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***ON THE ACQUISITION OF FOCUS:
ELICITED PRODUCTION OF CLEFT SENTENCES
AND WH-QUESTIONS BY SCHOOL-AGED,
ITALIAN-SPEAKING CHILDREN***

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Dedico questa tesi ai miei nonni,

Alba, Ilva, Dino e Pietro

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General introduction and overview

The contents of this work are part of the outcomes of a wider research project initiated in 2011 together with Doctor Margherita Pivi and bearing the title “Elaborazione di nuovi strumenti testistici per la valutazione delle disabilità linguistiche in Veneto”.¹ The project was set up in order to develop a set of tasks for the collection of new oral language data in typically-developing Italian-speaking children. The tasks were conceived as a starting point toward the realization of a battery of elicited production tasks that could be useful in the clinical assessment of language in atypically-developing populations. Preliminary results obtained from the pilot testing of typically-developing and dyslexic children in their school age have been presented and discussed at the following conferences and workshops: “Experimental Methods in Language Acquisition Research IX” (EMLAR 2013), “Generative Approaches to Language Acquisition” (GALA 2013), “XXVIII Congreso Internacional de la Asociación de Jóvenes Lingüistas”, “XIV Congreso Internazionale AitLA. Grammatica applicata: apprendimento, insegnamento, patologie”, “International Conference on Language Acquisition for Young Researchers” (ICLAYR 2014), “Romance Turn VI, International Conference on the Acquisition of Romance Languages”, “XLVIII Congreso Internazionale Società di Linguistica Italiana”, “39 Boston University Conference on Language Development” (BUCLD 2014), and “Giornate CLASTA (Communication and Language Acquisition Studies in Typical and Atypical Populations) VI”. Part of the study was carried out during a research period spent at the Department of Linguistics in Geneva; there, under the supervision of prof. Giuliano Bocci and with his constant help, I analysed prosodically a corpus of *wh*-questions collected during the administration of the battery of elicited production tasks.

The originality of the work is manifold: first of all, the targeted population is represented by school-aged children up to 10 years-old. This choice allows us to study children’s mastery of a larger set of structures and to detect developmental traits that may be in place before adult-like proficiency is reached. This may be particularly relevant when the evaluation of language in atypical circumstances is taken into consideration: in the clinical field, the tests traditionally employed to evaluate knowledge of grammar in Italian-speaking children are standardized up to 4 or 6 years-old, with few exceptions represented by the *Test*

¹ Project funded by Fondo Sociale Europeo (FSE) for the Veneto region.

di Comprensione Grammaticale per Bambini (TCGB; Chilosi & Cipriani 1995), normalized up to 8 years of age, the Italian version of the *Test for Reception of Grammar* (TROG-2; Bishop 2003), suitable from the age of 4 and employed up to adulthood, and the more recent *Batteria per la Valutazione del Linguaggio 4-12* (BVL_4-12; Marini et al. 2015), standardized up to 12 y.o. These tools have the purpose of assessing children's *comprehension* of various aspects of grammar, such as verbal and adjectival agreement, "dative" structures, "locative" structures, active and passive sentences, either affirmative or containing a negation, clitic pronouns, relative clauses. However, despite the usefulness that such tools may have in identifying children that do not reach the levels of linguistic accuracy expected for their age, they present some relevant shortcomings, above all the fact that they do not address precisely those syntactic phenomena on which the latest acquisition studies have been focusing, such as A' movement in finely different contexts and types of structures, and long-distance dependencies. Moreover, they contain very few items testing one single aspect of grammar. As a result, the diagnostic tests used in clinical assessment are only able to provide a very rough picture of the (morpho)syntactic abilities of the tested children and do not make fine-grained distinctions which could be very useful for treatment.

The second original aspect of our pilot study consists precisely in the choice of the typologies of structures selected for data collection and in the number of items arranged per each sentence type: 12 subject and 12 object relative clauses, 12 subject and 12 object contrastive cleft sentences, 12 passive sentences, 6 subject and 6 object-extracted *wh*-questions were included in the set of tasks. Cleft sentences and contrastive-corrective focus represent an element of novelty in acquisition research on the Italian language. As for relative clauses, about which we already dispose of child data, small methodological changes were made in the task usually administered to children (the so-called "Preference Task", Friedmann & Szterman (2006) and Novogrodsky & Friedmann (2006)), with the purpose of rendering the discourse context more felicitous from a discourse-pragmatic point of view (see Pivi 2014 for a discussion). Passive sentences were targeted in their short form, without *by*-phrase, by hiding the agent of the events depicted in the drawings administered to children. Such arrangement was aimed at avoiding the use of active sentences with clitic pronoun referring to the patient instead of passive ones, typically predominant in children from the age of 5 y.o. As for interrogative sentences, *who*-questions were targeted, which were potentially ambiguous between a subject and an object interpretation; the main interest here concerned the investigation of the possible role of prosody in distinguishing between the two readings, and

the mastery of the relevant prosodic properties by children with respect to adults. This is of particular interest, since the study of the syntax-prosody interface in relation to language acquisition is still at its beginning, especially as far as Romance languages are concerned.

Third, regarding the types of sentences taken into account in our work, it has to be noted that the very same children were induced to produce all of them: the collection of varied data can lead to interesting considerations, allowing one to compare the production of various structures within participants, with particular attention devoted to the relations and the dissimilarities that characterize such constructions. Emblematic is the case of contrastive cleft sentences as compared to relative clauses, on the one hand, and to *wh*-questions, on the other (all of which have in common the involvement of A' dependencies); cleft sentences have traditionally been studied in connection to relativization, and share specific properties with interrogatives, above all the presence of a (fronted) focus, albeit different in its interpretive properties; for these reasons, cleft structures lend themselves to be analyzed comparatively with other syntactic constructions.

Fourth, we decided to focus on the oral *production* modality, by devising an elicited production and an elicited imitation task. This choice is primarily due to the ultimate intent of filling the gap existing in the realm of standardized tests that assess mastery of specific syntactic structures in clinical assessment. Specifically, no standardized diagnostic tools exist nowadays which assess in detail the production of distinct syntactic phenomena. Indeed, the vast majority of the available tests is based on the comprehension modality. Typically, as in the tests mentioned above, syntactic comprehension is measured through the use of a multiple-choice technique, whereby the child is asked to point to one picture out of four, the one that corresponds to the event described in the sentence uttered by the clinician. Such methodology is not without flaws: specifically, it is not based on an adequate discourse-pragmatic experimental context that justifies the requests of the examiner; as a consequence, the nature of certain linguistic aspects may be distorted; this is true, for example, in assessment of the comprehension of clitic pronouns, which appear in out-of-the-blue sentences without their referent having been introduced in the previous discourse (see Del Puppo 2010 for a discussion), or in the evaluation of object relative clauses, which are read aloud with an appositive-like intonation albeit associated with a restrictive interpretation, as it is clear from the pictures shown to the speaker (TROG-2, items S1 and T1, among others). These kinds of flaws are particularly misleading, as they may compromise a correct evaluation of subtle (morpho)syntactic aspects of language, which should be isolated from the

extra-linguistic capacities that may be needed in order to overcome such weaknesses. Going back to production, the only normalized tools available in the clinical field as means for evaluating elicited morphosyntactic and syntactic production are Vender and colleagues' (1981) repetition task, the *Test di ripetizione di frasi* (Devescovi & Caselli 2001; 2007), the repetition tasks and the narration task included in the battery of tests *BVL_4-12*, and the elicited production task contained in the language section of the *Test Neuropsicologico Prescolare* (TNP; Cossu & Paris 2007). With the exception of the *BVL_4-12*, all these tests are standardized only up to 4 or 6 years of age. Furthermore, the imitation tasks weigh the level of complexity of the experimental stimuli upon the length of the sentences and the number of verbal arguments appearing in them, rather than, for example, on the type and properties of the syntactic movement involved, thematic assignment, or the length of the syntactic dependency between related elements. In addition, all repetition tasks but the *Test di ripetizione di frasi* are devoid of the right, adequate pragmatic conditions that would make the task as natural as possible to carry out by young children; i.e., they are set in a "null" context. Actually, the main goal of such tests is to relate the accurateness of the repetitions provided by children to their short-term memory capacities, without isolating the syntactic component of language as the main indicator of children's real linguistic competence. The recent standardization of a narration task carried out by Marini et al. (2015) aims at assessing preschool- and school-aged children's pragmatic, textual and (morpho)syntactic skills in narrative speech. Here, the assessment of the latter type of abilities is based on mean length of utterance, on the amount of wrong morpheme omissions or substitutions, and on the percentage of grammatical and complete sentences produced during narration. No attention is paid to the typologies of sentences produced (this has been done in two studies on children's narrative competence: see D'Amico et al. 2008 and Padovani & Mestucci 2015). The elicited production task by Cossu & Paris 2007, which is part of the wider TNP, is the only subtest that aims at evaluating child morphosyntactic production by using a pragmatically felicitous technique, whereby the child is asked to describe the events acted out by some toys and puppets, after the examiner has introduced the characters and the situation in which the event is going to take place, this way limiting the cognitive burden typically required to carry out decontextualized tasks (see also Cossu 2011). However, this subtest is made up of solely 6 items testing "dative structures", negative sentences and relative clauses (2 items for each type), and is normalized up to 6;6 years only. The paucity of available tools that attempt to elicit sentences from children is not justifiable in principle: oral language production is not

be underestimated with respect to oral language comprehension. Rather, such scarcity is to be imputed to the complexity required by the experimental design when a certain structure is being elicited without the participant being given any explicit hint of what he/she is supposed to say. Such complexity, addressed in detail by Crain & Thornton (1998), is primarily due to the problem of identifying a uniquely appropriate discourse and a pragmatic context that obligatorily give rise to a certain sentence pattern. Furthermore, one main feature of the elicited production paradigm is to evoke linguistic expressions that children and adults do not normally employ in spontaneous speech; thus, experimenters may need to devise situations and complex discourse conditions that participants only rarely witness. And yet, this is precisely one of the most important advantages of elicited production: thanks to the creation of a carefully controlled context, it enables the researcher to gather data on linguistic structures that participants happen to produce only rarely in every-day life. Such data are directly interpretable, that is, successful production of the target utterance in an appropriate context is telling about competence with the relevant structure, perhaps more telling than its comprehension, as extralinguistic knowledge and pragmatic hints are more likely to be exploited in comprehension than in production. According to Crain & Thornton, in order to conduct a successful elicitation experiment, it is important to involve the child in a game and to give her a real reason to communicate, in order to make the invented scenario as naturalistic as possible. This is what we did when administering our battery of tests, driving children to talk either to the experimenter or to some puppets which were present in the experimental setting. We also tried to univocally force production of certain linguistic phenomena, though with some difficulty in finding the way of inducing production of one and only one type of sentence to be associated with the scenario presented to participants. This is the case of contrastive cleft sentences, often replaced by simple left-peripheral focalization in case the correction concerned the subject constituent, and by in-situ object-focalization in case a syntactic object had to be contrasted. Elicitation of object-extracted *wh*-questions gave rise to a set of different production strategies as well, which were unlikely to be avoided. Even though we didn't manage to control for every factor of variability in participants' answers, we agree with Lust et al. (1999) who claim that language behavior is essentially variable and that due to the complex psychological reality of language behavior occurring in real time, evidence regarding knowledge of grammatical factors collected on the basis of behavior will always involve variability. Indeed, some of our participants gave varied types of responses throughout stimuli targeting the very same structure. Moreover, it is thanks to the usage of

elicited production combined with the natural “flexibility” of language that certain tendencies in development have become particularly visible in the literature: this is the case, for example, of the well-known adult preference for passive relative clauses used instead of the correspondent gap object relatives in experiments eliciting restrictive relative clauses. This preference becomes robust in development from the age of 8 y.o., while some younger children do favour the targeted object relatives (Guasti & Cardinaletti 2003; Utzeri 2006; Belletti & Contemori 2010; Volpato 2010). Such change in development would not be known unless, on the one hand, experimenters had attempted to elicit relatives in highly-structured elicitation experiments, and, on the other hand, unless language disposed of alternative ways to convey the same meaning, alternatives among which the choice is interesting in itself.

We saw that most standardized production tests are repetition tasks; imitation has various advantages: above all, it is brief, simple, and practical to administer. Furthermore, it overcomes the main obstacle posed by elicited production, namely the need to make up the right experimental conditions that induce (semi-)spontaneous production of the targeted linguistic material. It is grounded on the assumption that it is useful for evaluating one’s level of linguistic competence because it involves a process of decoding, interpretation, and subsequent reproduction of the stimulus sentence. The imitation technique resembles elicited production in that it can show whether the linguistic behavior of children and adults differs: when children are not able to repeat/comprehend the stimuli presented to them, they change the input sentences in some way. Such changes are particularly interesting to analyze, as they may tell us something about children’s language proficiency. Since different types of failure to repeat a sentence accurately may reveal something different, particular attention has to be paid in the coding process; for instance, one thing is to repeat a sentence in a form that differs from the original but has the same content, whereas another thing is to repeat a target sentence in a way that indicates that the participant has not understood its meaning. This is what happened sometimes when our participants were requested to repeat object-extracted, OSV cleft sentences. Despite a general consensus among most researchers about the effectiveness of repetition as a tool for evaluating language competence, the technique has been widely debated in many respects (see Vinther 2002 for a review); one of these is the issue of avoiding the process called “parroting” (i.e., rote repetition, resulting from the retention of a string in memory as an acoustic image) and the necessity/type of contextual support to be provided to participants, either pictorial or conversational. We attempted to face such issues by administering an oral *delayed*-repetition task in the form of a game and by showing children

pictures that corresponded to the verbal stimuli and that were meant to facilitate lexical access. As a whole, having participants repeat the same object-extracted cleft sentences which have been targeted in the elicited production session has been fruitful, especially because such infrequent structures have been systematically avoided in the former task.

In the present work, we will report extensively the results of the elicited production tasks carried out with 6-to-10 y.o. children and a group of adults. We will concentrate on focalization structures, namely cleft sentences, simple-left peripheral focalization, and interrogative sentences, and will attempt to widen the picture concerning acquisition of focus structures, with an aside on the prosodic properties of the elicited interrogative sentences. Performance with cleft sentences will be compared to the one emerged with restrictive relative clauses, on the one hand, and with clefted interrogatives, on the other hand. Some notes on the passive structure will be included throughout the dissertation, so as to increase knowledge about its usage in different discourse contexts by children in their school-age and to draw some methodological considerations about the best ways to elicit passives in children. Furthermore, data collected during the elicited production task will be compared to the results obtained at the elicited imitation task. Finally, some methodological issues will be discussed throughout the thesis, which may be relevant for the interpretation of some data and which may become salient in a desirable follow-up study of this work.

This dissertation is made up of three parts.

Part One deals with focalization structures of the contrastive/corrective type. Chapter One introduces the general properties of cleft sentences, focusing on Italian clefts in particular. Cleft sentences are not the only option available in the Italian language to convey a correction, though: contrastive focalization in matrix sentences may fulfill the same function; this is addressed in Chapter One as well. A review of previous studies on the processing and acquisition of cleft sentences and focus structures is reported in Chapter Two, which paves the way for the description of the production tasks presented in Chapter Three. As is reported in the latter, in order to elicit contrastive cleft sentences, we made up and administered two types of elicitation tasks, one that aimed at priming subject and object cleft sentences, and one that did not. Results of the two tasks and the relevant discussion close this third chapter. Chapter Four first discusses some connections between cleft sentences and restrictive relative clauses. Then, children's performance with relative clauses is described, so as to compare production of subject and object cleft sentences and relative clauses in the same participants.

This comparative analysis extends to a subsection on the use of passives in the two elicited production tasks and to the repetition task.

Part Two is devoted to interrogative sentences: Chapter Five begins with a description of the syntactic and prosodic properties of *wh*-questions in Italian that will be relevant to our aims. Thereafter, previous experimental work on the acquisition and processing of interrogatives is reported, with special attention paid to research on Italian. Then, in Chapter Six we describe the elicited production task carried out by our participants and report the main findings; we also briefly discuss the use of passives and clefts in *wh*-questions. One of the main concerns of this section is to establish whether previous analyses put forth to explain younger children's difficulties with *Wh* V DP object questions clarify our results as well. As compared to previous research, we tested older children's production of potentially ambiguous questions. To our knowledge, acquisition research in Romance has never dealt with such aspects of grammar. We present the main results of a prosodic analysis run on the very same interrogative sentences that we collected during the experimental sessions.

Part Three contains an overall summary of the results obtained and a general, conclusive discussion.

Part One

Introduction

Cleft structures have been at the center of linguists' attention for decades, and yet, general consensus about their properties is far from being reached. In Chapter One, we will limit ourselves to an essential description of the most important approaches that have been proposed in the literature to account for the syntactic derivation of cleft sentences. Moreover, the interpretive properties of clefts are addressed. In doing this, we focus in particular on the Italian language. A recent syntactic analysis of clefts, proposed in cartographic terms, is taken into consideration; this will be implemented afterwards, when dealing with child production of contrastive focus and relative clauses in our experiments. In Chapter Two, we will be concerned with the existing literature on the usage, processing, and acquisition of contrastive clefts. Chapter Three deals with our tasks and the related results; Chapter Four is devoted to an accurate comparison between clefts and relatives.

Chapter One

CONTRASTIVE/CORRECTIVE FOCALIZATION IN CLEFT AND NON-CLEFT SENTENCES

1. Introduction

This chapter deals with the syntactic and interpretive properties of cleft sentences and, when useful, with the properties of contrastive focalization in non-cleft sentences. Section 1.1 reviews the main approaches that have been proposed in the literature to account for the syntactic derivation of cleft sentences. Besides, it addresses some relevant semantic/pragmatic properties of clefts. Section 1.2 focuses in particular on the Italian language and presents two recent cartographic analyses of *it*-clefts discussing the Italian facts, one by Frascarelli & Ramaglia (2009, 2013), and one by Belletti (2008, 2012, 2015). The latter analysis will be implemented afterwards, when dealing with child production of contrastive focus and relative clauses in our experiments. Section 1.3 is devoted to contrastive focus in matrix sentences. Finally, section 1.4 contains some considerations about various types of cleft sentences.

