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Resumptive pronouns as last resort: Implications for language acquisition

Resumptive Pronouns as Last Resort: Implications for Language Acquisition

Elaine Grolla*

1 Introduction

In this paper I will be concerned with the acquisition of resumptive pronouns (RPs) appearing in restrictive relative clauses in Brazilian Portuguese and English.

The distribution of RPs across languages is not uniform. While some languages make productive use of these elements (like Hebrew), other languages have a more restricted distribution of RPs (like English). Sells (1984), referring to these two types of languages, calls the first type 'true resumptive languages' and the second 'intrusive pronoun languages'. It is important to note that there is variation in the distribution of RPs even among the 'true resumptive languages'. That is, it is not the case that true resumptive languages allow RPs to appear everywhere indistinctively. Language-specific constraints may require RPs in some positions or disallow them from others. Observe in the chart below the distribution of RPs in Northern Palestinian Arabic (PA), Hebrew, Brazilian Portuguese (BP), and English:

Position	PA	Hebrew	BP	English
Subject	Gap	Gap	Gap	Gap
DO	RP	Gap/RP	Gap/RP	Gap
Emb. S	RP	Gap/RP	Gap/RP	Gap
Oblique	RP	RP	RP	Gap

Table 1: Distribution of RPs across languages

Studies on the acquisition of RPs in various languages indicate that child languages differ qualitatively from adult languages with respect to the usage of these elements (cf. Bar-Shalom and Vinnitskaya, 2001 for Russian; Goodluck and Stojanovic, 1996 for Serbo-Croatian; Labelle, 1990, 1996 for French; McKee and McDaniel, 2001 for English; Pérez-Leroux, 1995 for Spanish and English; Varlokosta and Armon-Lotem, 1998 for Modern Greek

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and Hebrew; and my own research reported here for Brazilian Portuguese).

In order to account for children's behavior, two hypotheses are adopted. First, I follow Shlonsky (1992) and Hornstein (2001) in analyzing RPs as last resort operations. Being last resort operations, these elements can be used only if the derivation without them does not converge. It will be claimed that, depending on the syntactic position that RPs appear, they may require reference-set computation. Second, I assume Grodzinsky and Reinhart's (1993) hypothesis on the cost associated with reference-set computation. It will be shown that children perform at chance level in exactly the syntactic positions where reference-set computation is required to apply.

The paper is organized as follows. In section 2, I discuss the distribution of RPs in the adult language, presenting Shlonsky's (1992) analysis for RPs as a last resort device. This is discussed for Northern Palestinian Arabic, Hebrew, Brazilian Portuguese and English. Section 3 is devoted to the acquisition facts. I present the results of an experiment conducted with Brazilian Portuguese speaking children and then compare these results to the data reported in McKee and McDaniel (2001) for English speaking children. It is shown that children behave similarly in these two languages, although the distribution of RPs in the adult languages is not the same, as shown in table 1 above. I discuss how these data can be explained if RPs are taken to be last resort operations. Finally, section 4 is the conclusion.

2 Resumptive Pronouns across Adult Languages

Shlonsky (1992) compares the distribution of RPs in Northern Palestinian Arabic (henceforth PA) and in Hebrew. These two languages have different distributions of RPs in restrictive relative clauses. As shown in table 1, in PA resumptives are obligatory everywhere, except in the highest subject position, where they are prohibited. In Hebrew, resumptives are obligatory as the object of a preposition and in NP-internal positions. They are optional in direct object and embedded subject positions. Finally, resumptives are banned from the highest subject position.

Shlonsky (1992) observes that PA displays two complementizers, *š'inno* and *š'illi*. *š'inno* is the complementizer that appears in subordinate clauses. *š'illi* is the complementizer restricted to CPs that serve as predicates; it shows up in relative clauses and clefts, for example. Shlonsky argues that *š'illi* identifies its Specifier as an A-position.¹ Since relative clauses are only

¹Considering Rizzi's (1990) proposal that some instances of C^o are provided with an Agr specification in C, Shlonsky argues that *š'illi* can be seen as "being lexically endowed with a feature grid consisting of slots that must be, loosely speaking,

formed with *šilli*, it follows that the Spec,CP in relative clauses is always an A-position in PA. Thus, movement to Spec, *šilli* is an instantiation of A-movement, subject to the Minimality Condition (Rizzi, 1990). Therefore, movement of an operator from direct object position to Spec,CP is banned in PA, since it constitutes movement to an A-position with the subject (also an A-position) intervening between the origin of movement and its target.

