INTERVENTION AND ATTRACTION. ON THE PRODUCTION OF SUBJECT AND OBJECT RELATIVES BY ITALIAN (YOUNG) CHILDREN AND ADULTS

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1. Introduction

That comprehension of object relatives constitutes a difficult domain in acquisition and pathology as well as in adult parsing, is a well known and robustly established fact (see Friedmann, Belletti, Rizzi (2009) for relevant references on classical work on acquisition and parsing; Adani (2008) for recent results on acquisition; Grillo (2008) and references cited therein for aphasia; Gordon, Hendrick, Johnson (2001), Traxler, Morris, Seely (2001), Warren and Gibson (2005), a.o. for more recent relevant contributions on parsing, and references cited therein). In the present article, we address the issue of the mastering of object relatives from the perspective of production, by presenting experimental results where the production of subject and object relatives (SR, OR, henceforth) by Italian children - aged 3;4 to 6;5 - and adults, is systematically compared. Our main focus will be the detection and the analysis of (some of) the strategies put into use by children, and, comparatively, by adults, when they are faced with the task of producing an OR. In a nutshell, the main features of our experimental results can be summarized as follows.

In children, ORs are systematically harder than SRs at all ages considered; the production of an OR is avoided by children in various ways, a typical one being the transformation of the OR into a SR: in some cases, this gives rise to a misinterpretation of the task, in some other cases, the produced SR preserves the intended elicited meaning. As children grow older, the preferred way to transform an OR into a SR and at the same time preserving the intended meaning, is through the production of a relative clause with passive of various kinds, what we will refer to as a "passive object relative", as in Belletti (2009). Thus, our results replicate in this respect the results presented in a pilot similar experiment (Utzeri (2007)), run with older children, age range 6-11. Following Belletti (2009), we will interpret use of (kinds of) passive in object relatives, analyzed in terms of Collins' (2005) *smuggling* approach, as a way to avoid an otherwise problematic computation displaying an intervention effect, in the terms recently discussed in Friedmann, Belletti, Rizzi (2009), based on Rizzi's (1990, and subsequent work) *Relativized Minimality* principle (RM). Another typical strategy that children often adopt, is the use of non target substandard resumption - via a clitic pronoun or via repetition of the relative head (see Guasti & Cardinaletti (2003) and reference cited there for similar data) –, which can be interpreted as a somehow facilitating strategy avoiding the problematic production of a standard OR with a gap in the merge position of the relative head. In this article, we will not attempt at a comprehensive presentation, analysis and discussion of the overall results (Contemori & Belletti in prep.), but we will primarily concentrate on the characteristic emergence of the passive strategy and its implications for the intervention issue. In this respect, we will point out a possible connection with the intervention problem in the

parallel development displayed by children around age 5, when passive ORs emerge, and at the same time more frequently ORs contain a post-verbal subject rather than a preverbal one.

Another interesting main feature of our results, is the not negligible presence of agreement changes in the produced object relative clauses. In situations where a mismatch between the relative head and the subject of the relative clause is present, children often mistake the number agreement on the verb of the relative clause, and realize it with the same number of the relative head rather than with the number of the subject of the relative clause itself. While there is no firm means to determine whether children in these cases are just misunderstanding the task and simply wrongly realize ORs as SRs with an inverted distribution of the argument roles (then, in fact, producing no agreement error in their intended production), we will submit the proposal that, at least in part, this kind of mistake is to be interpreted as a case of agreement attraction from the relative head. Again, intervention may be the ultimate source of this kind of error frequently made by children, for which an account can be developed, along lines partly similar to the ones recently proposed to deal with the same mistake produced by children in Italian wh-questions, by Guasti et al. (2009) extending the analysis of agreement errors designed in Franck et al. (2005).

In adults, our results are strongly characterized by one overwhelming feature, again confirming similar results in the previous pilot experiment quoted: in the vast majority of their productions, adults transform standard ORs into SRs by means of passive; hence ORs are realized as passive object relatives. We will briefly speculate on how this striking result in production compare with the standard result in comprehension and parsing, where, although typically parsed more slowly than SRs, ORs are normally comprehended well by adults in standard Italian. In conclusion, a leading key for the interpretation of our main results will be the concept of intervention which can be held directly responsible for the widespread presence of passive object relatives in both children and adults, and may be ultimately held responsible for the attraction errors in the children's performance as well.