1.1. Cleft sentences: an overview from the literature

The term *cleft* refers to a specific syntactic pattern that separates a discourse prominent constituent structurally from the rest of the sentence. Cleft structures share common features across languages. Typically, they consist of a bi-clausal copulative construction made up of three elements: a copular verb, a discourse prominent phrase, usually fronted (the *cleft phrase*, or *clefted constituent*), and an embedded clause (the *cleft clause*) presenting a gap semantically corresponding to the clefted constituent. A pronominal element (the *cleft pronoun*) may be present, depending on the pro-drop properties of the language. The clefted constituent typically expresses a focus. Moreover, cleft structures are presuppositional in nature; the presupposed part is normally coded in the cleft clause. As a whole, clefting serves the function of reorganizing the information structure of the sentence in order to highlight the element bearing focal stress and to separate it explicitly from the presupposed part. A prototypical example of *it*-cleft sentence in English is given in (1); the correspondent Italian example is given in (2). In both cases, we are dealing with an “object cleft sentence”, where the clefted constituent is interpreted as the object of the embedded verb.

(1) It is THE CHILDREN that the grandpas are caressing².

(2) Sono I BAMBINI che i nonni stanno accarezzando.

Despite the common properties shared by clefts that allow one to set them apart as a uniform sentence type, typological variation is ample. The pair of sentences given in (1) and (2) exemplify some of the differences that characterize clefting crosslinguistically: first, Italian does not license the presence of an overt impersonal pronoun as subject of the main clause, as English does. Second, agreement with the copula is subject to variation: in English clefts, the copula agrees with the impersonal pronoun *it*, whereas in Italian it agrees with the cleft phrase³. They however have similar semantic properties: both sentences can be used as a correction of a preceding statement asserting that the grandfathers are caressing someone else. This is because in both Italian and English, an object cleft sentence can be an instance of contrastive/corrective focus. However, in many languages, clefting is not the only way to mark focus. The non-cleft sentence in (3) can be used as a corrective statement as well:

(3) I nonni stanno accarezzando I BAMBINI (, non le bambine).

‘The grandpas are caressing THE BOYS (, not the girls)’.

At first, one may think that sentences (2) and (3) are freely interchangeable, but, actually, the two may differ subtly with respect to their interpretational properties. In section 1.2., we address these and other aspects of clefting in Italian, which will be relevant to our purposes.

1.1.1. The syntactic analysis of clefts

The main contributions to the syntax of cleft structures vary upon the position they take concerning the following issues: the nature of the cleft pronoun and the copula, the syntactic position of the clefted constituent, the position of the embedded clause, and the relations holding between these elements. In what follows, we will follow a classification of the major types of approaches as proposed by Hartmann & Veenstra (2013).

² From now on, we will mark the constituent bearing the main prosodic prominence through the use of capital letters.

³ In colloquial Italian, however, the copula may be singular when the clefted constituent is plural (see also section 1.2.1):

i. E' I BAMBINI che dobbiamo rispettare.
is the children that must-1PLUR respect
‘It is THE CHILDREN that we must respect.’

One influential line of research, referred to as *extraposition approach* or *extraposition analysis*, considers clefts as underlyingly pseudocleft constructions to which right extraposition of the embedded cleft (relative) clause has been applied. The core idea of this approach dates back to the first analysis of clefts by Jespersen (1927) (cited in Hartmann & Veenstra 2013: 9), who assumes that the cleft clause is a restrictive relative clause forming a discontinuous definite description with the cleft pronoun to which it is associated, and that the cleft clause surfaces in sentence-final position because it has been extraposed. Theories elaborating this view (Akmajian 1970; Emonds 1976; Gundel 1977; Percus 1997, a.o.), mostly stressing semantic aspects, maintain that the copula has the function of equating the semantic unit formed by the cleft clause and the clefted pronoun, the subject, with the clefted constituent, the predicate; therefore, clefts are ultimately considered a subtype of inverted-copula, specificational sentences. Under the extraposition analysis, the cleft pronoun functions as a determiner. This is argued by Percus (1997), who suggests that the underlying structure of the cleft in (4) is a copular sentence like the one in (5), where the subject is represented by a DP formed by a definite determiner and a relative clause with a null antecedent; this structure clearly recalls the pseudocleft given in (6):

(4) It is JOHN that Mary saw.

(5) [IP[DP_j The [NP Ø [CP_k OP_i that Mary saw t_i]]] [VP t_j is John]]

(6) The one that Mary saw is John.

In order to obtain the superficial string in (4), two operations are applied to (5): the extraposition of the relative clause to the end of the sentence, as shown in (7), and the morphological spell-out as *it* of the DP containing the determiner and the CP trace, [DP D [NP Ø] t_{CP}], as shown in (8).

(7) [IP [IP[DP_j The [NP Ø] t_k] [VP t_j is John]] [CP_kOP_i that Mary saw t_i]]

(8) [IP [IP[DP_j It [NP Ø] t_k] [VP t_j is John]] [CP_kOP_i that Mary saw t_i]]

There are several arguments in favor of the extraposition approach: first, it captures the semantic equivalence between clefts and pseudoclefts, by suggesting a unifying derivation. The same property would explain how anaphor binding and semantic binding apply to clefts under the extraposition analysis. Echoing arguments proposed by Akmajian (1970), Percus (1997: 343) reports the example in (9):

(9) It was HERSELF_i that Mary_i saw first.

(9) shows that anaphors in the clefted constituent may be bound by an R-expression in the cleft clause, which indicates that binding does not apply at surface structure, but can be derived from an underlying structure where the cleft clause precedes the cleft phrase⁴.

Furthermore, the extraposition approach would be able to explain the ungrammaticality of (10b) vs. (10a). The pair of sentences shows that negation on the copula can license a negative polarity item in the cleft phrase, but not in the cleft clause:

- (10) a. It isn't ANYONE I KNOW that John saw.
b. *It wasn't JOHN who did anything to help. (Percus 1997: 344)

The ungrammaticality of (10b) is predicted if one assumes that the negative polarity item placed inside the relative clause is underlyingly higher than the copula⁵.

Hartmann & Veenstra (2013: 10) provide another argument to support an extraposition account of clefts: in German, cleft clauses are always extraposed, as they must follow the verb in final position (11a), where other extraposed constituents generally appear:

- (11) a. Es ist UNSER NACHBAR gewesen, der geklingelt hatte.
it is our neighbor been who rung.the.bell had
'It is our neighbor who rang the bell.'
b. *Es ist unser Nachbar, der geklingelt hatte, gewesen.
it is our neighbor who rung.the.bell had been

⁴ However, Percus has to assume that binding takes place in the absence of c-command, as the binder is embedded in the relative clause. In fact, failing to capture adequately relevant reconstruction effects in clefts is one of the problems which supporters of the extraposition analysis have run into.

⁵ With reference to Italian, though, we point out that the negation does not license a negative polarity item contained in an embedded clause as a general rule (i), with some exceptions concerning specific types of predicates (iii) (see Rizzi 1982: 121-127):

i. Gianni non può fare niente.

'Gianni cannot do anything'

ii. *Pietro non sa che Gianni può fare niente.

Pietro not knows that Gianni can do nothing

iii. Pietro non crede che Gianni possa fare niente.

Pietro not knows that Gianni can do nothing

'Pietro does not believe that Gianni can do anything'

Specifically, (iii) is interpreted as "there is nothing such that Pietro thinks that Gianni can do it"; a similar interpretation of (ii) is impossible.

Moreover, the extraposition analysis is able to account for the agreement facts in those languages in which the copula systematically agrees with the clefted pronoun, such as English, since the complex DP [_{DP} D [_{NP} Ø] CP], spelled out as *it*, is the subject of the cleft sentence. On the contrary, data from languages where the copula agrees with the cleft phrase are obviously problematic (among others, Italian, Spanish and German).

To conclude this brief insight into the extraposition account, we observe that it derives the alleged relative nature of the subordinate clause structurally, and that it does not require a dedicated focus projection (FocP) for the clefted constituent, because focus is assigned to the latter via the copula.

A competing group of proposals considers clefts similar to predicative constructions and rejects the assumption that *it*-clefts are derived from pseudoclefts. These proposals differ in turn with respect to the status they attribute to the copula and the cleft pronoun.

According to some (Grewendorf & Poletto 1991; Hedberg 2000; Lambrecht 2001; Reeve 2011, a.o.), the copula is a non-expletive verb taking the cleft pronoun and the clefted constituent as its arguments. Specifically, the cleft pronoun, which is not seen as an expletive, functions as the subject of the copula (whence the name “it-as-subject” theories) and the clefted constituent, containing the attributive cleft clause, as the predicate. Hartmann & Veenstra discuss the fact that this type of analysis is corroborated by agreement facts: in languages with the relevant morphology, a nominal cleft phrase, just like a nominal predicate, agrees in case with the cleft pronoun, namely the subject, regardless of its function and case in the subordinate clause. Evidence for this is found in German (Hartmann & Veenstra 2013: 14), where the cleft phrase clearly bears nominative case, even in object clefts (12a) and in prepositional clefts (12c), signaling that it agrees with the cleft pronoun; see the following contrasts between cleft and non-cleft sentences:

- (12) a. Es war DER WEIN, den ich nicht vertragen habe.
 it was the_{NOM} wine that_{ACC} I not tolerated have
 ‘It was the wine that I didn’t tolerate.’
- b. Den Wein habe ich nicht vertragen.
 the_{ACC} wine have I not tolerated
 ‘I didn’t tolerate the wine.’

- c. Es ist ER, an den ich denke.
 it is he_{NOM} about whom_{ACC} I think
 ‘It is about him that I think.’
- d. Ich denke AN IHN.
 I think about him_{ACC}
 ‘I think about him.’
- e. * Es ist AN IHN, den ich denke.
 it is about him_{ACC} whom_{ACC} I think
 ‘It is about him that I think.’

(adapted from Hartmann & Veenstra: 14-15)

The predicative analysis of clefts would be further supported by the observation that in general the cleft phrase is pragmatically interpreted as the focus of the sentence, exactly like predicates usually are.

As for the reconstruction effects that concern (9) and (10), proponents of this analysis have not been consistent in their accounts, assuming, for the facts in (9), either extraposition of the cleft clause to a position adjoined to the cleft phrase (Hedberg 2010), or a chain of co-indexed elements, namely co-indexation between the operator chain of the cleft clause and the cleft phrase (Grewendorf & Poletto 1991). Instead, researchers following this school of thought have not managed to account for the contrast in (10), given that under their approach, the cleft phrase and the cleft clause are both structurally placed below the copular verb.

According to some other supporters of the predicative analysis, who propose an *expletive analysis* of clefts, the cleft pronoun, the copula and the relative pronoun are dummy expletive elements (Williams 1980; Delahunty 1982; Heggie 1988; Svenonius 1998). The cleft phrase and the cleft clause do not form a constituent but function as the subject and the predicate of the copular verb, respectively. More specifically, the clefted constituent is (only) interpretively co-indexed with the A' chain within the cleft clause. Expletive analyses do not predict the above mentioned reconstruction effects, as they do not expect syntactic movement of the cleft phrase to take place out of the cleft clause.

Movement is instead crucial for “focus-based” analyses of clefts, a first example of which can be traced back to Jespersen (1937). Such analyses relate the focus status of the clefted constituent to movement of the latter to the left of the sentence and strengthen the relation

holding between the cleft clause and the cleft phrase. Clefting and focus movement split the clause into two parts, namely a focus, represented by the cleft phrase, and a presupposition, expressed by the cleft clause. Generally, focus-based theories are like expletive analyses in that they see the cleft pronoun as an expletive element, and like “it-as-subject” accounts in that they do not analyze the cleft clause as having the internal structure of a restrictive relative clause, although superficially resembling it. Indeed, supporters of focus-based analyses underline the differences between the antecedent of cleft clauses (i.e., the clefted constituent) and the antecedent of restrictive relative clauses (see Chapter Four). Rather, the subordinated status of the cleft clause is derived by selection of the copula, of which the cleft clause becomes the complement, while the cleft phrase is selected by some type of functional head, typically the head of a focus phrase. Chomsky (1977) puts forth a generative analysis of clefts in this spirit, by making the cleft phrase land in SpecCP via *wh*-movement, although not motivating the presence of the complementizer and the functions of the cleft pronoun and the copula, considered semantically empty. Another proponent of a sound focus-based theory is Kiss (1998). Under her analysis, the cleft phrase occupies the specifier position of the functional projection Focus Phrase and movement of the clefted constituent to it occurs out of the cleft clause complement. The copula is viewed as the FocP’s abstract expletive head and is responsible for assigning identificational (i.e., exhaustive and contrastive) focus to the clefted constituent. The assumption that the cleft phrase surfaces in a preposed position as a consequence of movement out of the cleft clause to a high functional projection allows one to easily account for the previously observed reconstruction effects in anaphor binding:

- (13) a. It was HERSELF_i that Mary_i saw first.
 b. It was A PICTURE OF HERSELF_i that Mary_i gave to John.

In (13), the anaphors in the A' moved cleft phrases can be bound by the relevant NP in their lower position in the cleft clause. As for negative polarity items, though, the grammaticality contrast given in (10) remains unexplained, as the embedded cleft clause is in the scope of the copula in both cases (but see footnote 5). Finally, the derivation proposed by this family of theories is able to account for the non-compelling agreement of the clefted constituent with the copula; this follows straightforwardly when one assumes that the clefted constituent has been generated inside the cleft clause.

As should be clear at this point of this short review, cleft structures have not received any unproblematic derivation in the literature so far. Clech-Darbon, Rebuschi & Rialland (1999) highlight the various shortcomings that the traditional approaches to clefts have suffered, and put forward the idea that, at least for French, the label “cleft sentence” does not even correspond to any specific type of “construction”. In section 1.2.3. we briefly describe a very recent approach to Italian cleft sentences.

1.1.2. The interpretive properties of clefts: focus and presupposition

From a discourse-pragmatic point of view, cleft sentences divide a proposition into two parts: the clefted constituent typically encodes a focus, the cleft clause a presupposition. Let’s start out with the latter. It is generally assumed that cleft sentences express logical presuppositions: more specifically, they contain a presupposition of existence, as shown by the following example, whose presupposed information is provided in (14b) (Gazdar 1979:123):

- (14) a. It was Oedipus who killed his father.
b. Someone killed his father.

(14a) presupposes the existence of an individual for which the predicate denoted by the cleft clause holds. Evidence for the existential presupposition expressed by clefts (and pseudoclefts) is brought about by Dryer (1996) in a series of examples:

- (15) a. A. Who saw John?
B. #⁶ It was NOBODY that saw John.
b. A. Who if anyone saw John?
B. # It was MARY that saw John.
c. A. Did anyone see John?
B. # It was MARY that saw John.

In (15a), speaker B is uttering a cleft sentence which is in contrast with the presupposition, believed by speaker A, that someone saw John. Such presupposition is conveyed also by the cleft itself, but clashes with the presence of a negative quantifier in the cleft phrase. In (b) and (c), B shows to believe the presupposition that someone saw John, but this presupposed

⁶ The hashtag indicates that the sentence is infelicitous in the relevant discourse context.

information is not shared by speaker A. Noticeably, the corresponding non-clefted alternatives are appropriate in the same contexts, indicating that a presuppositional effect is not a wired-in property of these structures, as it is for clefts:

- (16) a. A. Who saw John?
B. NOBODY saw John.
b. A. Who if anyone saw John?
B. MARY saw John.
c. A. Did anyone see John?
B. MARY saw John.

A good diagnostic for identifying existence presuppositions is to determine whether they survive under denial, questioning and embedding as the antecedent of a conditional; indeed, the existentially quantified proposition given in (17a) remains constant from (17b) to (17e):

- (17) a. Mary saw someone. (adapted from Hedberg 2013: 230)
b. It was John that Mary saw.
c. It wasn't John that Mary saw.
d. Was it John that Mary saw?
e. If it was John that Mary saw, then Jim is off the hook.

According to Hartmann & Veenstra, the presupposition of existence conveyed by clefts is so intrinsic and mandatory that it should be structurally encoded.

We now turn to the cleft phrase. Traditionally, it has been claimed to signal exhaustive interpretation, differently from in-situ focus (Kiss 1998, Krifka 2007 a.o.). That is, it denotes the only entity (or subset of entities), among the relevant, possible alternatives, that leads to a true proposition. In Kiss' (1998) words, it identifies the exhaustive subset of the set of contextually given elements for which the predicate holds, excluding the complementary subset for which it does not:

- (18) It's JOHN and BILL that stole a cookie.

In this respect, (18) says that nobody else stole a cookie but John and Bill. The exhaustivity effect is highlighted by the incompatibility of a cleft-focus with additive focus particles that are inherently incompatible with an exhaustive focus, as shown in (19a) and (19b):

- (19) a. ?? It was also John that Mary saw.
b. * It was even John that Mary saw.

That *it*-clefts typically have an exhaustivity requirement seems to hold for English and, for example, for German (see Heizmann 2007: 41-52), but is not undisputed for other languages.