Shlonsky proposes that RPs are a last resort strategy only used when movement is preempted. In more modern terms (Chomsky, 1995), this means that a derivation with a RP will only be licit if the derivation with movement does not converge. Note that there is no 'competition' between a movement derivation versus a non-movement derivation for these relatives. The non-movement option (where the RP is present) will only be applied if movement is blocked by some constraint. In this case, both the RP and its binder are inserted into their surface positions at D-structure.

Relativized Minimality together with the hypothesis that RPs are last resort operations will result in a pattern in the distribution of RPs exactly as the one found in PA. Movement from direct object position to Spec,CP is blocked due to Relativized Minimality. Therefore the presence of a RP in those positions saves the derivation. The obligatory presence of gaps in highest subject position is analyzed as a direct consequence of economy principles: given that nothing prohibits short movement from spec,IP to spec,CP, RPs will never be allowed in this position. In the case of oblique positions, Shlonsky argues that a gap is not possible due to the Empty Category Principle (ECP). The grammar of PA has a constraint against preposition stranding and Shlonsky assumes that this is because prepositions cannot govern the empty categories appearing as their complements. If movement is blocked from these positions, the RP is required in order to save the derivation. As for NP-internal positions, the mandatory presence of a RP is also due to the ECP. Extraction of elements internal to NP is ruled out in PA and Shlonsky also ascribes this fact to ECP-related reasons.

Summarizing, Spec,CP is always an A-position (in relative clauses) in PA. Thus, movement from positions different from the local subject is banned, and RPs, being a last resort strategy, will be obligatory whenever movement is blocked. This analysis successfully accounts for the distribution of RPs in PA. However, it seems that this analysis does not extend to Hebrew straightforwardly. As we saw in Table 1 above, in Hebrew some syntactic positions exhibit RPs only optionally. This free alternation between gaps and RPs conflicts with the hypothesis that RPs are a last resort strategy.

saturated by coindexation with a specifier" (p. 456). The idea is that a specifier coindexed with Agr is an A-position (as proposed in Déprez (1990)).

Shlonsky argues that this optionality is just apparent. He suggests that the complementizer *še* that appears in relative clauses in Hebrew can identify its Specifier either as an A-position or as an \bar{A} -position (following Shlonsky, I will call these two instantiations of C^0 C_A and $C_{\bar{A}}$ respectively). If C_A is chosen, a paradigm identical to PA emerges and RPs are obligatory everywhere, except in the highest subject position, since nothing blocks movement from Spec,IP to Spec,CP. If $C_{\bar{A}}$ is chosen, movement from subject position and direct object position is possible and RPs cannot be present.

The mandatory presence of RPs in oblique positions is explained in the same way as in PA: ECP rules out any construction where the preposition has a gap as its complement. ECP is also responsible for ruling out constructions with a gap in NP-internal positions, since extraction of elements out of NP is not licit in Hebrew, similar to what happens in PA.

Thus, in Hebrew, C^0 can identify its Spec either as an A-position or as an \bar{A} -position, and the choice between them is free.² Since the two C^0 's are homophonous, we have the impression that RPs are optional in some positions.

Shlonsky hypothesizes that RPs are never freely generated, with their distribution always regulated by last resort considerations. If this is the case, then the appearance of RPs even in English should be restricted to cases where a gap is ruled out. As we can observe in the sentences below, this is indeed the case (sentence (1b) is attributed to Kayne (1984)):

- (1) a. the boy that Mary likes (*him)
 b. the book that I wondered if I would get *(it) in the mail

Shlonsky claims that the parametric difference between Hebrew and PA on the one hand and English on the other is lexical in nature. Hebrew and PA are endowed with C^0 with certain properties that, as we saw, severely restrict syntactic *wh*-movement. English lacks such C^0 , exhibiting only $C_{\bar{A}}$. Therefore, movement is always allowed from direct object and oblique positions, and hence a RP cannot be inserted. RPs will be present in island contexts, since movement is blocked in these cases.