2. Method

48 Italian-speaking children Italian-speaking children aged 3;4-6;5 participated in the study. The children were randomly selected from a public school in Siena. 28 young adults aged 20-30 years old were selected as control participants. Relative clause production was tested using two Preference production tasks, adapted from Novogrodsky and Friedmann (2006). The two tasks are described in section 2.1 and 2.2.

2.1 Singular head/subject singular or plural. First task

In the first task, the experimenter presented two options and asked the participants to choose one. Ten items elicited SRs (There are two children. One child eats chocolate, the other child eats ice cream. Which child would you rather be? Start with ''I would rather be the child . . .'' Target: (Vorrei essere il bambino) che mangia la cioccolata/il gelato / ''(I would rather be) the child who eats chocolate/ice cream''); ten items elicited ORs (There are two children. The doctor examines one child, the nurse examines the other child. Which child would you rather be? Start with ''I would

rather be the child. . .''Target: Vorrei essere il bambino che il dottore/l'infermiera visita /''(I would rather be) the child that the doctor/nurse examines'').

2.1.1 The ambiguity issue

As the match in number agreement feature between the relative head and the subject (and the agreeing verb) of the relative clause may lead to ambiguity, with the relative clause interpretable either as a SR (the postverbal noun phrase interpreted as the direct object, or else no overt object present) or as an OR (the postverbal noun phrase interpreted as a postverbal subject, or else a null subject present), six additional items eliciting ORs were added. The aim of those items was to elicit *unambiguous* ORs with a plural subject and a plural verb within the relative clause (e.g.: There are two children. The friends look for one child, the friends find the other child. Which child would you rather be? Start with ''I would rather be the child. . .'' Target: Vorrei essere il bambino che gli amici cercano/trovano / ''(I would rather be) the child that the friends look for/find'').

2.2 Plural head /subject singular. Second task

The structure of the second task resembles that of the first one with the other possible mismatch condition avoiding ambiguity implemented, where the relative head is plural and the subject of the relative clause is singular. 10 SRs and 10 ORs where elicited with a plural head and a singular subject (and agreeing verb) within the relative clause (e.g: "There are two groups of children. The grandpa looks for the children and the grandpa finds the other children. With which children would you rather stay? Start with ''I would rather stay with the children . . .'' Target: (Vorrei stare con i bambini) che (il nonno) cerca/trova (il nonno) /''(I would rather stay with) the children that (the grandpa) looks for/finds (the grandpa)").

Results from the two tasks will be presented separately. We will sometimes focus on the head plural/subject singular battery only, as it gives clear results, but will also present material from the singular head/subject singular or plural battery and use it comparatively.

3. Results

Table 1 shows the total percentage of productions when a SR or an OR was expected in both tasks.

Table 1. Produced SRs and ORs

	Plural Head/subject (and verb) singular					Singular head/subject (and verb) singular or plural				
	3 - 3:11	4- 4:11	5- 5:11	6- 6:11	Adults	3-3:11	4-4:11	5- 5:11	6- 6:5	Adults
SR	60.8	90	84.7	88.6	98	79.2	93.6	91.4	95.7	99.5

OR	51.6	65.7	60	55.7	10	76.5	85.7	71.8	59.8	10.6
OR > SR ch. char.	2.5	5.7	4.6	-	2	3.6	1.3	5.3	-	0.4
OR > SR ch. verb	1.6	8.5	4.6	8.5	-	4.1	3.5	2.2	3.5	0.8
OR > SR passive OR	-	-	6.3	8.5	88	-	3.1	8.3	26.7	88

The remaining non target productions not included in Table 1, consist of declarative instead of relative clauses, fragment answers and no answers.

In the Plural Head/subject (and verb) singular the difference between SRs and correct ORs is statistically significant for children from 4 to 6 years old *(Two-tailed Fisher's Exact Test,* p<. 0001). In the Singular Head/subject singular or plural the difference between the two structures is statistically significant for 4 (*Two-tailed Fisher's Exact Test*, p<.025), 5 (*Two-tailed Fisher's Exact Test* , p<.0025) and 6 years old children (*Two-tailed Fisher's Exact Test,* p<.0001). In the Table, the total of ORs includes both ambiguous and unambiguous ones.