In her influential work, Kiss (1998) sees *it*-clefts as the realization of what she calls an “identificational” type of focus in English. The author assumes that identificational focus has two distinct semantic and pragmatic components: not only does it express exhaustive identification; it can also indicate contrast. She considers an identificational focused element to be contrastive “if it operates on a closed set of entities whose members are known to participants of the discourse (...). In this case, the identification of a subset of the given set also identifies the contrasting complementary set” (Kiss 1998: 267). Then, as opposed to new information focus, which operates on an open set of possibilities and merely supplies new, non-presupposed information, contrastive focus imposes requirements on the size of the alternative set; furthermore, it requires that at least one element of the set of alternatives be identifiable.

It has been widely suggested that one function of clefting is precisely to highlight instances of contrastive focus, as Kiss proposed for English. She states that in many languages, focus in a high position in the sentence is a contrastive type of focus. In Hungarian, for example, identificational focus implies a left-peripheral focus structure. As for Italian, Kiss claims that it displays preverbal (both exhaustive and) contrastive identificational focus, in addition to *in situ* information focus.

Although it seems to be the case that Italian clefts are typically contrastive, we believe it is not the case that cleft structures always involve contrastive focalization; moreover, whether they convey an exhaustive meaning is not uncontroversial. Indeed, Italian cleft structures have not received much attention in the literature so far. In what follows, we report what has been said in the available studies and finally concentrate on the properties of Italian cleft sentences, also mentioning, when worthwhile, their non-cleft counterparts. First, we provide a descriptive section on how contrastive cleft sentences surface in Italian; then, we

briefly go through their interpretive properties; finally, we present a syntactic approach to cleft structures recently devised in the generative cartographic framework, which we will adopt throughout the dissertation.

1.2. The properties of Italian cleft sentences

1.2.1. A general description

Descriptively, Italian clefts surface as bi-clausal sentences. The position preceding the copula is empty: because of its pro-drop status, Italian does not possess cleft pronouns; furthermore, the clefted constituent is licensed in post-copular position⁷. The copula agrees with the cleft phrase in number, person (20 a-c) and, when a past participle is present, in gender, (20d); this is quite systematic when a clefted constituent bears the role of subject of the subordinate verb. The copula normally agrees with a DP cleft phrase also when this bears a different syntactic role, even though substandard Italian may allow a mismatch in number features in this particular case, (21):

- (20) a. E' IL NONNO che accarezza i bambini.
 'It is THE GRANDPA that caresses the children'
- b. Sono I GATTI che cacciano i topi.
 'It is THE CATS that hunt the mice'
- c. Sei TU che ti devi scusare.
 'It is YOU that must apologize'
- d. E' stata LUCIA a scegliere il regalo.
 'It was LUCIA that picked the present'
- (21) a. Sono QUEI GATTINI che voglio accarezzare.
 are those cats that I want to caress
- b. E' QUEI GATTINI che voglio accarezzare.
 is those cats that I want to caress

⁷ In standard Italian, a clefted constituent licensed in pre-copular position yields a very marked effect:
 i. IL NONNO è che accarezza i bambini.
 the grandpa is that caresses the children'
 'It is THE GRANDPA that caresses the children'

‘It is THOSE LITTLE CATS that I want to caress’

In general, any kind of nominal phrase, headed by common nouns, proper nouns, and pronouns, can be clefted. Furthermore, several types of syntactic categories may occur in postcopular position, namely prepositional phrases, adverbial phrases, verbal and complementizer phrases, and adjectival phrases, see (22) to (26)⁸:

- (22) E’ CON GIULIA che vorrei parlare.
‘It is TO GIULIA that I would like to talk’
- (23) E’ LENTAMENTE che vanno sollevate, queste scatole.
‘It is SLOWLY that have to be lifted up, these boxes’
- (24) E’ STARE TROPPO AL SOLE che non va bene.
‘It is laying in the sun too much that is unhealthy’
- (25) E’ PERCHE’ MI MANCAVA IL MARE che ho deciso di tornare.
‘It is because I missed the seaside that I decided to come back’
- (26) E’ GRANDE che la vorrei, io, la casa.
‘It is BIG that I would like my house’.

Notice that simple left-peripheral focalization behaves very similarly to focalization in clefts. Indeed, it is possible to easily replace every sentence from (20) to (26) with a non-cleft, fronted-focus structure, with the exception of (20d), (**LUCIA a scegliere il regalo*. ‘Lucia to pick the present’). As for the possibility of having a clefted quantifier phrase, judgments are not clear-cut (see next section).

As regards the cleft clause, Italian licenses not only explicit subordinate clauses like the ones presented so far, but also implicit, infinitival clauses; one instantiation of the latter is given in (27):

- (27) E’ stata MARIA a rompere il vaso.
it was MARIA to break the vase
‘It was MARIA that broke the vase’

Implicit clefts are more restricted than explicit ones: most importantly, the cleft phrase in an infinitival cleft structure must be interpreted as the subject of the subordinate clause. The

⁸ See Frison (2001) for a detailed description of all typologies of elements that can(not) appear in the cleft phrase of a cleft sentence. In most cases, however, the same types of constituents that can be clefted, can also be focus-fronted in non-cleft sentences.

implicit, infinitival alternative is sometimes preferred to the finite one: often, this is due to the possibility of avoiding redundancy effects, which may manifest when the copula and the subordinate verb share the same mood and tense features (compare (28) with (27)):

- (28) ? E' stata MARIA che ha rotto il vaso.
'It was MARIA that broke the vase'

A cleft phrase can be passivized. In this case, redundancy effects seem to play a relevant role in the choice of the type of subordinate clause and, sometimes, of the auxiliary as well:

- (29) a. Sono I TOPI ad essere cacciati dai gatti.
are the mice to be hunted by the cats
- b. ?? Sono I TOPI che sono cacciati dai gatti.
are the mice that are hunted by the cats
- c. Sono I TOPI che vengono cacciati dai gatti.
are the mice that come hunted by the cats
- 'It is MICE that are hunted by cats'

Fronting of the same focused constituents in non-cleft sentences is again possible, in all the circumstances mentioned above, except for the impossibility for an infinitival verb to be the matrix verb, independently of the occurrence of left peripheral focus.

Finally, a direct object clefted constituent cannot be resumed by a clitic pronoun in Italian, (30):

- (30) A. Gli insegnanti hanno detto che promuoveranno Francesca.
'The teachers said that they are going to promote Francesca'
- B. * E' VITTORIA_i che la_i promuoveranno di sicuro.
'It is VITTORIA_i that they are going to promote her_i for sure'
- B'. E' VITTORIA che promuoveranno di sicuro.

‘It is VITTORIA that they are going to promote for sure’

This holds for fronted focus objects in general⁹, and it is a property that clearly distinguishes the latter from topicalized, left-dislocated object DPs, which obligatorily require clitic resumption instead (31), (Cinque 1990):

- (31) Vittoria, la promuoveranno di sicuro.
‘Vittoria_i, they are going to promote her_i for sure’

This property will be recalled in Chapter Four, where we compare the properties characterizing the antecedents of cleft clauses with the antecedents of restrictive relative clauses.

Up to now, we have not made constant reference to the discourse context in which the sentences proposed in this section could be adequately employed, as was done in (30). It is easy to infer, however, that in all cases, the sentences could be used in order to contrast/correct a previous claim or presupposition. This will be one of the topics of next section.

1.2.2. Semantic and Pragmatic considerations

As seen in section 1.1.2., clefts obligatorily carry an existential presupposition, so that the property denoted by the cleft clause must be true of some individual. For this reason, it is impossible to focus a bare negative quantifier in clefts; this is borne out for Italian as well¹¹:

⁹ One exception is the case of Contrastively Focused Left Dislocated Elements; see Bocci (2004).

¹¹ According to Brunetti (2004:76), it is possible to focus a negative quantifier in a cleft, provided the appropriate context is given:

- | | |
|-------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|
| i. A. Sei preoccupata per qualcosa?
‘Are you worried about something?’ | B. No, non è NIENTE che mi preoccupa. Sono solo molto stanca.
‘No, it is NOTHING that worries me. I am just very tired’ |
| ii. A. Qualcuno ti ha detto il mio segreto!
‘Somebody told you my secret!’ | B. No, non è NESSUNO che me l’ha detto. L’ho solo intuito.
‘No, it is NOBODY that told me. I have simply grasped it’ |

To our ear, though, while in the first dialogue a cleft sentence might be acceptable, the second example is not, and anyway, the correspondent non-cleft answer with fronted focus would fit much better to the very same context:

- | | |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
| A. Qualcuno ti ha detto il mio segreto!
‘Somebody told you my secret!’ | B. No, NESSUNO me l’ha detto. L’ho solo intuito.
‘No NOBODY told me. I have simply grasped it’ |
|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|

Moreover, the first example is peculiar, since its non-cleft counterpart with fronted focus does not sound natural, and the non-cleft counterpart with in-situ focus sounds bad as well:

- | | |
|---------------------------------------|-------------------------------------------------------|
| iii. A. Sei preoccupata per qualcosa? | B. ??No, NIENTE mi preoccupa. Sono solo molto stanca. |
|---------------------------------------|-------------------------------------------------------|

(32) *Non è NESSUNO che ha firmato.

‘It is NOBODY that signed’

(33) *Non è NIENTE che ho vinto.

‘It is NOTHING that I won’

By contrast, this is perfectly acceptable in focus-fronting sentences and in unmarked sentences with in-situ focus, since they do not necessarily involve an existential presupposition:

(34) NESSUNO ha firmato.

‘NOBODY signed’

(35) Non ho vinto NIENTE.

‘I won NOTHING’

As regards the exhaustivity effect displayed by clefts, its obligatoriness has been called into question in the literature. Indeed, the Italian facts are not clear. While, for example, Frascarelli and Ramaglia (2009, 2013) assume, along with Kiss (1998), that focus in cleft sentences entails an exhaustive reading (while optionally being associated with contrast), Brunetti (2004: 60-72) shows that focus never expresses exhaustive identification in Italian. For instance, the content of a sentence containing an ex-situ focus cannot be contrasted by denying the (presumed) uniqueness of the referent identified by that focus constituent (36a), indicating that the sentence does not entail exhaustive identification. Nonetheless, it seems to be safe to maintain that clefts are incompatible with particles such as *anche* (also) and *persino* (even), or at least more degraded as compared to fronted focus in non-cleft sentences ((36b and c) and English (15) above):

(36) a. A. UN CAPPELLO ha comprato, Maria.

a hat has bought Maria_{SUBJ}

‘It is A HAT that Mary bought’

iv. A. Sei preoccupata per qualcosa? ‘Are you worried about something?’

B. ??No, non mi preoccupa NIENTE. Sono solo molto stanca. ‘No, NOTHING worries me. I am just very tired’

‘Are you worried about something?’

‘No, NOTHING worries me. I am just very tired’

B. # No, ha comprato anche un cappotto.

no has bought too a coat

‘No, she bought a coat too’

b. ??E’ anche/persino UN CAPPELLO che ha comprato, Maria.

‘It is also/even A HAT that Mary bought’

c. Anche/persino UN CAPPELLO ha comprato, Maria.

‘Also/Even A HAT Mary bought’

We will not go deeper into this aspect here, because this issue will not be crucial for the remainder of this work.

According to Belletti, cleft sentences in Italian are predominantly a form of contrastive focalization. This would hold, in particular, for object and other non-subject clefts. Belletti (2008) suggests that the kind of focalization involved in contrastive clefts is the same as the one involved in focus fronting in root clauses. It has been shown that focus fronting in non-cleft sentences is commonly linked to a corrective use (Bianchi 2013, 2015; Bianchi & Bocci 2012), i.e. a specific use of contrastive focus¹². To be more precise, a structure displaying focus fronting, i.e. a constituent appearing ex-situ in left-peripheral position and bearing the most prominent pitch accent, conveys a partial correction of a proposition asserted in a previous speech-act:

(37) A. Hai fatto bene a prendere la metro.

‘You did well to take the underground’

B. IL TAXI ho preso (, non la metro).

‘I took A TAXI (, not the underground)’

In (37), what speaker B does is partially denying speaker’s A assertion, contrasting the focused element with the focus alternative previously provided by speaker A. Therefore, corrective import is seen as a contrast that operates across utterances. Notice that this is not true for merely contrastive focus:

¹² More recently, Bianchi, Bocci & Cruschina (2014) have drawn attention to another type of semantic import triggering focus fronting, namely the “mirative import”, whereby the focus fronted element is contextually unexpected or surprising.

(38) A. Vi saluto, devo tornare a casa.
'Good bye, I have to go back home'

B. A quest'ora, ti conviene prendere IL TAXI, non la metro.
'At this time of the day, you'd better take A TAXI, not the underground'

In case of merely contrastive focus, the contrasting alternatives typically belong to one and the same speech-act, as shown by speaker's B claim in (38). Furthermore, corrective focus characterizes for carrying an incompatibility presupposition, whereby the focused element in the corrective claim is marked as incompatible with one element of the antecedent proposition; background information is instead shared by the two relevant propositions.

Frison (2001) points out that the pragmatic contexts in which the use of a cleft sentence is legitimate always allow a correspondent non-cleft focus sentence to be used; this, in turn, may display either focus fronting, or in-situ focus. The opposite does not seem to be true, though: that is to say, it is not the case that, whenever contrastive/corrective focalization can be performed, a cleft structure is licit. That the use of a cleft structure is more constrained is probably due to the subtle interpretive properties clefts display, like the existential presupposition they entail and, at least for some languages, the exhaustivity requirement they show; such properties are not inherent features of the non-cleft counterparts. Thus, we can say that we are dealing here with highly marked structures; this is true not only from a semantic/pragmatic point of view, but perhaps from a prosodic point of view as well (see section 1.3).

1.2.3. Syntactic considerations

As regards the syntactic derivation of cleft structures, two cartographic analyses of *it*-clefts discussing the Italian facts have been recently proposed, by Belletti (2008, 2012, 2015) and by Frascarelli & Ramaglia (2009, 2013). The two proposals are similar in that they capture the interpretive similarities between clefting and focus fronting in non-cleft sentences by deriving clefts through movement of the focused element into the Focus Phrase of "a left periphery". However, the analyses belong to two different families of approaches to clefting and are considerably different in many respects. According to the former, clefts are bi-clausal structures, and the cleft phrase lies in the specifier of the FocP available in the left-periphery

of the embedded cleft clause, where it moves from its base position within the same clause. By contrast, in the latter account, cleft sentences qualify as underlying mono-clausal types of structures, the focused constituent ultimately moving to the FocP of the matrix left-periphery. We are not in the position to undertake a critical comparison of the analyses here, but because in her work Belletti directly captures the aspects that will be relevant for our dissertation, we will pursue her “embedded” approach to clefting. Furthermore, Haegeman, Meinunger & Vercauteren (2014, 2015) evaluate the two types of analyses and detect a set of problems which (only) the “mono-clausal” account runs into: by referring to Frascarelli and Ramaglia’s proposal, we report one of such arguments, which relates to our work and has to do with interrogative clefts. In order to do this, however, we first need to summarize Frascarelli and Ramaglia’s syntactic approach to clefts; in (39-40), we provide the proposed derivation of English *it*-clefts. Then, some specific facts concerning the Italian language are addressed (41-43).

The authors consider cleft structures as specificational copular sentences in which the focused constituent starts out as the main predicate of a small clause, whose subject, in a language like English, is *it*:

(39) It is JOHN that I saw.

(40) a. [IP It is [SC t_{it} [NP John]]]

The presupposed part of the sentence is expressed by a DP, a free relative clause that qualifies as a definite description headed “by either *pro* or by a generic NP of a restricted class” (i.e., “person”, “thing”). This relative DP takes a small clause as its complement; in turn, this small clause has the NP-head merged in subject position and the CP as its predicate (cf. den Dikken and Singhapreecha 2004). The free relative is merged as the specifier of a Familiar topic Phrase (Frascarelli and Hinterhölzl 2007):

(40) b. [_{FAMP} [_{DP} [_{SC} [_{NP} *pro*] [_{CP} that I saw]]] [_{IP} it is [_{SC} t_{it} [_{NP} John]]]]

The cleft phrase moves to a left peripheral focus projection (either Spec,FocP or Spec,ContrP depending on whether it serves as an Information or a Contrastive Focus, according to the authors; here, the relevant projection is indicated as FocP):

(40) c. [_{FocP} [_{NP} John] [_{FAMP} [_{DP} [_{SC} [_{NP} pro] [_{CP} that I saw]]] [_{IP} it is [_{SC} t_{it} t_{NP}]]]]

Through AGREE, the phi-features of the *pro* heading the relative clause are specified by the focused constituent in the left periphery of the matrix C-domain, which qualifies as its discourse-antecedent.

The remnant IP, out of which the focused constituent has moved, moves to Spec,GP, namely the Ground Phrase projection (Poletto & Pollock 2004), landing site for backgrounded material conveying presupposed information. This results in the spell-out of the relative DP as a right-hand Topic:

(40) d. [_{GP} [_{IP} it is [_{SC} t_{it} t_{NP}]]] [_{FocP} [_{NP} John] [_{FAMP} [_{DP} [_{SC} [_{NP} pro] [_{CP} that I saw]]] t_{IP}]]]

Frascarelli and Ramaglia also discuss some specific Italian facts and account for two different agreement patterns found with pronouns:

(41) a. Sono IO che Marco ha visto.

am I that Marco has seen
 ‘It is ME that Marco saw’

(41) b. E’ ME che Marco ha visto.

is me that Marco has seen
 ‘It is ME that Marco saw’

In (41a), the cleft phrase bears nominative case and the copula agrees with the clefted constituent; in (41b), the clefted constituent is marked with accusative case and the copula shows a 3sg agreement. The authors suggest that the two available possibilities are related to the pro-drop status of the language and to the existence of two types of derivation for right-hand Topics in Italian: they can either be merged in a left peripheral Familiar Topic projection, as in the derivation proposed above, or they can be derived from an IP-internal position (cf. Frascarelli and Hinterhölzl 2007, Frascarelli 2008); the former case, illustrated above, accounts for the agreement pattern in (41a). More precisely, following Moro (1997), it is proposed that in this case, the subject position of the small clause whose predicate is the (to be) focused cleft phrase is filled by a null pronoun, a *pro*. Within this SC, the null subject and

What Haegeman et al. (2014, 2015) point out, is the fact that Frascarelli and Ramaglia postulate a number of movements to the left periphery of the matrix CP, without discussing the locality restrictions that may regulate such movements. Moreover, they show that an analysis postulating a unique landing site hosting fronted foci, *wh*-constituents and cleft phrases, instead of being more economical, may lead to complications. Relevant to our work is the fact that under a mono-clausal approach, no left-peripheral position seems to be available to host moved clefted-constituents, as in cleft interrogatives:

(44) Who was it that you saw?