Turning now to Brazilian Portuguese (BP), this language does not exhibit different forms for the complementizer. The complementizer introducing relative clauses with or without resumptives has the form *que*. *Que* is

²The free choice between one complementizer or another can be compared to the free choice between 'whether' and 'if' in English, for example:

- (i) I don't know whether John is coming with us.
 (ii) I don't know if John is coming with us.

also the C^0 used to introduce subordinate clauses. At first sight, there is no similarity between this language and Hebrew. Nonetheless, the distribution of RPs in these languages is identical, as shown in Table 1 above. I provide some examples of relatives containing RPs in BP below:

- (2) a. o homem que (*ele) ama a Maria (Subject)
 the man that (he) loves the Maria
 ‘the man who loves Maria’
- b. o homem que eu vi (ele) (DO)
 the man that I saw (him)
 ‘the man that I saw’
- c. o homem que eu vi a mulher d-*(ele) (NP-internal)
 the man that I saw the wife of-(him)
 ‘the man whose wife I saw’
- d. o homem que eu conversei com *(ele) (Oblique)
 the man that I talked with (him)
 ‘the man that I talked with’

If we adopt Shlonsky’s hypothesis that RPs are last resort strategies, then the BP data will be accounted for in the following manner. The ban against RPs in the highest subject position (2a) is the result of economy principles. Short movement from Spec,IP to Spec,CP is always licit, so RPs cannot be present in this position. The obligatory occurrence of RPs in oblique positions (2d) can be attributed to the ECP: BP does not exhibit P-stranding, probably because prepositions cannot govern empty elements appearing as their complements. RPs appearing in NP-internal positions (2c) are also explained as an ECP requirement, since in these cases the noun complement is actually a preposition complement (that is, in BP, the phrase ‘the man’s wife’ corresponds to ‘the wife *of* the man’).

The optionality of RPs in direct object position (2b) is explained in the same way Shlonsky accounted for the Hebrew facts. Spec,CP in BP can be an A-position or an \bar{A} -position. When Spec,CP is an \bar{A} -position, we have a derivation in which a null operator moves overtly from direct object position to Spec,CP. When Spec,CP is an A-position, the null operator is base-generated in Spec,CP and a resumptive pronoun appears as the complement of the verb. Therefore, BP is similar to Hebrew in having two C^0 ’s that are homophonous.

Shlonsky’s account for the distribution of RPs in Hebrew, English, and PA and my extension of it to BP is valuable because there is no postulation of ad hoc constraints and no postulation of free alternation between RPs and gaps (an assumption that goes against Minimalism (Chomsky, 1995)). The

claim that Spec,CP can be identified as an A-position simply requires agreement between C^0 and Agr, something independently proposed by others, such as Déprez (1990).

2.1 Resumptive Pronouns and Reference-Set Computation

Hornstein (2001) claims that RPs are never part of the numeration. They are inserted only when the derivation without them does not converge. This claim can be supported by the following fact. Consider sentence (3) below (example from Hornstein, 2001:173):

(3) *It seems (that) *t* was told John that Bill left.

The problem with this derivation seems to arise when the case of the matrix I^0 needs to be checked. *It* is inserted in the place of *t*, in the medial I^0 . After checking its case features against those of the medial I^0 , *it* cannot move further to check the case of the matrix I^0 . However, according to Hornstein, there is a way out to have a good derivation. If at LF *John* or its case features raise to the matrix I^0 and check the matrix I^0 case, the sentence should be acceptable. So, it is hard to explain why this sentence is unacceptable.

Hornstein's alternative to deal with this puzzle is to claim that there is a less costly derivation than the one in (3). The assumption is that pronouns are 'elsewhere' expressions that can only be used to allow convergence. If this is the case, then pronouns are excluded from numerations. Here is how this assumption solves the problem.