In the Singular Head/subject (and verb) singular number matching condition, part of the relatives produced when an OR was expected are ambiguous relative clauses, that could be interpreted as either ORs or as SRs (e.g. Target answer: (Vorrei essere) il bambino che l'elefante solleva/bagna / "(I would rather be) the child that the elephant lifts/wets", Answers produced: Che bagna l'elefante /''(The child) that wets the elephant'' (M.F. 5;7); Quello che bagna / ''That one that wets'' (A.M. 5;7); Vorrei essere il bambino che bagna il bambino /''I would rather be the child that wets the child" (M.C. 4;9)). In Table 2 only the percentages of correct unambiguous ORs are presented, in comparison to the correct SRs.

Table 2. Percentages of SRs and unabiguous ORs produced by children in the two tasks

	Plural Head/subject (and verb) singular		Singular Head /subject (and verb) singular or plural	
	SR	Unamb OR	SR	Unamb OR
3-3:11	60.8	39	79.2	36
4-4.11	90	52	93.6	52
5-5:11	84.7	49	91.4	42
6-6:5	88.6	53	95.7	37.5

Considering only the number of correct unambiguous ORs, the difference in the production of the two structures is sharper and reaches significance in both tasks and for all age groups (Plural Head/verb singular*:* 3 y.o., *Two-tailed Fisher's Exact Test,* p<.0012; 4,5,6 y.o.: p<.0001; Singular Head /verb plural or singular: 3-6 y.o., p<.0001).

3.1 Passive in Object relatives

We now review some data related to Table 1, when and OR is elicited. In some cases, children do produce an OR (e.g. Target answer: "(Vorrei essere) Il bambino che l'elefante solleva/bagna" / "(I would rather be) The child that the elephant lifts/wets", Answer: "Che l'elefante spruzza" / "That the elephant wets" (E.V. 4:10)). In the majority of cases, however, when an OR is elicited, children tend to typically change the structure. The most widespread type of change is the transformation of an OR into a SR through various kinds of strategies. In both tasks, the younger children either tend to change the character they identify themselves with and pretend they are the other character (e.g. "L'elefante che solleva il bambino" / "The elephant that lifts the child" (G.M. 6;3)); or they tend to change the verb in the relative clause and form a SR instead of the target OR (e.g. "Voglio essere la bambina che si bagna" / "The child that is getting wet" (L.P. 4;5)). The "change of character" strategy seems to disappear in the 6 years old children, while the "change of verb" strategy is still used by the older children. A striking change occurs with children around the age of 5: they start producing passive object relatives (e.g. "Che viene sollevato dall'elefante" / "(The child) that is lift by the elephant" (L.T. 6;4)). As is clear from Table 1, the use of passive to avoid an OR increases with age.

Unlike children, adults produce ORs only in very few cases. Instead, they massively adopt passive when an OR is expected. The very low production of ORs strongly contrasts with their ceiling level performance on SRs, as Table 1 clearly illustrates. Interestingly, children and adults adopt different kinds of passive. For reason of space, we postpone a closer discussion of this difference between children and adults (Contemori & Belletti in prep.).

3.2 Agreement changes

When there is mismatch between the relative head in the Plural Head /subject (and verb) singular condition and in the Singular Head /subject (and verb) plural condition, children sometimes change the number agreement on the verb of the relative clause from singular to plural (1) and from plural to singular (2); they also sometimes change the number feature of the subject of the relative clause to the same value as the number of the relative head (thus recreating a match condition). The changes occur in relatives where the subject-DP is either postverbal (1) or null (2). There are no agreement changes when the subject is preverbal. Table 3 shows the correspondent percentages by age group.