In (44), the cleft phrase *who* must have undergone additional leftward *wh*-movement from FocP targeting a position higher than the Ground Phrase; however, it is not clear which position it should be: in root *wh*-questions, interrogative elements are taken to be hosted in FocP (Rizzi 1997); therefore, one should postulate the existence of a different landing site for *wh*-elements in interrogative clefts; alternatively, one could invoke IntP, a higher projection introduced by Rizzi (2001) to distinguish between questions introduced by elements like *why* and other *wh*-questions (see section 5.1); anyway, an explanation would be needed to justify such choice.

On the basis of this and other related arguments, Haegeman et al. (2014, 2015) observe that the derivation of *it*-clefts necessitates postulating one more CP field. Indeed, the analysis proposed by Belletti (2008 and following work) involve two complementizer systems. The core ingredients of her account are summarized in the following. A simplified, preliminary instantiation of derivation is provided in (45)¹⁴ (more detailed in (50)):

¹⁴ The derivation proposed in (45) refers to Italian clefts used in contrastive/corrective contexts. Belletti attributes a slightly different derivation to cleft sentences conveying new information focus. The latter are marginally possible in Italian as answers to questions of new information and only when it is the subject that gets focalized (see example (ii)); but they are usually disfavored with respect to the standard strategy of answer available, namely the one featuring a postverbal subject (i). The post-copular subject which is present in a (reduced) cleft like the one in (ii) would occupy a new-information focus position in the low periphery of the copular vP, the same position in which postverbal subjects in Italian occur, (i), according to the analysis by Belletti (2004).

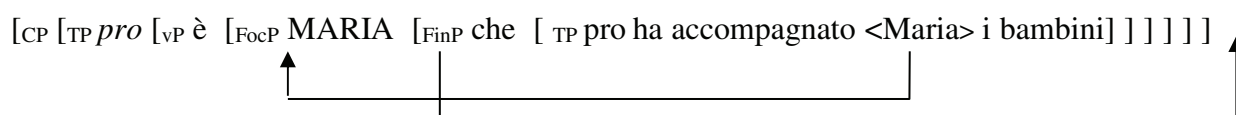
Chi ha parlato? / Chi è che ha parlato?
 ‘Who spoke?/ Who was it that spoke?’

(i) Ha parlato Gianni. (ii) E’ stato Gianni.
 ‘Gianni spoke’ ‘It was Gianni’

- i. the derivation involves two clausal domains: the one projected by the copula, and the embedded clausal projection; the embedded clause is in turn selected by the copula as its complement;
- ii. the canonical subject position of the matrix TP is occupied by a null pronominal element *pro*, the counterpart of English *it* in a null-subject language like Italian;
- iii. the clefted constituent undergoes *wh*-movement from its base-position¹⁵ in the subordinate clause to the specifier of FocP within the same clause;
- iv. a lower part of the cleft clause, FinP, is extraposed.

(45) E' MARIA che ha accompagnato i bambini.

'It is MARIA that accompanied the children'



More specifically, the copula bears a crucial role in making available the focus position in the left periphery of the sentential CP complement it selects. The sentential CP complement is a “small clause” (Starke 1995), and is reduced (“truncated”, in the sense of Rizzi 2005): assuming Rizzi’s (1997) proposal of a split CP layer, it lacks the ForceP layer and, possibly, the higher Topic position as well, so that the Focus position of the CP is the highest available position. This is maintained based on a distributional analysis; see the following contrasts adapted from Belletti (2008: 13-14):

(46) E' GIANNI che assumeranno.

'It is GIANNI that they will hire'

(47) a. *Ho detto GIANNI che assumeranno (, non Maria).

'I said GIANNI that they will hire (, not Maria)'

b. Ho detto che GIANNI assumeranno (, non Maria).

'I said that GIANNI they will hire (, not Maria)'

¹⁵ In case a subject constituent is extracted, as instantiated in (45), it is assumed that it moves from a postverbal position, while a silent *pro* is hosted in “the subject position of TP” (Belletti 2009; 2015: footnote 9).

Focalization in a cleft, as in (46), does not parallel with left peripheral focalization within a declarative CP with the same superficial word order (47a). This follows if it is assumed that whereas the complementizer in (47b) is the realization of the head of Force, which is the highest projection in a full-fledged CP layer, *che* in (46) is not. Instead, *che* is the realization of finiteness, placed in the lowest Fin head of CP. Belletti hypothesizes that the reduced CP of clefts not only lacks the Force Phrase, but also the Topic position available below Force. This is suggested by the contrast among the grammaticality judgments provided below (Belletti 2012: 104):

- (48) a. E' MARIA che il libro l'ha comprato (, non Gianni).
 is Maria that the book_i it_i has bought (, not Gianni)
 'It was Maria that bought the book'
- b. *E' il libro, MARIA che l'ha comprato (, non Gianni).
 is the book_i Maria that it_i has bought (, not Gianni)
- (49) a. MARIA il libro l'ha comprato (, non Gianni).
 Maria the book_i it_i has bought (, not Gianni)
- b. Il libro, MARIA l'ha comprato (, non Gianni).
 the book_i, MARIA it_i has bought (, not Gianni)
 'The book, MARIA bought it (, not Gianni)'

In the first pair of sentences, the ungrammaticality of (48b) is accounted for if one assumes that the highest Topic position is not available in the embedded CP of clefts and that the copula directly selects a Focus head, as in (48a)¹⁶. However, a left-dislocated topic can co-occur with corrective focus in both sentences in (49), as a whole CP is present.

¹⁶ (48a) raises an issue: under Rizzi (1997), if *che* is the realization of Fin, there is no room for a Topic following it; however, *che* is placed between the Focus and the Topic constituents. Belletti (2012: 105) suggests that the complementizer moves from the Fin head into the highest head in the CP, which is the Focus head in clefts. She speculates that this movement is triggered by the need of checking selection: in a declarative full fledged CP, the selectional properties are expressed by the Force head; in the reduced CP of clefts, they are encoded in the Focus head, as the copula selects Focus. Notice that movement of *che* in (48a) is obligatory:

(i) *E' MARIA, il libro che l'ha comprato (, non Gianni).
 is Maria the book_i that it_i has bought (, not Gianni)

(50b) [CP [TP *pro* [vP *è* [FocP *MARIA* [PredP ... *Pred* < FinP>] [FinP *che* [TP ...-]]



Belletti states that in Italian, clefts are typically instances of contrastive/corrective focalization, and assumes that the Focus position involved in clefting is the same as the one involved in non-cleft focus fronting (see next section). The fact that clefts are more limited in their use than their non-cleft counterparts would be due to their subtle, additional semantic and pragmatic properties.

Belletti does not take infinitival clefts into consideration. As said above, in Italian subject clefts can contain an infinitival verb:

(51) *E' MARIA ad accompagnare i bambini, oggi.*
 is Maria to accompany the children today
 'It is MARIA that will accompany the children, today'

This is not allowed in other languages like English and French. Sleeman (2013) argues that this possibility is available in Italian due to the fact that clefts inherently express contrastive focalization in this language, while this is not true for English and French, where a subject cleft can be used to convey new information focus (see Belletti 2005; 2008). Sleeman brings about evidence that clefted constituents licensing infinitival subordinate clauses are systematically instances of contrastive focus, and therefore are associated to a high position in the clause.

1.3. Contrastive focus in root clauses

As we have been noticing throughout this chapter, contrastive cleft sentences display alternative counterparts that do not involve subordination and that can usually be employed when a cleft is felicitous. The following example is drawn and adapted from Bianchi (2013):

(52) A. Gianni ha invitato Lucia.
 'Gianni invited Lucia'
 B. No, è MARINA che ha invitato.
 'No, it is MARINA that he invited'

B'. MARINA ha invitato.

'MARINA he invited'

B". Ha invitato MARINA.

'He invited MARINA'

In this context, which allows for a corrective type of focus, the non-cleft alternatives can feature either a fronted, ex-situ focus, as in (52) B', or an in-situ focus, as in (52) B". Bianchi & Bocci (2012) suggest that the two alternatives are structurally similar, but differ at the syntax-prosody interface. That is, the relevant functional heads²⁰ in the left periphery of the clause triggering movement of the focused constituent in (52) B' are always activated; the optionality of movement results from a mechanism of copy deletion active at the syntax-prosody interface that targets either the higher or the lower copy, yielding respectively in-situ focus or ex-situ focus. Although both possibilities are left open in case of corrective focus, one of the two options is strongly preferred. Indeed, Bianchi & Bocci (2012) experimentally show that, when contrastive focus lack corrective import, adult Italian speakers only accept to place it in-situ (at a rate of 98% vs. 2%); in corrective contexts, ex-situ, fronted focus is a viable option (25% or 13%, depending on the absence or presence of a negative tag in the relevant sentence, respectively), but in-situ focus is still highly preferred (to a rate of 75% or 87%). Exemplifying, speakers would more probably favor the corrective claim in (53) B when contrasting the assertion presented above in (37), here repeated as (53):

(53) A. Hai fatto bene a prendere la metro.

'You did well to take the underground'

B. Ho preso IL TAXI (, non la metro).

'I took A TAXI (, not the underground)'

According to the authors, the tendency to disprefer corrective focus fronting is due to the higher degree of prosodic markedness yielded by ex-situ focus realization. More specifically, contrary to what happens with in-situ focus in the relevant examples (where focus occurs in sentence-final position, i.e., rightmost), placing a focus ex-situ gives rise to a violation of the rightmostness condition of prosodic heads at work in Italian (Nespor & Vogel 1986),

²⁰ In recent refinements of their work, Bianchi, Bocci & Cruschina (2013, 2014) suggest that the functional head FAI (focus associated implicature), placed below Force in cartographic terms, activates an immediately lower Focus Phrase, thus triggering the movement of a focus constituent to the Spec of the criterial Focus head.

according to which the head within any prosodic constituent above the word level is assigned to the rightmost element. In sentences with corrective focus, the main prominence of the utterance is consistently associated with the focus element, irrespective of its being in situ or ex situ, and the background, the postfocal material, is prosodically subordinate to it²¹. Then, Italian speakers would preferably choose, whenever possible, the less prosodically marked strategy available to them, which coincides with in-situ focus. If the focus constituent licensed in a cleft sentence shares the same properties as fronted focus in simple left-peripheral focalization, one could speculate that the cleft phrase should be similarly prosodically marked.

To our aims, it is important to point out that focused subjects in preverbal position cannot be contrastively focalized in situ, that is, in SubjP in the IP domain, but are necessarily fronted to the left periphery. Empirical arguments for this are pointed out by Bocci (2004; 2013). One piece of evidence concerns the fact that contrastively focused preverbal subjects behave like *wh*-subjects in requiring obligatory pronominalization with *ne*, which in turn shows that they are extracted from a postverbal position (see Rizzi 1982 and Burzio 1986 on *ne* extraction in Italian):

(54) *Quante hai detto che *(ne) sono cadute, di pietre?*

how many you-have said that *(of them) are fallen of stones

‘How many stones did you say have fallen?’

(55) A: *Sono arrivate dieci lettere.*

‘Ten letters have arrived’

B: *No, QUATTRO pare che *(ne) siano arrivate, non dieci.*

no four seems that *(of them) have arrived not ten

‘No, it seems that four letters have arrived, not ten’

B': *No, QUATTRO *(ne) sono arrivate, non dieci.*

‘No, four of them have arrived, not ten’

²¹ The type of pitch accent associated to contrastive focus has been shown to be L+H* in Florentine and Siena Tuscan Italian (Avesani and Vayra 2003; Bocci & Avesani 2006), although it may vary according to the variety taken into consideration (Grice et al. 2005). Most importantly, contrastive focus can be intonationally distinguished from the other types of focus, namely broad and narrow informational focus (Bocci 2013).

In (55), the subject is not visibly fronted. However, the ungrammaticality of (55) B' without *ne* suggests that contrastive focus prosody cannot be assigned to a subject in its highest position in IP. A second argument proves that a contrastive focused subject in preverbal position is involved in a quantificational dependency with the lower, postverbal position, which does not hold for non-focused preverbal subjects. More specifically, preverbal focused subjects give rise to WCO effects. Bocci starts from the observation that CLLDed direct objects are obligatorily reconstructed in an intermediate position within IP which is lower than the position occupied by non-focused preverbal subjects and higher than the position occupied by a postverbal subject (Cecchetto 2000), so that a pronoun contained in a CLLDed object can be bound by a preverbal subject, but not by a postverbal subject:

(56) La sua_i relazione, ogni segretaria_i l'ha consegnata lunedì.
 the her report every secretary it has handed in Monday
 'Every secretary_i has handed in her_i report on Monday'

(57) *La sua_i relazione, l'ha consegnata lunedì ogni segretaria_i.
 the her report it has handed in Monday every secretary
 'Every secretary_i has handed in her_i report on Monday'

The sentence in (58) shows that preverbal focused subjects do not pattern like non-focused preverbal ones:

(58) ?? La sua_i relazione, OGNI SEGRETARIA_i l'ha consegnata lunedì (non ogni assistente)!
 the her report every secretary it has handed in Monday (not every assistant)
 'EVERY SECRETARY_i has handed in her_i report on Monday (not every assistant)'

This is because, as is argued by Bocci, movement of the subject to FocP gives rise the WCO configuration whereby the pronoun contained in the dislocated DP (in its reconstruction position) is c-commanded by the operator, but not by the lower variable.

Building on these and other syntactic arguments, Bocci proves not only that preverbal focused subjects behave similarly to postverbal subjects and differently from preverbal subjects in their canonical position, but also that they are moved to FocP from their thematic position, skipping SubjP. SubjP is in turn assumed to be occupied by *pro*, which satisfies the Subject Criterion.

(59) [CP [FocP GIANNI ... [SubjP pro ha invitato <Gianni> Lucia]]]

1.4. Are there other types of cleft structures?

In the literature, it is often claimed that in Italian, clefting is typically employed contrastively, and that the initial constituent, the cleft phrase, is narrowly focused and followed by background material. However, it seems to us that there is at least one case constituting an exception; in such case, focus may refer to an event as a whole, and can constitute a full answer to a question. Imagine person A entering B's very chaotic house:

(60) A. Cos'è successo qui?
'What happened here?'

B. Niente, è il piccolo che ha giocato con tutti i suoi giochi senza poi rimetterli a posto.

'Nothing, it is my young one that has been playing with all his toys and then didn't tidy up'

What speaker B says in (60) qualifies as a type of sentence that Clech-Darbon, Rebushi and Rialland (1999) would define as displaying broad event-related focus. We observe that in this peculiar type of sentence, the antecedent of the cleft clause must be the subject. Sentence (61), where the antecedent is an object constituent, is not acceptable as an answer to the question given in (60):

(61) # B. Niente, è il piccolo che (i suoi amici) hanno rincorso tutto il giorno.

'Nothing, it is my young one that his friends have been chasing him all day long'

Based on more types of "C'est ...que/qui ... sequences" not having a contrastive-corrective import, Clech-Darbon et al. argue that the post-focal clause does not function as a restrictive relative clause: it is base generated as right-adjoined to a regular identificational IP and is interpreted as a predicate that binds a predicate variable associated with the pronoun in [Spec, IP] (62):

(62) a. Tu sembles inquiète. Qu'est-ce qui se passé?

b. [IP [IP C'est_v [VP t_v [DP le petit]]] [CP Op_i [C' qui [IP t_i est tombé]]]]

Hammann & Tuller (2015a) call this type of cleft clauses “pseudo-relatives”, as they are not genuine restrictive relative clauses, in spite of the superficial resemblance.

In addition, Hedberg (2013) pinpoints the existence of what she calls “vice-versa clefts”. She reports the following example drawn from Ball & Prince (1978):

(63) It's not John that shot Mary. It's Mary that shot John.

In this example, background presupposition seems to be that “someone shot someone”. Similar instances of clefts are found in Italian as well:

(64) Non è il cane che insegue il gatto. E' IL GATTO/il gatto che insegue il cane.

'It is not the dog that chases the cat. It is THE CAT/the cat that chases the dog'

(65) Non è il cane che insegue il gatto. E' il gatto che insegue il topo.

'It is not the dog that chases the cat. It is the cat that chases the mouse'

Furthermore, clefts can simply emphasize an element, reasserting the assertion introduced in the discourse:

(66) Era proprio il gatto che inseguiva il cane.

'It was just the cat that was chasing the dog'

We ourselves employed this emphatic type of cleft in the correction experiment we administered to children (Chapter Three).

Finally, Frascarelli and Ramaglia (2013) claim that clefts involve exhaustivity, and that in a language like Italian, the focused constituent may or may not additionally be interpreted as a contrastive focus.