In the step of the derivation shown in (4a) below, if *it* is not in the numeration, the only step possible is to move *John* to check the features of the medial I^0 , as shown in (4b):

(4) a. was told John that Bill left.
b. John was told John that Bill left.

Because *it* is not in the numeration, there is no violation of economy principles, such as Merge over Move. Movement of *John* is the only alternative. After this movement, the derivation continues, with the merge of *that, seems* and the matrix I^0 . At this point, the insertion of *it* is permitted, because if it is not inserted, the derivation crashes: the features of the matrix I^0 would be left unchecked. Because the insertion of the pronoun gives rise to convergence, it is allowed.

Note that this derivation is optimal and blocks (3). This can be considered an argument in favor of the hypothesis that pronouns are 'elsewhere' elements not present in the numeration, which are inserted only if needed for

convergence.

Let us consider some BP data in light of this proposal. Consider the phrases below with and without a RP in oblique position. Given that BP does not have preposition stranding, the alternative without the RP does not converge. The pronoun is inserted to save the derivation, as in (5b).

- (5) a. *o homem que eu conversei com
 the man that I talked with
 b. o homem que eu conversei com ele
 the man that I talked with him

Let us consider now a case in which the derivation without the RP does converge, as shown in (6) below, where a RP is placed in subject position. Now, in order to decide if a RP is licit, a set with the competing convergent derivations needs to be built. This set is called a reference-set. Sentence (6a), for example, has the reference-set in (6b/c) (irrelevant parts omitted):

- (6) a. Este é o homem que ele está nadando.
 This is the man that he is swimming.
 b. ... [DP o homem [CP OP_i [C que] t_i está nadando]]
 c. ... [DP o homem [CP OP_i [C que] ele_i está nadando]]

In (6b) we have movement of the relative operator from its theta-position to Spec, CP. In (6c), we have both the operator and the RP base generated.

The reference-set established has two convergent derivations. They can be compared because they have the same numeration (recall that the pronoun is not in the numeration). (6b) wins because it is more economical: movement of the operator is preferred over insertion of a RP, which is more costly.

Note that, in order to decide if RPs are allowed or not in subject and oblique positions, we do not have to consider the type of C^0 present in the structure (A or \bar{A}). For each of these positions only one option exists despite of the C^0 selected. In the case of subject relatives, movement was always available and so it had to apply. The consequence of this was that RPs were banned from this position. In the case of oblique relatives, movement was always blocked, and so RPs were always present. Let us consider now what happens with the placement of RPs in direct object position, as shown below:

- (7) a. o homem que eu vi ele
 the man that I saw him
 b. [DP o homem [CP OP_i [C que] eu vi t_i]]

c. [_{DP} o homem [_{CP} OP_i [_C que] eu vi ele_i]]

Now, the availability of movement is dictated by the type of C^0 present in the structure. If C_A is selected, movement is blocked due to Relativized Minimality, and RPs must be present. In this case, no reference-set computation is required. If $C_{\bar{A}}$ is present, movement is not prohibited and RPs are not possible. In order to decide if RPs are licit in this structure, reference-set computation is necessary.

The discussion above shows us that Hornstein's proposal is successful in accounting for the BP data. In the next section, I will discuss the predictions such a framework presents for language acquisition.

3 Reference-Set Computation and the Acquisition of Resumptive Pronouns

Grodzinsky and Reinhart (1993) and Reinhart (1999) argue that reference-set computation involves greater load on working memory than local computation. This in turn suggests that whenever reference-set computation is involved, there should be some evidence of processing complexity. Grodzinsky and Reinhart claim that this processing load is within adults' capabilities, but it might exceed children's processing abilities.³

These authors hypothesize that if reference-set computation exceeds children's processing ability, a guess pattern should emerge in every area where this computation is claimed to be required.

Grodzinsky and Reinhart's hypothesis is that children's grammar is in place (that is, they know the computations that they have to do), but because their working memory is not yet prepared to hold the materials needed to complete the task, children cannot finish all the computation required. The chance behavior observed, that is, the (around) 50% of correct responses children give, would be a direct reflection of the guessing children resort to.

