International Conference on Child Language, Budapest.
- Weissenborn, Juergen & Thomas Roeper 1990. "The Acquisition of Wh-Movement in German and French", paper read at the Fifth International Conference on Child Language, Budapest.