1.5. Concluding remarks

The rich and varied theoretical literature available on clefts mirrors their complexity; very different analyses of clefts have been proposed, even within the generative framework itself. In this chapter, we have provided a brief overview of the most important families of approaches that have tried to capture the properties of cleft structures. Furthermore, some semantic/pragmatic aspects associated to clefts and traditionally taken into account in the literature have been addressed. Restricting our attention to the Italian language, we have seen that the semantic properties are not yet that clear-cut. It has been maintained, though without the application of decisive diagnostic criteria, that focus involved in clefts is exhaustive; moreover, the narrow focus involved in contrastive clefts has been claimed to share the same properties as the type of focus that can trigger movement to the left periphery in root clauses in Italian, namely corrective-contrastive focus. This has led to assume that syntactically speaking, the Focus projection involved in the latter structures is the same as the one involved in the left periphery of cleft clauses. Two very different cartographic analyses of clefts have been presented, namely the one by Frascarelli and Ramaglia (2009, 2013) and the one by Belletti (2008 and following work); following Haegeman et al. (2014, 2015), and although the proposal is still ongoing work, the latter will be adopted as an anchor analysis for our investigation. Under Belletti's analysis, the copula plays the crucial role of selecting a focus projection, namely a reduced CP. This analysis also involves extraposition of a part of the embedded CP, so that it combines some properties of the focus-based approaches with some features of extraposition analyses.

Chapter Two

CLEFT SENTENCES: USAGE, PROCESSING, ACQUISITION, AND THE SUBJECT-OBJECT ASYMMETRY

2. Introduction

In this chapter, we will be concerned with the existing literature on the usage, processing, and acquisition of contrastive clefts. Section 2.1 presents some observations about the usage of cleft sentences by adult speakers, focusing on spontaneous speech data. In section 2.2, we present experimental data about the processing of subject vs. object cleft sentences in adults. Finally, section 2.3 extensively illustrates the few studies available in the literature on the acquisition of cleft sentences and other focus structures.

2.1. Subject vs. non-subject clefts: the usage of clefts by adult speakers

Literature on the usage of Italian cleft sentences reports the implicit one, namely *a* + infinitive, to be the highly predominant cleft type employed in the written and formal register. This is the form that normative grammar more willingly welcomes; most frequently, it appears in a “reversed” shape, with the infinitival cleft clause preceding the copula and the clefted constituent:

- (67) A tenere il discorso è stato il Presidente del Consiglio.
to hold the speech has been the Prime Minister
'It was the Prime Minister that gave the speech.'

The corpora of spontaneous oral language available for Italian (Bazzanella 1994; LIP, De Mauro et al. 1993) document that in colloquial speech, it is almost always the subject constituent that gets focalized. Other kinds of constituents, like object and prepositional ones, are hardly ever clefted. Adverbial cleft phrases appear more often, together with the so-called “è che...” / “non è che...” “explicative clefts” (*Non è che siamo venuti per guardare*, ‘It is not that we came to watch’), where the complementizer immediately follows the copula (Bazzanella 1994). Another context which favors the use of clefts in oral language is that of clefted interrogative sentences, which are particularly widespread in northern Italy, perhaps as an influence from the dialects, where such structures can be the only way of building subject-

extracted questions (*Chi ze che ga magnà qua?* ‘Who is it that has eaten here?’, Poletto & Vanelli 1993).

Corpus studies and experiments on the distribution of clefts in other languages such as French, English and European Portuguese have shown the existence of an asymmetry in the use of subject vs. non-subject clefts in contrastive contexts; as for French, when a subject constituent gets corrected, a cleft sentence is employed around 70% of times; when a non-subject constituent needs to be contrasted, though, a canonical “SVO” sentence is far more common. Similar findings hold for English (Geluykens 1984, cited in D’Achille et al. 2005, for spontaneous speech data; Destruel & Velleman 2014 for a written elicited production task). As for European Portuguese, Santos (2009) reports that subjects clefts are by far the most frequent case of clefting in her spontaneous speech corpus (out of all cleft structures uttered by adults, 64% cleft the subject constituent, 18% cleft an adjunct, and 14% cleft an object internal argument; see also Lobo, Santos, Soares-Jesel 2015).

2.2. Processing of subject and object cleft sentences by adult speakers

A preference for “subject clefts” (SCs) over “object clefts” (OCs) has also been attested in psycholinguistic research. By administering a set of tasks to sixteen adult German speakers, Engelkamp & Zimmer (1982) showed that “active cleft sentences headed by the patient”, like the one in (68), are rated as relatively unacceptable, differently from those headed by the agent (69); moreover, they are less frequently remembered in a sentence-recalling task, and more difficult to understand:

(68) Es ist das Mädchen, das der Motorradfahrer begrüßt.

it is the girl that_{NOM} motorcyclist greets

‘It is the girl that the motorcyclist greets’.

(69) Es ist der Motorradfahrer, der das Mädchen begrüßt.

it is the motorcyclist that_{NOM} the girl greets

‘It is the motorcyclist that greets the girl’.

By using the experimental technique of self-paced reading, Gordon, Hendrick & Johnson (2001) studied reading time and comprehension accuracy of different types of subject- and object-extracted clefts (and restrictive relatives: see Chapter Four) in forty-four American-English-speaking college students. As a whole, reading times were significantly

longer for object-extracted clefts than for subject-extracted clefts; moreover, the mean error rate on true-false comprehension questions to be answered after having read the relevant sentences was much higher for object clefts. Interestingly, the authors were also concerned with the type of NP occurring in the cleft phrase and in the cleft clause. They manipulated the presence of definite descriptions and proper names, obtaining a matching condition and a mismatching one, both in subject (70) and object clefts (71). Thus, every sentence appeared in eight versions, given the combination of three factors: the function of the clefted constituent, the type of the clefted NP, and the (mis)matching of the two NPs.

(70) It was the clown/Liz that entertained the magician/Meg in the auditorium.

(71) It was the clown/Liz that the magician/Meg entertained in the auditorium.

As a result, Gordon et al. pointed out that the subject-object asymmetry was always detected, independently of the matched/nonmatched NP condition; furthermore, the asymmetry was even greater when the two NPs matched than when they did not, both in the two-names condition and in the two-descriptions one. According to the authors, the main effect of match between NPs supports those processing models which attribute special importance to “similarity-based interference” in influencing sentence complexity (Gibson 1998; Gibson & Warren 1998; Warren & Gibson 2002). Simplifying to a certain extent, having similar NPs in a complex sentence can contribute to the difficulty of its understanding because the representation of the NPs in memory is similar, and human memory is susceptible to interference arising from the similarity of the items being processed and integrated (Crowder 1976, cited in Gordon et al. 2001). As a consequence, an interference effect in retrieving information associated with the representation of the relevant nominal elements can cause greater processing difficulty in structures where the integration of the NPs with the verb occurs later, such as object-extracted sentences. In a subsequent study, Warren and Gibson (2005) examined in detail the comprehension of a set of different object-extracted clefts in forty-two English-speaking adults. As compared to Gordon et al. (2001)’s experiment on clefts, they added a new type of NP, namely indexical pronouns, setting up an experimental design crossing the three types of NP (definite descriptions, proper names, and pronouns) in the clefted and in the embedded positions:

(72) It was the clown/Liz/us who the magician/Meg/you entertained in the auditorium.

Participants were administered the same tasks employed in Gordon et al. (2001)'s study. Consistently with the similarity based interference hypothesis, items belonging to the matching NPs condition were read slower and comprehended less accurately than the ones belonging to the non-match condition, with an increase in accuracy for the latter when the embedded NP was a pronoun²². The condition pronoun-pronoun was the easiest one among the matching conditions. As a whole, the most relevant finding to us concerns the fact that the condition of matching between two definite descriptions²³ qualified as the most difficult one for the computation of object-extracted clefts. Besides, the definite descriptions used in the experimental items in Gordon et al.'s and Warren & Gibson's studies all referred to job occupations or human roles. Indeed, one factor that has been shown to influence sentence processing is animacy: that animate DPs may hamper the computation of complex sentences more than inanimate DPs has received support from a series of studies carried out on relative clauses. These studies demonstrated that manipulating the animacy of the NPs reduced the difficulty associated with object relatives in particular (Traxler, Morris & Seely 2002; Mak, Vonk & Schriefers 2002; as for child language: Kidd, Brandt, Lieven & Tomasello 2007; Arnon 2010), with object relatives being the least complex when containing an inanimate, non-human head and an animate embedded subject. We are not aware of analogue studies conducted on clefts, but it would be reasonable to expect similar effects to influence their computation.

2.3. On the acquisition of cleft sentences and other focus structures

Despite the great theoretical interest that cleft structures have awakened since the seventies, literature on the acquisition of cleft sentences is scarce, especially as regards the production modality. Indeed, much of the available work is restricted to investigations of children comprehension of clefts. As far as we know, there are no studies focusing on child production/comprehension of cleft sentences in Italian; we are only aware of a small study briefly reported in Bazzanella (1988) who, following a widespread psycholinguistic tradition (on adults: Engelkamp & Zimmer 1982; on children: Hornby 1971, Bever 1970, Lempert & Kinsbourne 1978;1980, Dick et al. 2004 a.o., see below), tested the comprehension of passive

²² According to the authors, this is due to the higher degree of referential "accessibility" of first and second person pronouns.

²³ The authors point out that proper nouns did not exert the same facilitating effect as indexical pronouns because their reference remained actually unknown to participants; therefore, their degree of recoverability was the same as the one of definite descriptions.

sentences together with the comprehension of cleft sentences. The general purpose of testing the two types of structures together is to study the types of strategies that children adopt when comprehending sentences that may display a non canonical mapping between constituent order, syntactic functions, and thematic assignment²⁴. Bazzanella administered to Italian-speaking children attending middle-school in Turin (first and second classes, corresponding to 11-14 years-old children) a written comprehension task: among the tested sentences, there were object cleft sentences (73) and passive cleft sentences (74) like the following ones, which participants had to associate to two matching sentences among four options, given in (73a-d) and (74a-d); (Bazzanella 1988: 319):

- | | | |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| (73) E' Carlo che Mario picchia.
'It is Carlo that Mario beats' | A. Mario se le prende.
B. Carlo se le prende.
C. Mario le dà.
D. Carlo le dà. | 'Mario gets beaten'
'Carlo gets beaten'
'Mario beats'
'Carlo beats' |
| (74) E' Mario che è picchiato da Carlo.
'It is Mario that gets beaten by Carlo' | A. Mario se le prende.
B. Carlo se le prende.
C. Mario le dà
D. Carlo le dà. | |

Interestingly, object clefts like the one in (73) lead to incorrect choices 32.5% of times. Passive clefts like the one given in (74) were more accurately understood, giving rise to mistakes 10% of times and suggesting that passive (subject) clefts may be easier to compute than parallel object clefts at that age. However, it has to be noticed that no hint at the pragmatic context for the tested sentences was given, nor adults were tested for control.

Independent findings concerning the Italian language are reported in Manetti (2012)'s work on the acquisition of passive sentences: she tested 60 Italian-speaking children aged 3;11 to 6;11 living in Florence on the comprehension of passive sentences by using a Truth Value Judgment Task (Crain & McKee 1985; Crain & Thornton 1998). Children were

²⁴ Comparing how speakers process and comprehend passives and object clefts allows researchers in psycholinguistics to investigate whether specific word order strategies are adopted for sentence interpretation: for example, since passives are characterized by the order NVN and "inverted clefts" by the order NNV, it has been assumed that it is possible to discriminate between the usage of an "agent-first" strategy, which leads to mistakes in the comprehension of both structures, and the usage of an "agent+action" strategy, whereby the agent role is assigned to the noun immediately preceding the verb; according to this approach, object clefts should be understood easily, while passive sentences should be systematically reversed.

required to judge the correctness of a set of passive sentences uttered by a puppet who described an event shown in a short video, (75). When correcting wrong descriptions of the events, children sometimes produced, in addition to non-cleft forms of corrections, active subject clefts and passive cleft sentences; the latter are provided in (76):

Real world situation: Gialla spinge Verde from Manetti (2012)

A yellow clown pushes a green clown

(75) Puppet: Gialla è stata spinta

Yellow has been pushed

Child: No

Experimenter: Che cosa è successo veramente?

What has really happened?

(76) Child: E' VERDE che è stato spinto da Gialla

It is GREEN that has been pushed by Yellow

As regards English, Lempert & Kinsbourne (1978) studied the comprehension of four types of reversible sentences by comparing the performance of 54 children aged 3;8 to 6;9 in an acting out task; as is often the case in psycholinguistics, the researchers were interested in the differences in comprehension concerning sentences that contain a DP in initial, preverbal position bearing the thematic role of agent (matrix active sentences, subject cleft sentences) and sentences where the first linear DP bears the role of patient (matrix passive sentences, “inverted clefts”), as illustrated in the following examples:

(77) The truck bumps the wagon.

(78) It's the cow that bumps the horse.

(79) The car is bumped by the truck.

(80) It's the truck that the wagon bumps.

Children were required to illustrate the meaning of such types of sentences with toys. Results showed that active sentences and subject clefts were acted out correctly 99% and 91% of times, respectively; this occurred significantly more often than with passives and object/inverted clefts, which display a DP patient in first sentential position. Interestingly, when the performance at passives and object clefts was compared within participants, it turned out that comprehension of passives was easier than that of object clefts. The authors also noted a difference in the developmental trajectory between the two types of structure:

whereas comprehension of passive sentences improved from age 4 to age 6, increasing from 63% to 89% of correct illustrations, understanding of object clefts did not, remaining stable at 65-69%. Furthermore, at all ages, children who performed accurately with passives concomitant with reversal of object clefts (the linearly second DP being interpreted as the patient/object) were found. When not reversed²⁵, inverted clefts were either passed, or comprehended individually “at chance” level.

Lempert & Kinsbourne (1980) report very similar findings by administering the same task to fifty-two children aged 2;5 to 6;3. The researchers noticed, in addition to the results of the previous work, that even though many of the children showed good performance in both structures, performance on OCs improved after age five. Anyway, the higher degree of difficulty with OCs as compared to passives in individual children at every age was replicated. Again, it has to be said that sentences were expected to be acted out without the provision of any pragmatic cue, so that the interpretation of clefts might have been hindered more than that of non-cleft sentences.

However, bad/worse performance with object/non-subject clefts in acquisition has been repeatedly attested in the literature, also in more recent studies not assuming (non) canonicity of word order as a crucial factor: as regards research on the comprehension modality, Hirsch & Wexler (2006) document a delay in development for object-extracted clefts as compared to subject-extracted ones, with very poor comprehension of the former at least until the age of 5;11. The authors tested 45 American-English speaking children aged 3;0 to 5;11 in a two-choice sentence-picture matching task, testing active sentences, passive sentences, subject clefts, and object clefts. As a result, it was shown that children comprehended active sentences and subject clefts accurately (above 90% of correct choices), but performed poorly on OCs (below 70%). Moreover, a minimal, though significant, difference was detected in the understanding of active sentences vs. subject clefts, with the latter being associated to a correct choice around 5% of times less frequently than the former. In a following study, Hirsch & Wexler (2007) report forty 4 to 7 years-old children having difficulties in the comprehension of “inverse copula constructions”, namely specificational copular ones, until the age of 6/7; by using the same picture-matching methodology, but having children repeating the test sentences before making their selection, they tested the comprehension of the types of sentences exemplified in the following, uttered in correspondence to pairs of pictures depicting opposite events:

²⁵ Reversal of OCs in comprehension was first noted by Bever (1970) in children approaching age four.

(81) Non-inverted copular sentences: Which picture shows the pig is the animal who helps?

(82) Inverted copular sentences: Which picture shows the animal who helps is the rabbit?



Fig. 1. Example of picture Hirsch & Wexler (2007)

While children showed near perfect comprehension of non-inverted copula structures, their performance was worse with inverted copula sentences; this was established for the majority of children up to 6 y.o. Therefore, the researchers relate the problems observed with OCs to the delay in comprehending specificational copular sentences.

Dick et al. (2004) investigated on-line processing speed and accuracy levels in the comprehension of complex sentences in 102 typically developing English-speaking children and adolescents aged 5-17 and 24 children affected by Specific Language Impairment²⁶ (SLI; age 7-15). Participants sat in front of a monitor and were asked to choose one of two drawings depicting (only) the animals involved in the events, namely the drawing corresponding to the animal that carried out the action (the agent); the test sentences were played as audio stimuli. The agent of active sentences, passive sentences, SCs and OCs, all containing animal DPs and reversible action verbs, had to be selected, and reaction times were measured; here, we report some examples referring to the cleft structures tested:

(83) It's the dogs that are biting the cats.

(84) It's the dog that **is** biting the cats.

(85) It's the cat that the dog is biting.

(86) It's the cat that the dogs **are** biting.

²⁶ Specific Language Impairment refers to a condition in which heterogeneous linguistic disorders are exhibited in the absence of perceptual-motor deficits (i.e., hearing loss), neurological dysfunction, and intellectual or socio-emotional deficits. The disorder is rather heterogeneous, and its etiology is not well understood yet (Guasti 2002: 376-397).

As can be seen from the examples above, subject-verb agreement cues were introduced, in order to see whether they may have a facilitating effect in comprehension. As a result, typically developing (TD) children interpreted sentences with canonical word order (actives and SCs) more accurately and quickly than those displaying non-canonical word order (passives and OCs). More specifically, the following pattern of accuracy/hierarchy of difficulty, measured through reaction times, was observed: Actives = Subject Clefts > Passives > Object Clefts. The authors pointed out “the longest and steepest developmental trajectory” for OCs, as shown by performance accuracy. More specifically, performance accuracy on actives and SCs reached ceiling levels as early as 5 y.o., whereas OCs did not lead to any improvement in accuracy until 8 years of age. It is interesting to note that the greatest shift in comprehension performance occurred between 9 and 12 years of age, reaching adult levels by the age of 15-17 years. Reaction times data mirrored those for accuracy: as for clefts, OCs took on average one second more to be read than SCs until age 8; then, reaction times dropped, especially after the age of nine, and continued to descend progressively up to adolescence. The presence of disambiguating noun-verb agreement information improved children’s overall performance, but the effect was very small. It was accuracy performance with OCs that improved the most when an agreement cue was available, though not consistently within age groups. The hierarchy of difficulty measured through accuracy reported for typically developing children was also found for participants with SLI, and reaction times mirrored this pattern. As compared to typically developing children, SLI participants were found to be impaired in the comprehension of passive sentences and OCs up to 15 y.o. Moreover, children with SLI were less facilitated by agreement cues in comprehension, except for the case of OCs, which were better understood in the presence of an agreement cue, but, as compared to TD children, at the cost of a reduced speed of processing.