As discussed above, if RPs are seen as last resort, reference-set computation is needed in order to decide if some of those structures are licit with them. Thus, if we adopt Grodzinsky and Reinhart's proposal, we should expect a guess pattern in some of the sentences displaying RPs.

When both the derivation with a RP and the one without a RP converge,

³Grodzinsky and Reinhart (1993) resort to this hypothesis to account for the delay of Principle B of the Binding Theory in child's language. For a detailed discussion of the hypothesis that reference-set computation exceeds young children's abilities, I refer the reader to Reinhart (1999), where this hypothesis is extended to account for other cases where children perform at chance level.

the computation children have to perform is the following. They have to construct the derivations that are convergent and that have the same numeration, as in (6). This is done while they are holding the sentence under processing in memory. Then they must compare them and decide which one is more economical.

In the case being studied here, we should expect children to perform around chance level in these cases just described. However, children should not perform around chance level when the derivation without the RP does not converge, as in (5). This is because in this case, no computation is needed: the derivation with a RP is the only one possible. Therefore, children should not be stuck in this case.

Considering BP first, the predictions are as follows. For subject relatives, as in (6), children should perform around chance level, as both the derivation with a RP and the one without it converge. For oblique relatives, no chance behavior is expected, as the movement derivation does not converge: children are left with only one option, so no computation is required and hence no problems should arise. As for direct object relatives, we have to consider what kind of complementizer the structure has. If C_A is present, movement is blocked, RPs are licit and no computation is required; children should have no problems. If C_A is selected, movement is licit, and consequently, RPs are prohibited. This derivation requires reference-set computation and children should perform around chance level in this case.

In the case of English, the predictions are the following. Children will have problems with relatives displaying RPs in extractable positions, such as subject, direct object and oblique. In all these positions, movement is allowed and so the presence of RP has to be evaluated, creating a reference-set. Children will not have problems in unextractable positions (e.g. inside islands), since in these cases, movement is not allowed and RPs are the only option. Here, reference-set computation is not needed.

Summarizing, for BP we expect children to behave like adults when RPs are in oblique position and inside islands. In the other positions they should exhibit a guess behavior. For English, children should be adult-like when RPs are inside islands. They should perform around chance level when RPs are placed in extractable positions.

In order to test these predictions, I conducted two experiments. In the first one, I tested children acquiring BP as a native language. In the second one, I interviewed adult native speakers of BP. The results of these experiments are compared to the results reported in McKee and McDaniel (2001), who conducted experiments with children and adult native speakers of English. In the next section I describe these experiments and analyze their results.

3.1 Experiments

The first experiment is a grammaticality judgment task having as subjects children acquiring BP as their native language. I interviewed 11 children acquiring BP between the ages of 3;0 and 5;5. These children live in the town of Franca, São Paulo, Brazil. They were interviewed in the pre-school they attend.

The reason why a grammaticality judgment task was chosen (instead of an elicitation production task, for example) is the following. RPs are licit in BP but are not obligatory in all syntactic positions. Therefore, if children, by any chance, never produce a RP in the elicitation production task, no conclusion can be drawn. On the other hand, if they accept a construction with a RP, this is evidence that that construction is licit in the child's grammar.

In this experiment, two experimenters are present. One manipulates a puppet (experimenter 2) and the other acts out short stories (experimenter 1). Experimenter 1 introduces the puppet to the child as a creature that came from the moon and speaks moon-talk. The puppet is learning BP, but gets confused sometimes. The child is told that her job is to help the puppet to learn BP. If the puppet says something the wrong way, the child should give the puppet a fruit for him to get smarter. If he says it the right way, the child should give the puppet a donut, as a reward. An example is given below:

Experimenter 1: There are two lambs here in the farm. This boy came in holding a hat on his hands and approached this lamb. He gave the hat to this lamb. The lamb got very happy! This other lamb didn't get anything and it was not happy. What happened?

Experimenter 2: A ovelha que o menino deu o chapéu pra ela ficou feliz.