(1) *Plural Head /Subject (and verb) Singular: the verb of the RC is changed into plural*
Target answer: "(Vorrei stare con i bambini) che (il nonno/il maestro) fotografa (il nonno/il maestro)"
               ''(I would rather stay with) the children that (the grandpa/the teacher) photographs (the grandpa/the teacher)"
Answer produced: "Coi bambini che fotografano il nonno"
               ''With the children that photograph the grandpa'' (D.P. 3;6)

(2) *Singular Head /Subject (and verb) plural: the verb of the RC is changed into singular*

Target answer: "Il bambino che (i genitori) fotografano (i genitori)"

        ''The child that (the parents) photograph/draw (the parents)''

Answer produced: "Che fotografa"

        ''(The child) That photographs'' (S.I. 5;2)

Table 3. Number and percentages of OR with agreement change
(out of the total of relatives produced in the elicitation of ORs)

	Plural Head/ subject singular V sing > V pl		Singular Head/subject plural Vpl > V sing	
3-3:11	11/62	17.7%	15/53	28.3%
4-4.11	17/92	18.4%	15/70	21.4%
5-5:11	16/90	17.7%	14/63	22.2%
6-6:5	2/39	5.1%	5/28	17.8%

For all age groups the amount of agreement changes is comparable in the two conditions - sing>pl, pl>sing and in no case is the difference statistically significant within age groups.

In the next section we turn to a further qualitative aspect of the results and consider the produced ORs according to the pre- or post-verbal position of the subject within the relative clause.

3.3 Position of the subject in ORs

As shown in table 4, before age 5, when children produce unambiguous ORs they do not have a clear preference as to the placement of the subject within the relative clause, which may be pre- or post- verbal to a comparable extent. From age 5, however, children have a clear preference and start adopting postverbal subjects more often, while the number of preverbal subjects drastically decreases. The difference in use of preverbal subjects between age 4 and 5 is statistically significant (*Two-tailed Fisher's Exact Test, $p<.0022$*); the difference in use of a postverbal compared to a preverbal subject is also statistically significant at ages 5 and 6 (*Two-tailed Fisher's Exact Test, $p<.0034$ $p<.0018$*).

**Table 4. Percentages of unambiguous ORs with pre and postverbal subject produced by children**

Plural head-singular subject battery	3 y.o.	4 y.o.	5 y.o.	6 y.o.
Preverbal subject	29	35.8	**15.5**	**23**
Postverbal subject	35.4	29.3	**35.5**	**51.2**

4. Discussion

The most striking features of the results presented in section 3 is the fact that while SRs are produced with no particular difficulty by children from the earlier ages and by adults, the production of ORs is consistently avoided by both children and adults, and, surprisingly, even more so by adults than by children. Our discussion will focus mainly on the possible reason(s) for the avoidance of the OR computation and the strategies put forth to implement a relative clause when on OR is elicited.

4.1. Intervention and the avoidance of ORs in production

Let us assume the following sketchy derivation for ORs in Italian, phrased in terms of a raising analysis of relative clauses. ORs, as relative clauses in general, are computed in Italian by moving the relative head DP into a dedicated position in the CP left periphery, leaving a copy in the original merge position (Chomsky (1995, 2000), which is not pronounced and then results in a gap. In its movement into the CP position, the relative head crosses over the (preverbal) subject. As discussed in detail in Friedmann, Belletti, Rizzi (2009) for comprehension, this computation may be problematic, possibly to different degree and in different conditions in children and adults (see Friedmann, Belletti, Rizzi (2009) for detailed discussion), as it instantiates an intervention effect. As schematized in (3) the subject intervenes between the target position of the relative head and its original merge position giving rise to a RM effect:

(3) [CP ..   [TP *DP(S)* [vP ..V DP(O)]]
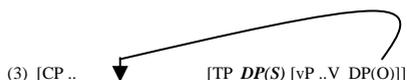
Assuming that intervention is problematic in production much as it is in comprehension, a direct reason why ORs tend to be disfavored is provided, along the same lines discussed in Belletti (2009), just extending to production in Italian, the account proposed in Friedmann, Belletti, Rizzi (2009) for comprehension in Hebrew children data.