As regards languages other than English, Stavrakaki (2004) assessed the language skills of typically and non-typically developing Greek-speaking children in the comprehension of simple active and passive sentences, subject and object clefts, and subject and object *wh*-questions. She tested four groups of participants: one group of eight SLI children (aged 6 to 10; mean age 8;1) matched for language age with a group of TD 16 children (3;6-5;6; mean

age 4;4), and five children affected by Williams syndrome²⁷ (7;9-15; mean age 10;1) matched for mental age with ten TD children (3;3-7;3; mean age 5). As before, we report one SC and one OC instantiating the cleft sentences employed as experimental stimuli:

(87) SC: O skilos ine pu kinighai tin katsika
the dog-nom is that chases the goat-acc
'It is the dog that is chasing the goat'

(88) OC: O pithikos ine pu htipai o elefantas
the monkey-nom is that hits the elephant-nom
'It is the monkey that the elephant is hitting'

An acting out task was administered to all children. Participants were required to manipulate toy animals in a way so as to illustrate the meaning of the sentences that were uttered by an experimenter. In order to evaluate the comprehension of *wh*-questions, instead, children were expected to answer some questions about a set of short stories; for instance, with respect to a story where a fox was chasing a dog and the dog was chasing an elephant, children had to answer questions like *Pjos kinijise ton elefanta?* "Who chased the elephant?". Results showed that the normally developing children performed at ceiling on all structures with SVO word order, namely active sentences, subject clefts, and subject questions (100% accurate responses). Near-ceiling performance was reached also in *who*-object questions (on average, 92.5%, range 75-100%), while percentages of correct responses dropped on passives and object-extracted clefts (respectively, 55%, range 14-100%, and 44%, range 0-100%). As regards non-TD children, those affected by Williams syndrome behaved akin to their TD controls, while SLI children performed worse than their language-matched controls also on object *wh*-questions, and, moreover, the drop in performance on OCs and passives was greater. Whenever an object cleft was misunderstood, the error consisted in the reversal of the theta-roles associated with the two relevant DPs; hence, OCs were acted out as SCs. Stavrakaki attributes the difference in the degree of comprehension of object interrogative sentences vs. object clefts to the linking status of the operator, more specifically to the "single" vs. "double" coindexation of the *wh*-/relative operator involved in sentence

²⁷ Williams syndrome is a rare metabolic disorder characterized by mental retardation, several medical anomalies, and an elfin facial appearance. Individuals with Williams Syndrome represent a (debated) case of dissociation in which, as opposed to individuals with SLI, linguistic abilities outstrip cognitive abilities (Guasti 2002: 398-403).

formation: while the operator involved in questions binds a variable in its base-position, the relative operator involved in clefts is linked both with the variable in the cleft clause and with the cleft phrase, the antecedent of the cleft clause (cf. Guasti & Shlonsky 1995 on relative clauses).

A different aspect of clefting is taken into consideration by Heizmann (2007). She investigates the comprehension of exhaustive interpretation in clefts and *wh*-questions by preschool-aged English- and German-speaking children. The purpose of her work is to determine whether children start out exhaustively in their comprehension of the relevant structures or not, and, if not, to establish at what age the specific property is acquired. She developed a Truth-Value Judgment Task: with respect to cleft sentences, each child was shown a video playing a set of short stories; he/she was instructed to judge sentences uttered by a puppet as true or false. For instance, in relation to a short story that showed a puppet throwing away two of his things (a hat and a football), the child was presented with one of the following sentences:

(89) Non-exhaustive cleft: It was the football that Cookie Monster threw into the trashcan.

(90) Exhaustive cleft: It was the football and the hat that Cookie Monster threw into the trashcan.

Adults judged a sentence like (89) as false/infelicitous, because uttered in a context where the clefted constituent does not exhaust the entities with the relevant property. By contrast, children performed well with exhaustive clefts, but sometimes accepted non-exhaustive clefts as true; this happened most of the times at 3 y.o.; children performed better at 4 y.o. and almost adult-like at the age of five.

To the best of our knowledge, only two studies shed light on children's ability to *produce* cleft structures. The very first one is Hupet & Tilmant (1989) on French. The authors designed a correction task in order to elicit oral production of subject and object clefts in children whose age ranged from 4;6 to 10;5 years. Children, who were all monolingual speakers of French, were divided into four age-groups (mean age: 4;6, 6;5, 8;4, 10;5). Each child was presented with a series of drawings taken from books for children; the experimenter told them that some other children had previously described the pictures, but since they could not see the pictures very well, they might have said incorrect things about the depicted events. The children's task was to listen to the experimenter repeating what these children had said,

and to say the correct thing whenever they found a mistake. In what Hupet & Tilmant called “agent mismatch condition”, the mistake concerned the agent-subject of the sentence uttered by the experimenter; in the “patient mismatch condition”, it concerned the patient-object. Here is an example of stimulus belonging to the first condition:

(91) Le garçon arrose les fleurs.

‘The boy is watering the flowers’

TARGET: Non, c’est la fille qui arrose les fleurs.

‘No, it is the girl that is watering the flowers’



Fig. 2. Example of picture (Hupet & Tilmant 1989)

Noticeably, in this study children were provided with an adequate discourse/pragmatic context for clefts, namely a correction context. The findings recall the comprehension studies that found a subject-object asymmetry: children produced an overwhelming majority of subject clefts (in the four groups, respectively: 33%, 44%, 71% and 85%) as compared to object clefts (4%, 3%, 2%, 1%). In addition to complete, target cleft sentences, children produced high amounts of truncated clefts (e.g. *Non, c’est la fille*) in the subject condition (47%, 42%, 23%, 12%) and in the object one (13%, 1%, 6%, 4%). No significant effect of age was detected, except for the fact that younger children produced higher amounts of reduced clefts as compared to older children. Hupet & Tilmant account for the asymmetry found between SCs and OCs by claiming that clefting typically occurs as an “agent-focusing device” because French does not normally allow it to stress the very first constituent in the sentence; therefore, when a correction targets a subject constituent, clefting qualifies as the preferred solution. This does not apply when the correction targets a non-subject constituent: it can be contrastively stressed while remaining in situ. Indeed, when children did not produce an object cleft, they favored a canonical SVO sentence marking the object constituent with a

contrastive stress in most cases. Unfortunately, adult speakers were not tested for control, so we do not know whether, apart from the young children's preference for reduced clefts, children were already behaving as adults would do.

The second experimental study directly eliciting contrastive cleft sentences is the one reported in Santos, Lobo & Soares (2013) and Lobo, Santos & Soares (2015) who, building on Hupet & Tilmant's experimental design, administered to European Portuguese-speaking children and adults a correction task targeting the production of clefts where the contrasted element could be the subject, the direct object, or an indirect object (argument or adjunct). Here, we report an example of trial designed to elicit an OC:

(92) PUPPET: A mãe está a pentear a menina.

the mum is PREP comb the girl

'Mum is combing the young girl.'

TARGET: É o bebé que a mãe está a pentear.

is the baby that the mother is PREP comb

'It is the baby that Mummy is combing.'

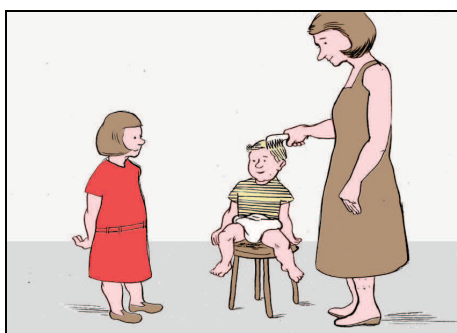


Fig. 3. Example of picture eliciting an OC (Santos, Lobo & Soares-Jesel 2013)

Three groups of children were tested: 14 three year-olds (mean age 3;6), 20 four year-olds (mean age 4;6) and 17 five-six year-olds (mean age 5;6). Furthermore, a group of 22 adults (age range 18-48) was tested for control.

As regards the subject condition, every group of participants uttered some "standard" subject clefts (1%, 3%, 11%, 14%, in the four groups, respectively). When uttering a cleft, though, especially a subject cleft, participants favored the so-called "é que" type of cleft (e.g., *O gato é que ...*), which is available in Portuguese and which, according to the authors, contains a lexicalized expression ("é que"). However, young children predominantly used

simple fragments, i.e. production of the focused material only, with omission of the copula (e.g., *O gato*). 4 y.o. children produced more frequently “be-fragments”, assumed to be partially elided clefts (e.g., *É o gato*, 60%). The second predominant strategy of answer after the use of fragments was the simple sentence, which qualified as the preferred adult strategy²⁸.

In the object condition, standard object cleft were produced only sporadically (1.5%, by 4 y.o. children; none by adults), and no *é que* cleft was uttered either. Instead, 3 years-old children favored the use of simple fragments, 4 year-olds preferred production of “be” fragments (44.5%), while older children, just like adults, chose simple SVO sentences. Occasionally, child speakers uttered subject clefts instead of object clefts:

(93) Puppet: O menino está a pintar a mãe.

the boy is PREP paint the mum

‘The boy is painting his mother’

Child: O menino é que (es)tá a pintar o bebé.

the boy is that is PREP paint the baby

‘It is the boy that is painting the baby’

Target: O bebé é que o menino (es)tá a pintar.

The data gathered in the indirect object/adjunct conditions were analogous to those obtained in the object condition. Most importantly, hardly any cleft structure was attested, suggesting that the asymmetry is not restricted to a “subject-object” type, but is rather a “subject-non subject” asymmetry. Instead, children younger than 5 preferred production of fragments, while older children and, even more, adults, chose to produce a non-cleft sentence with the indirect object/adjunct placed postverbally. As it was the case for French, authors impute such asymmetry to the nature of clefts and their pragmatic function: having the possibility of conveying contrast by using a sentence with canonical SVO word order while marking the contrastive focus prosodically, speakers would more preferably choose the non-cleft syntactic structure when the constituent to be focalized is not the subject. However, *be* fragments, produced by 4 years-old children and analyzed as truncated clefts, would prove that children

²⁸ The authors state that adults’ sentences were produced with prosodic stress on the subject; they do not say anything about children’s productions.

have the linguistic competence needed to build standard cleft structures, but would opt for partially elided structures due to immature processing system (Santos 2009). Indeed, the French data reported above show that developmentally, *be* fragments/truncated clefts tend to decrease in number with age. Anyway, it seems to be the case that French and E. Portuguese speakers, both children and adults, very rarely adopt a clefting strategy, be it an *é que* cleft, a reduced cleft or a complete cleft, when induced to contrastively focalizing a non-subject constituent.

Observations from young children's samples of spontaneous language confirm this tendency: clefting emerges right after the age of 2 (Demuth 1984, Labelle 1990, Santos 2006), children generally produce cleft structures in appropriate contexts from early on, and the large majority of the cleft sentences produced are subjects clefts. Santos, Lobo & Soares (2013) collapsed the data from two corpora of child spontaneous speech (the one by Soares 2006 and the one by Santos 2006) and counted, in the same six children, 148 SCs against 27 OCs and 30 adjunct clefts. Santos (2009: 262-269) reports the example of an early talker, aged 2;1, who utters standard object clefts before subject clefts; in these cases a demonstrative pronoun is clefted (*E' esta que o Tomás conta?* 'Is this one that Tomás will tell?' (meaning a story; adapted from Santos 2009).

Notice that there is a general discrepancy between the structures that are targeted in the available experimental studies and the cleft sentences that children (and adults) utter spontaneously: namely, the former induce production of clefts containing two constituents bearing both a lexical restriction and usually being animate, which qualify as the most difficult types of complex sentences (see previous section); in spontaneous speech, instead, either the clefted object (94) or the embedded subject (95) is usually a pronoun:

(94) *É o pequenino que eu quero.* (3;0) Santos (2009)

is the small that I want

'It is the small one that I want'

(95) *É e(s)ta qu(e) o Tá(s) conta?* (2;01)

is this that the Tomás tells

'Is it this one that Tomás tells?'

Some acquisition studies devoted attention to the investigation of how children deal with the relation between information structure, focus and prosody in contrastive contexts, without directly concentrating upon cleft structures. As for Romance languages, the most relevant study is the one by Moscati, Manetti and Rizzi (2015). They aim at determining whether preschool-aged Italian-speaking children are sensitive to focal stress when comprehending sentences with the same superficial DP DP V word order but different information structure; this difference, in turn, is contingent upon the presence of a contrastive focus intonation pattern (i.e., pitch accent of the type L+H*; Bocci 2013) placed on either the first or the second linear DP. An example of minimal pair drawn from the experiment by Moscati is given below:

(96) La tigre, LA ZEBRA ha battuto. Topic-Focus-Verb
 the tiger the zebra has defeated
 ‘The tiger has defeated THE ZEBRA’

(97) LA TIGRE la zebra ha battuto. Focus-Topic-Verb
 the tiger the zebra has defeated
 ‘The zebra has defeated THE TIGER’

In both sentences, the prosodically focalized DP can only be interpreted as the functional object (patient), whereas the remaining DP, the subject, constitutes the topic (this is so because there is no resumptive clitic pronoun in the sentence). Thus, the prosodic contour discriminates between an SOV reading (96), and an OSV one (97). 11 children aged 5;3 to 5;11 and 10 adults carried out a Truth Value Judgment Task. They saw 20 short stories on a computer screen about some animals challenging each other. At the end of the story, they heard a recorded dialogue between two characters in which the second character corrected the first. Fig.4 illustrates an example of visual scenario that participants saw at the end of a story; an example of proposed dialogue is reported below.



Fig. 4. Example of picture (Moscati et al. 2015)

Character A: *La giraffa ha battuto la tigre.*
'The giraffe has defeated the tiger'

(98) Character B: *No! LA ZEBRA la giraffa ha battuto.* (OSV)
no the zebra the giraffe has defeated
'No! The giraffe has defeated THE ZEBRA'

If (98) is interpreted as OSV, participants are expected to judge it as true; if the sentence is judged as being false, it may indicate that it is understood as being SOV. In a different condition, the comprehension of SOV sentences was tested (e.g., *La giraffa, LA ZEBRA ha battuto*). Furthermore, the possibly facilitating influence of SV agreement was taken into consideration in cuing the two interpretations:



Fig. 5. Example of picture belonging to the agreement condition (Moscati et al. 2015)

Character A: *La giraffa ha battuto le tigri.*
'The giraffe has defeated the tigers'

(99) Character B: *No! LE ZEBRE la giraffa ha battuto.* (OSV)
no the zebras the giraffe has defeated
'No! The giraffe has defeated THE ZEBRAS'

Here, the mismatch in number features between the first and the second DP constituent is expected to facilitate processing of the stimulus in (99). Again, the effect of agreement mismatch was tested also in SOV sentences (e.g., *La giraffa, LE ZEBRE ha battuto*). Findings show that whereas SOV (Topic-Focus-Verb) reading was accepted most of the times in felicitous contexts by adults and by children, the order OSV was much more problematic, somehow suggesting a possible preference for an SOV interpretation of the relevant sentences: here, agreement mismatch boosted correct OSV interpretation of OSV sentences in adults, while children sharply preferred an infelicitous SOV reading of OSV sentences even in the presence of a morphological cue. Thus, non-cleft sentences displaying OSV constituent order in association to a (fronted)Focus-Topic-Verb information structure seem to be difficult to process; in particular, when the two DP constituents share the same features (animacy;

number), their processing is hampered. These outcomes clearly recall the findings reported by some studies testing the comprehension of OCs: traditionally, the tested object clefts are of the OSV type, the subject and object constituents being similar, full lexical DPs. Recall also that when OSV clefts are not correctly interpreted, they may be reversed, and acted out as being SOV sentences. Finally, the presence of disambiguating noun-verb agreement information does not seem to be particularly effective in facilitating comprehension of OSV sentences in children, neither for main clauses nor for cleft sentences (recall Dick et al. 2004 for English-speaking children). As will be said in Chapter Four, this last observation somewhat differs from what has been reported for relative clauses.

2.4. Summary and conclusions

Summarizing the contents of this chapter, it is possible to identify one aspect in particular that characterizes how clefts are employed in spontaneous speech, how they get processed, and how they are interpreted and produced by children: there is a marked subject-non subject asymmetry. Whereas subject clefts, albeit with some differences hanging upon the language considered, are accurately produced and comprehended, object clefts are harder to process and to understand, as shown by experimental research. Specifically, OSV clefts are sometimes interpreted as being SOV sentences. Moreover, object clefts and other non-subject clefts are hardly ever produced in spontaneous speech and extremely difficult to elicit through the use of elicitation tasks.

As for Italian, we know that speakers cleave object and adjunct constituents infrequently, and that when they do, the clefted element is most favourably a demonstrative; it seems to be the case that children struggle with the written comprehension of OSV clefts up to middle-school (a finding that needs to be verified by means of an oral comprehension task). Furthermore, comprehension of OSV main clauses with *ex-situ* corrective focus on the object are shown to be problematic for 5 y.o. children and easier to comprehend if verbal agreement helps computation, but this only holds for adults. Passive clefts seem to be easier to understand than OCs, and are indeed attested, in experimental contexts, in productions of young children.