The lamb that the boy gave the hat to her became happy.

Child: Right (donut) / Wrong (fruit)

Twelve sentences were tested. Four targeted the subject position, four targeted the direct object position and four targeted the oblique position, as in the example above.

Children went through a training period before they were interviewed for the RP sentences. Only those children who showed that they understood the task participated in the experiment. During the experiment, children also responded to some fillers, 4 in total. These fillers did not involve RPs, but (un)grammatical sentences with respect to word order. These filler sentences were intended to check whether children were paying attention to the sentences and whether they were biased to a 'yes' or 'no' response. Children

who did not answer these 4 filler sentences correctly were excluded from the study.

The second experiment conducted was a grammaticality judgment task with adult speakers of BP. I interviewed 5 native speakers of BP living in New Haven, CT, who moved out of Brazil less than two years ago. The same experiment and the same sentences used with the children in Brazil were used with the adult speakers.

The BP data are compared to the grammaticality judgment task results reported in McKee and McDaniel (2001). In their experiment McKee and McDaniel interviewed 38 English-speaking children between the ages of 3;5 and 5;11.⁴ The syntactic positions tested in their study are shown below. The extractable positions (subject, direct object and oblique) are the positions we expect to have an acceptance rate of around 50%. The unextractable positions were genitive object and unextractable subject.⁵ We expect children to behave like adults in these cases.

(8) Contexts where a gap is licit (chance level expected):

- a. This is the man that he's swimming.
- b. This is the woman that Bert kissed her.
- c. This is the baby that Cookie Monster played with her.

Contexts where a gap is illicit (adult behavior expected):

- This is the pirate that Minnie Mouse buried *(his) treasure.
 This is the troll that Ariel doesn't know what *(he)'s eating.

In table 2 below I compare the figures from McKee and McDaniel's study with those found for BP. The shaded areas correspond to the positions we expect children to exhibit chance behavior.

Discussing BP first, the table shows that children behave similarly to adults with respect to the placement of RPs in oblique positions, but differ from adults when the subject and direct object positions are involved. Children judged grammatical 63% of the subject relatives with a RP; 72% of the direct object relatives with a RP; and 90% of the oblique relatives with a RP.

⁴McKee and McDaniel (2001) also interviewed 44 English-speaking children between the ages of 6;0 and 8;11. I will not discuss the results for this group here because the children's ages in this group differ from the ages of children in the other studies being reported in the text.

⁵McKee and McDaniel's study included the unextractable position "genitive subject" (as in '*This is the robber that his iron is hot*'). As the authors point out in the paper, the status of this sentence is not clear in adult language. Speakers tend to reject both the construction with the resumptive pronoun and the counterpart without it. I will not discuss these sentences in this paper.

BP adult speakers accepted relatives with a RP in subject position 10% of the time. They accepted 20% of the direct object relatives with a RP, and 90% of the oblique relatives with a RP.

Grammaticality Judgment Task				
Position	Brazilian Port.		English	
	Children	Adults	Children	Adults
Subject	63%	10%	47%	2%
Direct object	72%	20%	70%	2%
Oblique	90%	90%	68%	2%
Genitive object	Not available		75%	68%
Unextractable subject	Not available		78%	80%

Table 2: Acceptance of RPs in relative clauses in BP and English

An analysis of variance (ANOVA) comparing child and adult responses revealed that the effect of *syntactic position* was highly statistically significant, $F(2,17)=14.65$, $p<.001$. The effect of *age* was also significant, $F(2,17)=3.62$, $p=.028$. There was a significant interaction between *syntactic position* and *age* $F(4,17)=4.26$, $p=.002$.

In English, children are adult-like in unextractable positions. They accepted sentences with RPs in genitive object position 75% of the time, while adults did so 68% of the time. For unextractable subject position, children accepted RPs 78% of the time and adults, 80% of the time. Children are not adult-like when RPs are inserted in extractable positions. They accepted subject relatives with a RP 47% of the time, direct object relatives with a RP 70% of the time and oblique relatives with a RP 68% of the time. Adults accepted these structures only 2% of the time.