4.1.1 Avoiding the production of ORs through passive

In Belletti (2009) it is proposed that passive may constitute a most suitable way to avoid the disturbing intervention situation in the production of ORs if the passive computation is assumed to involve as a crucial step the operation that Collins (2005) refers to as *smuggling*. *Smuggling* is a syntactic operation moving a chunk of the verb phrase containing the verb and the direct object into a position above the merge position of the external argument DP(S) in the vP (see Belletti & Rizzi (2009) for further similar cases of movement of verbal chunks). We can thus adopt this proposal to account for a most important aspect of the results presented in section 3, where passive object relatives start being produced by children as soon as the passive computation is known to become available to them, around age 5 (Manetti (2008)), and they constitute the overwhelmingly preferred structure produced by Italian adults in the elicitation situation. (4) schematically illustrates both the *smuggling* operation in passive where intervention of DP(S) is overcome, and the subsequent relativization of the object from the derived position, for the final derivation

of a passive object relative. (An expletive *pro* fills the preverbal subject position in (4); nothing special hinges on this aspect of the proposal here; an alternative derivation whereby the object first moves to the preverbal subject position and then to the relative position in the CP would be equally compatible with the proposed account). The crucial step of the account is the operation labeled *smuggling*, whereby intervention is overcome:

(4) [CP .. [TP *pro* ....   [V DP(O)]   *by* .. [vP ..**DP(S)**   <[V DP(O)]>]
         expl   *smuggling*
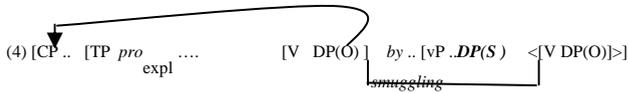
We assume that a version of the crucial movement of the verbal chunk containing the verb and the object is involved also in the non copular "si fa"/causative passive and in the reduced passives produced by children and adults. For reasons of space, we leave open here the discussion of a further potentially interesting developmental question that may arise from our results, namely the fact that "si fa"/causative passive appears to be the first kind of passive produced by children, but it is never adopted by the Italian adults of our control group.

4.1.2 Post-verbal subjects in ORs

Although not frequently, some ORs are indeed produced by the children of different ages. The question as to what the position occupied by the lexical subject is in these structures interestingly arises. As pointed out in 3.3, at age 5 children start using significantly more post-verbal subjects then preverbal ones: it is tempting to relate this peculiar developmental data to the concomitant appearance of passive at the very same age. We tentatively submit the proposal that children at this age may use the *smuggling* operation in a somewhat possibly extended way also in active structures with a post-verbal subject. Note that when the subject remains post-verbal it acts as an intervener in the relativization of the object much as a preverbal subject does (independently of the precise position occupied by the post-verbal subject, located in the immediate periphery of vP in (5) for concreteness). Hence, *smuggling* eliminates the offending intervention situation much as it does in passive, modulo absence in this case of the passive voice (abbreviated with preposition *by* in structure (4)). Preference for the post-verbal location of the subject at this age would thus be reduced to the same computational explanation proposed to account for use of passive, as summarized in the schematic derivation in (5) below, to be compared with the passive object relative derivation in (4). In both cases intervention is successfully avoided in the same way.

(5) [CP .. [TP *pro* ....   [V DP(O)]   *S* ..[<**DP(S)**>   <[V DP(O)]>]
         expl   vP
                                 smuggling
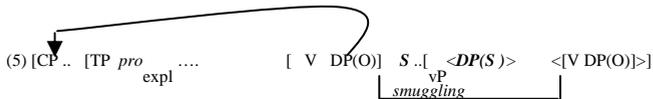
4.2 Adults and children

The Italian adults of our control group overwhelmingly produce passive object relatives, confirming the results from 31 Italian adults of the previous pilot experiment. This appears to be a robust result. We can interpret it through the same reasoning above. Since the passive computation is developmentally well in place for adults and is productively available to them, adults show a clear preference for it as it allows avoidance of the disturbing intervention effect. The fact that adults adopt passive more than children up to age 6:5 – the older children in our group - , is simply due to the fact that passive just start being acquired by children of that age. Correspondingly, this may be the ultimate reason why some ORs are produced by children in contrast to adults. We expect more passive object relatives to be produced by older children, approaching the adults' results: indeed the results of the previous pilot experiment suggest that this is the case; further forthcoming preliminary results of our experiments run with children older than 6;5, currently under way, also strongly confirm the same conclusion (Contemori & Belletti in prep.).