It has to be said that comprehension of clefts by children has often been tested without the provision of an adequate discourse context, e.g. a context that makes experimental sentences felicitous from a pragmatic point of view. For sentences that are typically used

contrastively, the presence of such a context is of particular importance. Modulating some features has proven to be fruitful in facilitating comprehension of OCs: the configuration DP DP V involving animate referents is the most taxing; if one nominal element is a pronoun or if the two relevant nominal elements are different in nature, processing is easier.

Despite the methodological limitations of most acquisition studies used to test the comprehension of clefts, the asymmetry remains attested in spontaneous language, and is replicated in controlled, pragmatically adequate elicitation contexts. In turn, elicitation experiments struggle to find a way of excluding the possibility that canonical SVO sentences be used instead of OSV ones.

Chapter Three

CONTRASTIVE/CORRECTIVE FOCALIZATION IN CHILDREN: OUR EXPERIMENT

3. Introduction

The literature on the acquisition of cleft sentences laid out in Chapter Two is almost exhaustive. However, cleft structures should receive more attention: just like restrictive relative clauses, for which a huge amount of acquisitional literature is available²⁹, they involve A' dependencies; second, they are focus structures, involving, according to some analyses, left-peripheral focalization of the cleft phrase and associating, when used correctively, with a precise intonation pattern. Third, they require specific discourse conditions to be used.

This chapter aims at gaining knowledge about how Italian-speaking children deal with oral production of subject and object contrastive clefts, and at uncovering the strategies employed by speakers, both children and adults, when they are induced to correct a preceding assertion. Evidence from the existing literature combined with the possibility, available in Italian, of using canonical non-cleft sentences when contrasting a preceding claim, lead us to expect speakers not to resort to OSV sentences when correcting an object constituent; instead, SVO sequences will be likely favoured. For this reason, we decided to employ two slightly different elicitation techniques, one of which exposes participants to cleft primes. Traditionally, linguistic priming exploits the tendency of speakers to re-use sentence structures that they have encountered earlier (Bock 1986, Pickering & Branigan 1999). By having participants hear clefts during the experimental sessions, we aimed at boosting production of marked OSV clefts in particular.

The research questions to be answered in this chapter are:

- a. Which strategies do Italian speakers adopt when required to correct someone else's claim?
- b. Is there an asymmetry between corrections targeting a syntactic subject and the correction of a syntactic object constituent?
- c. Do we find any developmental path from age 6 to age 10, or do children at 6 y.o. already pattern like adult speakers?

This chapter is structured as follows: section 3.1 presents the participants that carried out the correction task, describes the task and the methodology employed, and explains how we

²⁹ This holds for the Italian language as well; see next chapter.

coded participants' productions. Section 3.2 reports the findings in detail. Then, the results are discussed in section 3.3.

3.1. The correction task

In order to elicit contrastive cleft sentences, we set up a correction task based on the experiment designed by Hupet & Tilmant (1989) on French (see section 2.3). Accordingly, participants listened to sentences that first had to be judged as being true or false with respect to an event depicted in a colored-picture; then, if considered wrong, they had to be corrected. Discrepancies between the provided sentences and the depicted events concerned either the agent/subject or the patient/object involved. Differently from Hupet & Tilmant's experiment, and similarly to the one by Santos et al. (2013)³⁰, one or two extra-characters were included in the scenes. They were not involved in the events, nor were they carrying out any particular action. They were devices exploited to make the task pragmatically adequate: indeed, they provide explicit alternatives to the wrong one. Moreover, they are meant to avoid the use of pure identificational utterances like *No, quello è un/l' uccellino*, "No, that one is a/the bird", which could be acceptable if no extra-character is present in the pictures. Importantly, by having participants hear conversational exchanges and asking them to correct wrong claims, we created a felicitous discourse context for a cleft sentence of the contrastive/corrective type to be used, namely one in which a preceding assertion gets denied and corrected, carrying an incompatibility presupposition. The point is that it is extremely difficult to single out a context that exclusively triggers cleft sentences, ruling out production of their non-cleft counterparts. This is because the contexts that are amenable to the production of cleft structures are a subset of those amenable to the use of non-cleft corresponding sentences. What we did to promote the usage of subject and object clefts was devising a context that can potentially trigger production of a sentence with corrective focus. However, in doing so, we did not rule out the possibility that a non-cleft sentence may be chosen. We are aware of the fact that, taken together, these facts reduce the probability of eliciting non-subject sentences in a semi-spontaneous elicited production context.

³⁰ Despite the similarities our study shares with the one by Santos et al. (2013), the two experiments were designed independently.

3.1.1. Participants

One hundred and fifteen typically developing children aged 6;3 to 10;2 took part in our elicited production experiment. All children were native speakers of Italian living and attending primary schools in Venice. Eleven university students from Venice and its surroundings volunteered as control participants. Table 1 illustrates the distribution of participants according to their age:

Groups (age range)	N° of participants	Mean age	SD (months)
G1 (6;3 - 6;11)	19	6;6	2
G2 (7 - 7;11)	32	7;4	3
G3 (8 - 8;11)	27	8;5	3
G4 (9 - 10;4)	37	9;6	4
G5 (19 - 30)	11	23;6	44

Table 1. Participants across age groups

From these five groups, we obtained ten further subgroups: about half participants carried out the correction task under a “Non-priming” technique, and did not hear any cleft sentence during the experimental sessions; the other half were repeatedly exposed to subject and object cleft sentences (“Priming” technique). Table 2 illustrates the distribution of participants according to the type of technique they were assigned to:

Subgroups	Elicitation technique	N° of participants	Mean age	SD (months)
G1 NP	Non Priming	8	6;6	2
G1 P	Priming	11	6;7	2
G2 NP	Non Priming	15	7;5	3
G2 P	Priming	17	7;5	4
G3 NP	Non Priming	14	8;4	3
G3 P	Priming	13	8;6	3
G4 NP	Non Priming	18	9;6	4
G4 P	Priming	19	9;6	4

G5 NP	Non Priming	7	23;1	37
G5 P	Priming	4	24;3	48

Table 2. Participants across experimental technique

Some of the children lived with parents who habitually used the dialect spoken in Venice or another dialect from the Veneto region at home. This piece of information was collected through a questionnaire about the language(s) used at home, which was attached to the consent form. Adults reported not to make use of dialect, although the majority of them told us to be exposed to dialect in their familiar environment. The questionnaire allowed us to discard thirteen children after the testing sessions, either because they were not native speakers of Italian or because they were predominantly being exposed to a language different from Italian at home. Instead, we included in our sample three children whose parents reported to use another language at home (Arabic, English and Russian), in the same amount as Italian or less often than Italian; the oral productions of these children did not differ from those of the other children.

3.1.2. Design and Materials

For each participant, 12 subject-extracted cleft sentences and 12 object-extracted cleft sentences were targeted as a means to contrast, respectively, agents and patients involved in a set of events described by two puppets. The target sentences involved two animate DPs, referring to animal characters. Thus, in principle, we aimed at eliciting the most difficult type of cleft. However, in order to see whether a difference in features between the two DPs would encourage production of an OSV cleft, we manipulated the number features of the two, creating a matching condition (singular cleft phrase, singular embedded subject/object) and a mismatching condition (plural cleft phrase, singular embedded subject/object). For each targeted type of sentence, 6 items belonged to the matching condition, and 6 items to the mismatching condition. We came up with a 2x2x2 design, manipulating the elicitation technique (Priming vs. Non-priming), the type of targeted sentence (SC vs. OC) and the number features of the involved DPs (matching vs. non-matching).

The experimental materials consisted in a set of coloured pictures that children saw on a laptop screen. The pictures portrayed one or two animals performing an action on another one, plus one or two extra characters that were not involved in the events. The actions were associated to transitive verbs (*toccare* ‘touch’, *tirare* ‘pull’, *guardare* ‘look at’, *inseguire*

‘chase’, *rincorrere* ‘run after’, *picchiare* ‘beat up’, *pettinare* ‘comb’, *portar via* ‘carry away’, *sollevare* ‘lift up’, *lavare* ‘wash’, *graffiare* ‘scratch’, *spaventare* ‘scare’, *fermare* ‘stop’, *mordere* ‘bite’, *spingere* ‘push’, *colpire* ‘hit’). All nominal and verbal lexical entries except for three animal nouns (*pinguino* ‘penguin’, *cammello* ‘camel’, and *polipo* ‘octopus’) are included in the high frequency lexicon of Italian children attending primary school (Marconi et al. 1993). The direction of the actions was balanced so that half pictures for each condition depicted right-oriented actions and half showed left-oriented actions. Any time the child saw a picture on a Power Point presentation, the recorded voice of a puppet was played³¹; it introduced the characters depicted in the pictures. Then, a second puppet commented the scene by saying who was doing what to whom. In doing this, the puppet sometimes mentioned the wrong agent (subject condition) or the wrong patient (object condition).

At this point, children not exposed to cleft sentences had to decide whether the puppet had said things right; if not, the child had to correct it. Fig. 6 and the following exchanges illustrate one example of trial drawn from the non priming version of the test: it represents a stimulus aiming at eliciting a subject cleft with two singular DPs.

Elicitation of a subject cleft (Non-priming technique; DP_{sing} V DP_{sing})

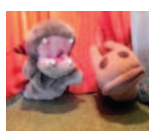
PUPPET A: Qui ci sono tre animali giocherelloni: un uccellino, un elefante e una farfalla.
 ‘Here, there are three playful animals: a little bird, an elephant, and a butterfly.’

PUPPET B: E la farfalla solleva l’elefante!
 ‘And the butterfly is lifting the elephant up!’

EXPERIMENTER: Ha detto bene?
 ‘Is he right?’

CHILD: No!
 (If needed: EXPERIMENTER: Perché no?
 ‘Why not?’)

(100) TARGET SENTENCE: E’ L’UCCELLINO che solleva l’elefante!
 ‘It is THE BIRD that is lifting the elephant up!’



³¹ Some children only listened to the recorded voices of the two puppets talking; the other children also watched the correspondent video-recordings of the puppets. The audio tracks, however, were the same. This methodological variable was disregarded for the purposes of this thesis.



Fig. 6. Sample of experimental picture

Differently from participants carrying out the non-priming version of the test, those who belonged to the priming version were systematically exposed to cleft sentences: after puppet B's description of the event, puppet A replied again by uttering a cleft sentence which emphatically reasserted puppet's B assertion; except for this supplement, everything was kept identical to the non-priming version:

Elicitation of a subject cleft (Priming technique; $DP_{sing} V DP_{sing}$)

PUPPET A: Qui ci sono tre animali giocherelloni: un uccellino, un elefante e una farfalla.

‘Here, there are three playful animals: a little bird, an elephant, and a butterfly.’

PUPPET B: E la farfalla solleva l'elefante!

‘And the butterfly is lifting the elephant up!’

PUPPET A: Eh sì, è proprio la farfalla che solleva l'elefante!

‘Yes, it is the butterfly that is lifting the elephant up!’

(...)

(101)TARGET SENTENCE: E' L'UCCELLINO che solleva l'elefante!

‘It is THE BIRD that is lifting the elephant up!’

As can be seen from the cleft-sentence prime provided by puppet A's reply to puppet B, our manipulation qualifies as a lexical-syntactic sort of “priming device”, since we did not try to prime purely abstract syntactic representations from one trial to the next one: the trial remains the same, and lexical and semantic overlap between the prime and the target is added. Psycholinguistic literature shows that the effects of priming are enhanced when there is lexical overlap, as compared to purely syntactic priming (Pickering & Branigan 1998; Bencini & Valian 2008).

Fig. 7 and the following exchanges illustrate how a discrepancy concerning the patient/object of the event was meant to elicit a contrastive focus structure: we insert the priming cleft sentence played in the priming version of the test between brackets. This stimulus aimed at eliciting a cleft with a plural cleft phrase and a singular embedded subject.

Elicitation of an object cleft (DP_{plur} DP_{sing} V)

PUPPET A: Qui ci sono degli animali birichini: due scoiattoli, due orsi e una giraffa.

‘Here, there are some funny animals: two squirrels, two bears, and a giraffe.’

PUPPET B: E la giraffa pettina gli scoiattoli!

‘And the giraffe is combing the squirrels!’

(PUPPET A: Eh sì, sono proprio gli scoiattoli che la giraffa pettina!)

Yes, it is the squirrels that the giraffe is combing!)

EXPERIMENTER: Hanno detto bene?

‘Are they right?’

CHILD: No!

(EXPERIMENTER: Perché no?)

‘Why not?’)

(102) TARGET SENTENCE: Sono GLI ORSI che la giraffa pettina!

‘It is THE BEARS that the giraffe is combing!’



Fig. 7. Sample of experimental picture

The order of the stimuli was pseudo-randomized, so as to avoid having two stimuli of the same type one after the other. In order to justify the task demands from a pragmatic point of view, children were also presented with stimuli in which the puppets described the pictures correctly. Moreover, some fillers were included to divert children’s attention, avoid a habituation effect, and alleviate the cognitive load needed to carry out the task. Indeed, having to match the puppets’ sentences with the pictures, detect a possible discrepancy, judge the sentence(s), and correct the potential mistake can be particularly complex, especially for younger children. Therefore, additional pictures were inserted, which simply contained characters doing something; a puppet asked what the depicted character was doing and the child had to answer; simple sentences with transitive and intransitive verbs were elicited; an example is given below:

PUPPET: Che cosa fa la zebra?

‘What is the zebra doing?’

(103) TARGET: (La zebra) mangia la pizza.

‘(The zebra) is eating pizza.’



Fig. 8. Sample of filler

Similarly, sometimes the child was asked what was happening to a certain character that was undergoing an action performed by a mysterious agent, as in what follows. The expected responses were passive sentences:

PUPPET: Indovina! Cosa succede al gatto?

‘Guess! What’s happening to the cat?’

(104) Target sentence: Viene bagnato.

‘(He) is being soaked’



Fig. 9. Sample of filler (passive)

All puppets’ utterances had been pre-recorded, to ensure that every participant was exposed to the very same intonation patterns.

In all, children were presented with 50 pseudo-randomized trials: 24 stimuli eliciting cleft sentences, 8 descriptions of the events to be judged as correct, 12 stimuli eliciting passive sentences, and 6 stimuli inducing production of simple active sentences.

3.1.3. Procedure

Before beginning the experimental sessions, we introduced the puppets, Lisa (a snail), Pippo (a hippo), and Carletto (a crow) to the classrooms at school, and explained to the children that they were going to play with a computer game that the puppets had prepared for them. Indeed, the puppets talking in the Power Point presentation were also present in the experimental setting and interacted with the children. After an overall introduction of the puppets to the children, every child was tested individually in a quiet room at school. At the beginning of the first session, the two involved experimenters manipulated the puppets so as to let the child familiarize with them. Moreover, a new puppet named Poldo was introduced: the experimenters

explained to the child that he was a reindeer coming from Scandinavia; he was not able to speak Italian, but was eager to learn the language, so he wanted to listen carefully to the puppets describing the pictures displayed on the computer screen. But the puppets were naughty and liked making fun of Poldo, sometimes describing the pictures in a wrong way. In order to help Poldo learn correct expressions and not erroneous ones, children were required to listen carefully to what the puppets said in the Power Point presentation and to correct them when necessary. When the children corrected the puppets, Poldo thanked the children for their correction and showed them he had learnt new words. Two practice trials, one in which the puppets provided a correct description of an event and one providing a wrong description, were first administered in order to check whether the child had understood the correction task. If not, the experimenters let the child listen to the stimuli again and explained the task until the child realized what he/she was supposed to do. To make the experimental session more enjoyable, with the younger children we set up a reward-game: any time the puppets described the pictures correctly in the PPT presentation (or the child thought so), the child could give to them a little reward (a little plastic toy; a sticker), as they were present in the experimental setting. After the two practice trials, the child was told that sometimes the puppets in the PPT presentation would ask him/her a question and he/she was supposed to answer, for Poldo to learn more. Poldo sat opposite to the child and looked at his personal copybook, which contained the very same drawings that the children saw on the laptop screen. The experimenter that manipulated Poldo also turned the pages of his copybook when needed. The other experimenter sat next to the child and helped her change the PPT slides. This arrangement, with the puppet Poldo sitting opposite to the child, was set up with the purpose of preventing children from pointing at the characters on the screen instead of talking.

Children completed the correction task in two sessions taking place a few days one after the other. In turn, each session was made up of two subparts: the first part elicited cleft sentences and passive sentences, the second part elicited relative clauses and interrogative sentences. No time limit was given to participants; on average, children took 25 minutes to complete each session. Adults were tested in one single session lasting approximately 30 minutes at university or at home. Each session was audio recorded, later transcribed and coded by the two experimenters. Doubtful transcriptions and classifications of the collected responses were discussed by the two.

3.1.4. Coding

In this section, we present the typologies of responses our participants produced, and how they were classified.

3.1.4.1. Responses collected in the subject condition

As regards the subject condition, we coded as SCs productions corresponding to the expected/target ones, exemplified in sentence (97) above, and some infinitival subject clefts. Non-cleft corrections displaying the order SVO were coded under “SVO”. Sometimes, the copula and the clefted constituent were uttered, while the cleft phrase was omitted; these productions were classified as “reduced clefts”. Occasionally, a clitic pronoun was used to refer to the patient/object character:

(105) E' L'UCCELLO che lo sta sollevando! (7;1)

‘It is THE BIRD that is lifting it up’

TARGET: E' L'UCCELLINO che solleva l'elefante.

‘It is THE BIRD that is lifting the elephant up’

(106) La capra non sta spaventando il coniglio. Lo spaventa... il cane. (9;8)

‘The goat is not frightening the rabbit. The dog is frightening him’

TARGET: E' IL CANE che spaventa il coniglio.