Summarizing, the percentage of acceptance of RPs in the highest subject position in BP and English is around chance level, as predicted. Also as expected in this framework, the percentage of acceptance of RPs in non-extractable positions (oblique position in BP and genitive object and unextractable subject in English) is adult-like in both child BP and child English. The percentage of acceptance of RPs in direct object in both languages seems to be somewhat above chance, although very different from the adults' responses. The same occurs with oblique position in child English.

4 Conclusion

I have discussed the distribution of RPs in adult languages adopting Shlonsky's (1992) theory to explain the differences observed across languages. I

have also presented Hornstein's (2001) implementation of the hypothesis that RPs are last resort strategies, which lead us to the conclusion that, depending on the syntactic position in which these elements are inserted, reference-set computation is needed in order to decide whether their presence is licit or not. Following Grodzinsky and Reinhart (1993), I have claimed that this computation exceeds young children's processing capabilities, leading to some computation problems. This processing load was held responsible for the chance pattern observed on children's responses.

I argued that children's intriguing behavior with respect to RPs is fully accounted for if we adopt the claim that RPs are last resort operations, requiring reference-set computation. One of the advantages of this proposal is that it does not raise learnability problems, since we do not assume that children's grammar is different from adults,' as has been proposed by some authors (cf. Guasti and Shlonsky, 1995; Labelle, 1990; Pérez-Leroux, 1995). As children grow older, their processing abilities get better and they are able to deal with these structures more efficiently.

Also, we account for the fact that children acquiring divergent languages behave similarly with respect to RPs. Their problem resides in their processing ability, and not on the language being acquired. Thus we expect children acquiring any type of language to exhibit such behavior, be it a language with limited use of RPs or not.

References

- Bar-Shalom, Eva, and Inna Vinnitskaya. 2001. Relative Clauses in Child Russian: a Comparison with Serbo-Croatian. Ms., University of Connecticut.
- Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, Mass: MIT Press.
- Déprez, Vivian. 1990. On the Typology of Syntactic Positions and the Nature of Chains. Doctoral dissertation, MIT.
- Goodluck, Helen, and Danijela Stojanovic. 1996. The structure and acquisition of relative clauses in Serbo-Croatian. *Language Acquisition* 5:285–315.
- Grodzinsky, Yosef, and Tanya Reinhart. 1993. The innateness of binding and coreference. *Linguistic Inquiry* 24:69–101.
- Guasti, Maria Teresa, and Ur Shlonsky. 1995. The acquisition of French relative clauses reconsidered. *Language Acquisition* 4:257–276.
- Hornstein, Norbert. 2001. *Move! A Minimalist Theory of Construal*. Oxford: Blackwell Publishers.
- Kayne, Richard. 1984. *Connectedness and Binary Branching*. Dordrecht: Foris.
- Labelle, Marie. 1990. Predication, wh-movement, and the development of relative clauses. *Language Acquisition* 1:95–119.
- Labelle, Marie. 1996. The acquisition of relative clauses: Movement or no movement? *Language Acquisition* 5:65–82.

- McKee, Cecile, and Dana McDaniel. 2001. Resumptive pronouns in English relative clauses. *Language Acquisition* 9:113–156.
- Pérez-Leroux, Ana Teresa. 1995. Resumptives in the acquisition of relative clauses. *Language Acquisition* 4:105–138.
- Reinhart, Tanya. 1999. The Processing Cost of Reference-Set Computation: Guess Patterns in Acquisition. Ms.
- Rizzi, Luigi. 1990. *Relativized Minimality*. Cambridge, Mass: MIT Press.
- Sells, Peter. 1984. The Syntax and Semantics of Resumptive Pronouns. Doctoral dissertation, UMass.
- Shlonsky, Ur. 1992. Resumptive pronouns as a last resort. *Linguistic Inquiry* 23:438–468.
- Varlokosta, Spyridoula and Sharon Armon-Lotem. 1998. Resumptives and wh-movement in the acquisition of relative clauses in Modern Greek and Hebrew. In *Proceedings of the 22nd Annual Boston University Conference on Language Development*, 737–746.

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