As adults do not normally have problems in comprehending ORs in standard Italian, putting aside possible slower parsing in comparison to the parsing of SRs (see references in 1; De Vincenzi et al.(1999)), we suggest that the apparent difference between comprehension and production that our production data seem to reveal may stem from the fact that, while speakers do not have any choice as to the structures to be parsed in comprehension tasks, the situation is different in production tasks. As the derivation that avoids intervention is favored, it may be favorably chosen under the experimental conditions in production. And, indeed, it is generally chosen. This is so independently of the computational capacity that adults would have for the production of ORs, with intervention of the preverbal subject occurring in a way which is formally allowed by the internal grammar of adult Italian speakers (Friedmann, Belletti, Rizzi (2009), Starke (2001) for discussion of the way adult grammars are able to cope with kinds of intervention situations). As for the parsing and comprehension of passive object relatives by adults and older children after age 5-6, we expect no difficulty. Preliminary forthcoming results of a comprehension experiment current under way appear to confirm this expectation (Contemori & Belletti in prep.).

As adults produce so few ORs, the question whether the subject is preferably placed pre- or post- verbally cannot be determined in any reliable way. Our data so far just indicate a pervasive preference for passive (copular or reduced) in adults. Whether this result is in part an artifact of the experimental task or else it reveals some deeper property of the constraints on the *smuggling* operation – e.g. limited to passive in adults, extended to active structures with a post-verbal subject in children – is left here as a question open to further research.

4.3 Agreement attraction

The number changes that children produce in the mismatch conditions of both experimental tasks in a not negligible amount of cases may be due to various factors: e.g. a general difficulty with the processing of plurality; the well known difficulty with intervention which would lead to misinterpretation and to the production of a SR instead of an OR, with reversal of roles. While there is no firm way to exclude the relevance of these considerations, we would like to indicate a possible interpretation of these results which, we believe, at least in part identifies the source of this mistake. We suggest to interpret (at least in part) these errors in number agreement changes as the manifestation of agreement attraction from the relative head. Two properties of the change indicate that attraction may indeed be at work in these cases: i. the fact that, as noted in 3.2 and Table 3, the agreement change takes place in

both directions (sing>pl, pl>sing) to a comparable extent, and it is not at random, but always corresponds to the number feature of the relative head; ii. the fact that never is the change produced when the subject of the relative clause is located pre-verbally. Furthermore, sometimes children also change the number of the subject of the relative clause itself into the same number (sing or pl) of the relative head, giving rise to what looks as a kind of cascade attraction. Property ii. is, in our view, quite revealing. But why should agreement attraction take place? Once again, intervention may be the ultimate determining factor. We sketch out our proposal by distinguishing two possible cases, depending on the position that the overt lexical subject can occupy in the relative clause: i. the post-verbal position ii. the preverbal position. Assume with Guasti & Rizzi (2002), that local agreement performed under the Spec-head relation is stronger (e.g. it is always overt across languages) than long distance agreement performed under the Agree relation (Chomsky (2000)). Consider case i. first: the lexical subject being post-verbal, verbal agreement should be established under the Agree relation. However, if the object moving to the CP relative position performs an intermediate step and lands in the low vP periphery of the clause, as is suggested by Guasti et al. (2009) for wh-interrogatives, Agree could not be properly established in this case as the copy of the moved object would intervene between the agreeing head (T) and the post-verbal subject. We suggest that verbal agreement is then performed directly with the relative head in CP, closely mimicking (in a slightly parasitic way) the Spec-head relation (we assume that a preverbal non overt expletive subject does not count as a disturbing intervener). Consider case ii. next: as noted, there are no cases in children's productions where number agreement change occurs and the lexical subject is preverbal. We take this to be a highly significant hole in the results, not due to hazard, but to a principled reason: Spec-head agreement in this case could only be properly established with the preverbal subject. No mimicking of the Spec-head relation with the relative head would be possible in this case, due to the intervention of the preverbal lexical subject itself. Agreement with the relative head would have no facilitating effect in this case, but it would rather constitute a harder computation[1].

Notes

[1]   In cases of agreement changes where the subject would be null, we are lead to the suggestion that non overt *pro*…would not act as an intervener and hence would not block parasitic Spec-head agreement with the relative head in CP, in some cases. It should be noted, however, that the subject is mostly post-verbal in cases for which we are suggesting an agreement attraction interpretation (for the Plural head battery: 10/12 at 3; 13/17 at 4; 11/15 at 5; 1/2 at 6); a null subject should just be postulated only in the few residual cases.

References

Adani, F., (2008) *The role of features in relative clause comprehension: a study of typical and atypical development*. PHD dissertation, University of Milano.
Belletti, A., (2009) "Notes on Passive Object relatives", to appear in: P. Svenonius, eds., *Functional structure from Top to Toe*, Oxford University Press.

Belletti, A., Rizzi, L. (2009) "Moving Verbal Chunks", to appear in Brugè L., A. Cardinaletti, G.Giusti, N.Munaro, C.Poletto, eds., *Functional Heads*, Oxford University Press.

Collins, C. (2005) "A Smuggling approach to the passive in English". *Syntax*, 8(2), 81-120.

Contemori C., Belletti, A. (in prep.) "More on the production and comprehension of Italian relative clauses", ms. University of Siena.

Chomsky, N. (2000) "Minimalist Inquiries: The framework". In R. Martin et al., eds., *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*. Cambridge, MA: MIT Press.

Chomsky, N. (1995) *The Minimalist Program*. MIT Press, Cambridge, MA.

De Vincenzi, M., Arduino, L. S., Ciccarelli, L., Job, R. (1999) "Parsing strategies in children comprehension of interrogative sentences", in S. Bagnara, eds., *Proceedings of European Conference on Cognitive Science*. Istituto di Psicologia del CNR, Rome, 301–308.

Franck, J., Lassi, G., Fraunefelder, U. H., Rizzi, L. (2005) "Agreement and movement: A syntactic analysis of attraction", *Cognition* 30, 1-44.

Friedmann, N., Belletti, A., Rizzi L. (2009) "Relativized relatives: Types of intervention in the acquisition of A-bar dependencies", *Lingua* 119 (1), 67-88.

Gordon, P.C., Hendrick, R., & Johnson, M. (2001) "Memory interference during language processing", *Journal of Experimental Psychology: Learning, Memory and Cognition,* 27*,* 1411-1423.

Grillo, N. (2008) *Generalized Minimality*. Utrecht Institute of Linguistics, OTS.

Guasti, M. T., Branchini C., Arosio, F. (2009) "Interference in the production of Italian subject and object wh-questions", in V. Moscati and E. Servidio, eds., *Proceedings of XXXV IGG*, 6-27. Available at http://www.ciscl.unisi.it/doc/doc_pub/igg-proceedings2009.pdf.

Guasti, M. T., Cardinaletti, A. (2003) "Relative clause formation in Romance child's production", *Probus*, 15, 47-88.

Guasti, M. T., Rizzi, L. (2002) "Agreement and tense as distinctive syntactic positions. Evidence from acquisition", in G. Cinque, eds., *Functional structure in DP and IP: The Cartography of Syntactic Structures*.

Manetti, C. (2008) *I passivi e gli inaccusativi nell'acquisizione dell'Italiano*, MA dissertation in Linguistics, University of Siena.

Novogrodsky, R., Friedmann, N. (2006) "The production of relative clauses in SLI: A window to the nature of the impairment", *Advances in Speech-Language pathology* 8(4), 364-375.

Rizzi, L. (1990) *Relativized Minimality*. The MIT Press, Cambridge, MA.

Starke, M. (2001) *Move Dissolves into Merge: A Theory of Locality*. Doctoral dissertation, University of Geneva.

Traxler M. J.*,* Morris R. K.*,* Seely R. E*.* (2002) "Processing subject and object relative clauses: Evidence from eye movements", *Journal of Memory & Language,* 47*,* 69-90*.*

Utzeri, I. (2007) "The production and acquisition of subject and object relative clauses in Italian", *Nanzan Linguistics Special Issue*, vol. 3, 283-314.

Warren, T., Gibson, E. (2005) "Effects of NP-type on reading English clefts", *Language and Cognitive Processes*, 20 (6), 751-767.