‘It is THE DOG that is frightening the rabbit’

These productions were classified depending upon the structure in which the clitic occurred, so, for instance, a sentence like (105) was coded as SC, while a sentence like (106) as “other structure”. The latter category also includes sporadic use of existential sentences³² of the type illustrated in (107), adopted by two children in the subject condition, and the use of passive sentences where the contrasted agent was turned into a *by*-phrase (108):

(107) No, c'è il cigno che pettina il cammello. (8;11)

‘No, there is the swan that is combing the camel’

TARGET: E' IL CIGNO che pettina il cammello.

³² The construction “C'è/ Ci sono...che...” may be ambiguous between a locative and a presentational construction in Italian. See Cruschina (2012).

‘It is THE SWAN that is combing the camel’

(108) No, il pesce viene inseguito dalle tartarughe. (23;0)

‘No, the fish is being followed by the turtles’

TARGET: Sono LE TARTARUGHE che inseguono il pesce.

‘It is THE TURTLES that are following the fish’

Sometimes, other pragmatically appropriate responses were given, which we coded under “other correct”. These may concern sentences that simply negate the puppet’s assertion (109) or that predicate something about the extra characters (110).

(109) No, non è LA RANA che tocca la mucca. (9;8)

‘No, it is not THE FROG that is touching the cow’

TARGET: E’ LA CAPRA che tocca la mucca (, non la rana).

‘It is THE GOAT that is touching the cow (, not the frog)’

(...) PUPPET: E i serpenti tirano il leone / Eh sì, sono proprio i serpenti che tirano il leone!

‘And the snakes are pulling the lion’/ ‘Yes, it is the snakes that are pulling the lion’

(110) I serpenti stanno lì vicini invece di tirare il leone. (9;0)

‘The snakes lie there instead of pulling the lion’

TARGET: Sono LE TARTARUGHE che tirano il leone.

‘It is THE TURTLES that are pulling the lion’

In other (infrequent) “other correct” cases, child utterances were acceptable but deviated from the target due to flaws in the pictures. The examples presented in the following refer to problematic pictures belonging to the subject condition (Figg. 10 and 11):

(111) No, IL GATTO colpisce la pecora! (8;3)

‘No, THE CAT is hitting the sheep’

TARGET: Sono I GATTI che colpiscono la pecora.

‘It is THE CATS that are hitting the sheep’

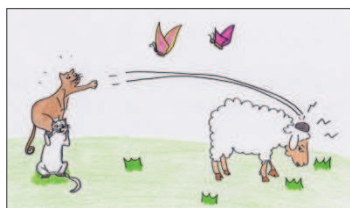


Fig. 10. Sample of flawed picture

(...) PUPPET: E il cane insegue la scimmia./ Eh sì, è proprio il cane che insegue la scimmia!

‘And the dog is chasing the monkey. / Yes, it is the dog that is chasing the monkey’

(112) Il cane insegue l’elefante e l’elefante insegue la scimmia. (8;1)

‘The dog is chasing the elephant and the elephant is chasing the monkey’

TARGET: E’ L’ELEFANTE che insegue la scimmia!

‘It is THE ELEPHANT that is chasing the monkey’

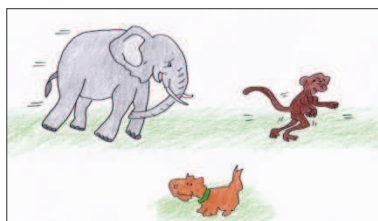


Fig. 11. Sample of flawed picture

Although infrequently, some participants’ responses were considered incorrect. Sometimes, children failed to notice the puppets’ mistakes (“yes-responses”), especially relatively to the following stimulus:

(...) PUPPET: E le rane inseguono il pesce. / Eh sì, sono proprio le rane che inseguono il pesce.

‘And the frogs are following the fish. / Yes, it is the frogs that are following the fish’

(113) Sì. / Vero. / Ha detto bene.

‘Yes / true / the puppet said it right’.

TARGET: Sono LE TARTARUGHE che inseguono il pesce!

‘It is THE TURTLES that are following the fish’

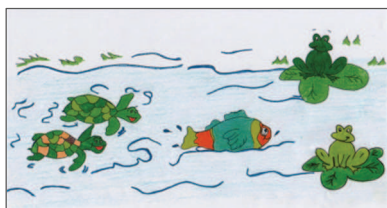


Fig. 12. Sample of confounding picture

Besides, some unclear, confused or incomplete productions were collected. A few cleft sentences with missing copula occurred. A further picture, Fig. 13, turned out to be potentially problematic and gave rise to a few thematic mistakes:

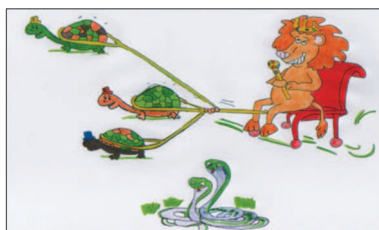


Fig. 13. Sample of flawed picture

(...) PUPPET: E i serpenti tirano il leone. / Eh sì, sono proprio i serpenti che tirano il leone!

‘And the snakes are pulling the lion. / Yes, it is the snakes that are pulling the lion’

(114) E’ il leone che tira le tartarughe. (7;9)

‘It is the lion that is pulling the turtles’

TARGET: Sono LE TARTARUGHE che tirano il leone.

‘It is THE TURTLES that are pulling the lion’

These productions were counted as “other wrong”.

Finally, and only occasionally, a wrong or confused intonation pattern emerged, as in the following examples:

(115) No, gli orsi lavano l’ASINO. (7;7)

‘No, the bears are washing THE DONKEY’

TARGET: Sono GLI ORSI che lavano l'asino.

'It is THE BEARS that are washing the donkey'

(116) Il cigno PETTINA il cammello. (7;9)

'The swan IS COMBING the camel'

TARGET: E' IL CIGNO che pettina il cammello.

'It is THE SWAN that is combing the camel'

Such utterances were coded under "wrong intonation pattern".

3.1.4.2. Responses collected in the object condition

As regards the object condition, responses were considered accurate first of all when they corresponded to the targeted object clefts. Non-cleft productions with canonical word order were classified as "SVO". When the subject was null, responses were coded under "VO" (117), and when a bare object was pronounced, utterances were classified under "O" (118).

(...) PUPPET: E il lupo porta via la tigre.

'And the wolf is carrying away the tiger'

(117) Porta via LA GALLINA. (6;5)

'He is carrying away THE CHICKEN'

(118) No, LA GALLINA. (6;8)

No, THE CHICKEN'

TARGET: E' LA GALLINA che il lupo porta via.

'It is THE CHICKEN that the wolf is carrying away'

Parallel to the subject condition, some reduced object clefts occurred:

(119) No, sono I TOPI. (7;0)

'No, it is THE MICE'

TARGET: Sono I TOPI che il cavallo rincorre.

'It is THE MICE that the horse is chasing'

“Other structures” included VOS sentences with focalized object, as in (120), OV sentences with null subject (121) and passive sentences (122, 123):

(120) No, guarda LE CAPRETTE, il serpente. (10;0)
‘No, the snake is looking at THE LITTLE GOATS’

(121) I TOPI, (r)incorre. (7;3)
‘THE MICE, he is chasing’

(122) E’ LA CAPRA che viene spinta dal gatto. (9;6)
‘It is THE GOAT that is being pushed by the cat’

(123) No, LA CAPRA viene spinta dal gatto. (10;4)
‘No, it is THE GOAT the is being pushed by the cat’

Furthermore, children sometimes employed a cleft structure containing a subject cleft phrase that does not bear contrastive stress (correctly, since the mistake concerns the object); in these cases, the sentence rather associates with a broad focus and has been considered as an example of “sentence-focus” intonation:

(...) PUPPET: E il serpente guarda i gattini / Eh sì, sono proprio i gattini che il serpente guarda!
‘And the snake is looking at the little cats. / Yes, it is the little cats that the snake is looking at’

(124) No, è il serpente che guarda le capre. (7;4)
‘No, it is the snake that is looking at the goats’

TARGET: Sono LE CAPRE che il serpente guarda.
‘It is THE LITTLE GOATS that the snake is looking at’

Existential sentences analogue to the one reported in (107) were also found in the object condition and were coded under “other structures”, as in the subject condition.

As before, other appropriate responses were given, which we counted as “other correct”. Among these, there are a few sentences where the number feature of one DP is not the expected one; in this case, the apparent inaccuracy is probably due to a flaw in the following picture:



Fig. 14. Sample of flawed picture

(125) Il cane tocca l'asino. (9;2)

'The dog is touching the donkey'

TARGET: Sono GLI ASINI che il cane tocca.

'It is THE DONKEYS that the dog is touching'

Among incorrect responses we included "yes-responses"; these concerned more often the following two stimuli: presumably, in the first the puppet's mistake was not so easy to detect; the second might have induced children to think that the goose is indeed stopping the two octopuses.

(...) PUPPET: E il cavallo rincorre i gatti. / Eh sì, sono proprio i gatti che il cavallo rincorre!

'And the horse is chasing the cats. / Yes, it is the cats that the horse is chasing'

TARGET: No, sono I TOPI che il cavallo rincorre.

'No, it is THE MICE that the horse is chasing'



Fig. 15. Sample of confounding picture

(...) PUPPET: E l'oca ferma i polipi. / Eh sì, sono proprio i polipi che l'oca ferma!

'And the goose is stopping the octopuses. / Yes, it is the octopuses that the goose is stopping'

TARGET: No, sono I PINGUINI che l'oca ferma.

'No, it is THE PENGUINS that the goose is stopping'



Fig. 16. Sample of flawed picture

Some children uttered clear subject contrastive cleft sentences (“O>SC”):

(126) E’ IL CAMMELLO che tira la mucca! (6;5)

‘It is THE CAMEL that is pulling the cow’

TARGET: E’ LA MUCCA che il cammello tira.

‘It is THE COW that the camel is pulling’

In these cases, the theta roles are not reversed, but the syntactic functions of the DPs are.

A few productions were coded under “wrong intonation pattern”; most often, they contained two DPs characterized by contrastive prosody and leading to an ungrammatical sequence:

(...) PUPPET: E il cane tocca le tartarughe. / Eh sì, sono proprio le tartarughe che il cane tocca!

‘And the dog is touching the turtles. / Yes, it is the turtles that the dog is touching’

(127) * Perché è IL CANE che tocca ... GLI ASINI! (8;6)

‘Because it is THE DOG that is touching... THE DONKEYS’

TARGET: Sono GLI ASINI che il cane tocca.

‘It is THE DONKEYS that the dog is touching’

In some cases, it is difficult to determine whether a response should be interpreted as a “real” contrastive subject cleft (“O>SC”) or as a cleft construction bearing broad, sentence focus. Such productions were counted as “dubious”.

Finally, under “other wrong”, we included unintelligible, confused, or incomplete utterances.

As a general rule, when children showed not to remember the exact noun of one animal character (we refer in particular to the nouns *capra* ‘goat’, *asino* ‘donkey’, and *cigno* ‘swan’), we either accepted a related noun (e.g., *pecora* ‘sheep’, *cavallo* ‘horse’, and *oca* ‘goose’, respectively) or prompted the right word. This goes for verbs as well (e.g., we accepted *(in)seguire* ‘chase’ instead of *rincorrere* ‘run after’, *tirare su* ‘raise up’ instead of *sollevare* ‘lift (up)’, *picchiare* ‘beat up’ instead of *colpire* ‘hit’).

3.2. Results

3.2.1. General accuracy levels

First of all, we counted all correct/accurate responses (2646 for children, 259 for adults) and all incorrect ones (114 for children, 5 for adults). As a whole, children produced 96% correct responses, adults 98%. In raw numbers, children produced 1330 adequate corrections vs. 50 unacceptable responses when the correction concerned the agent/subject; when the mistakes concerned the patient/object, children produced 1316 correct responses vs. 64 incorrect responses. Adults produced 128 correct utterances vs. 4 incorrect utterances in the first condition and 131 correct vs. 1 incorrect responses in the second. Table 3 and Table 4 illustrate raw numbers and percentages of correct responses collected in every group of participants in the subject and in the object condition, respectively.

Groups	Correct responses	Accuracy
G1 NP	92/96	96%
G1 P	126/132	95%
G2 NP	174/180	97%
G2 P	201/204	99%
G3 NP	163/168	97%
G3 P	151/156	97%
G4 NP	204/216	94%
G4 P	219/228	96%
G5 NP	82/84	98%
G5 P	46/48	96%

Groups	Correct responses	Accuracy
G1 NP	88/96	92%
G1 P	120/132	91%
G2 NP	175/180	97%
G2 P	186/204	91%
G3 NP	162/168	96%
G3 P	150/156	96%
G4 NP	214/216	99%
G4 P	221/228	97%
G5 NP	83/84	99%
G5 P	48/48	100%

Table 3. Correct responses in the subject condition Table 4. Correct responses in the object condition

A comparison between tables suggests that the rate of correct responses given by participants is not very different in the subject vs. object condition. In order to determine whether the level of accuracy is contingent upon the targeted type of sentence, we ran a statistical analysis calculating the change in probability of producing a correct type of response for the type of condition (subject/object). Following Dixon (2008) and Jaeger (2008), our data were analyzed by means of a repeated-measure logistic regression analysis, which we ran with the statistical software R (R Core Team 2013; version 3.2.1). Logistic regression has been chosen because our dependent variable, in this case accuracy, is discrete and categorical; specifically, it is binomially distributed (a response can be either correct or incorrect). Repeated-measure logistic regression has been used since all variables except for age and elicitation technique are computed within subjects. Subjects and items were always included as random factors in mixed logit models (Baayen 2008). First, we set the change in probability of producing a correct response rather than an incorrect response as our dependent variable and the type of targeted sentence as independent variable, keeping the Non-priming and the Priming groups separate. As a result, we did not find an effect of sentence-type for the Non-priming groups. By setting age as covariate, we found that accuracy is not related to age either. For the priming version of the task, we found a main effect of type of sentence (subject vs. object): $\chi^2(1) = 3.95, p < 0.05$. That is, exposure to object cleft sentences has led to more mistakes (43/768) than exposure to subject clefts (25/768). Such a difference was not detected in Non-priming groups.

3.2.2. The subject condition

Let us now examine how participants' productions are distributed across typology of answers in the condition concerning the subject. Table 5 reports raw amounts and percentages of productions for the classification categories mentioned in the previous section, relatively to the Non-priming groups. For the two main strategies of answers, SCs and non-cleft SVO sentences, we report the standard deviation as well (between brackets).

GROUPS (N stimuli)	Correct responses					Incorrect responses		
	SC	SVO	REDUCED CLEFT	OTHER STRUCT	OTHER CORRECT	YES ANSWER	WRONG INT	OTHER WRONG
G1 NP (96)	19 20% (40%)	71 74% (44%)	1 1%	0 0%	1 1%	1 1%	3 3%	0 0%
G2 NP (180)	61 34% (47%)	98 54% (50%)	12 7%	0 0%	3 2%	2 1%	1 1%	3 2%
G3 NP (168)	62 37% (48%)	90 54% (50%)	1 1%	8 5%	2 1%	3 2%	0 0%	2 1%
G4 NP (216)	105 49% (50%)	93 43% (50%)	2 1%	0 0%	4 2%	6 3%	0 0%	6 3%
G5 NP (84)	32 38% (49%)	42 50% (50%)	0 0%	7 8%	1 1%	0 0%	0 0%	2 2%

Table 5. Types of responses collected in the subject condition (Non-priming groups)

Data suggest that in spite of the fact that a certain amount of subject clefts are uttered by participants belonging to each age group (on average, around 35% by children and 38% by adults), the overall preferred strategy adopted for correction is the non-cleft, SVO sentence with focalized subject. This is better visualized in the following graph:

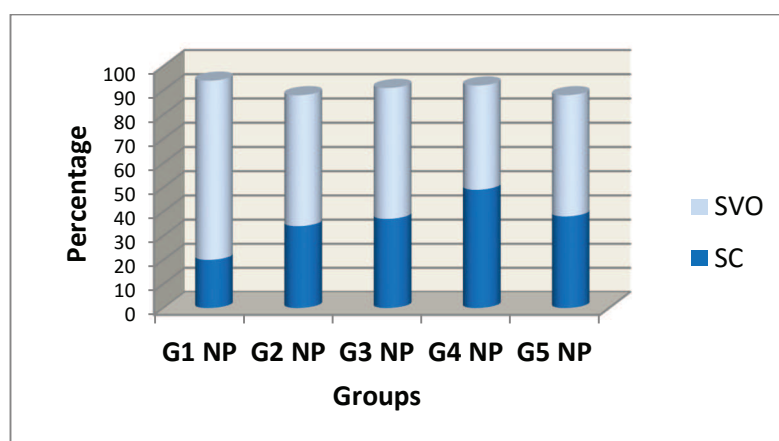


Fig. 17. Amount of SCs and SVO non-cleft sentences elicited per group (Non-priming groups)

The extremely high standard deviation values indicate that variability in participants' productions has reached its maximum (50%). When looking at how cleft sentences are distributed across participants, we find out that 17 children out of 55 uttered no clefts at all and that 4 children uttered 12/12 subject clefts. The remaining 34 children produced from one up to 11 clefts. The first column of Table 5 is graphically represented by means of multiple box plots (Fig.18). In addition to complete cleft sentences, we included in the box plot reduced clefts as well (see below for more details about reduced clefts). The graph gives an overview of the data's general distribution. It illustrates the huge variability affecting participants and suggests that in the youngest group most of the children produced no clefts at all. Indeed, 5 out of 8 6 years-old children did not employ any cleft. On the contrary, the highest median concerns the oldest children. Indeed, out of the 18 children belonging to G4 NP, 3 children uttered 0 clefts and 10 children uttered 6 or more than 6 clefts. As for adults, 3/7 speakers did not produce any cleft, the others uttered 5 to 11 SCs.

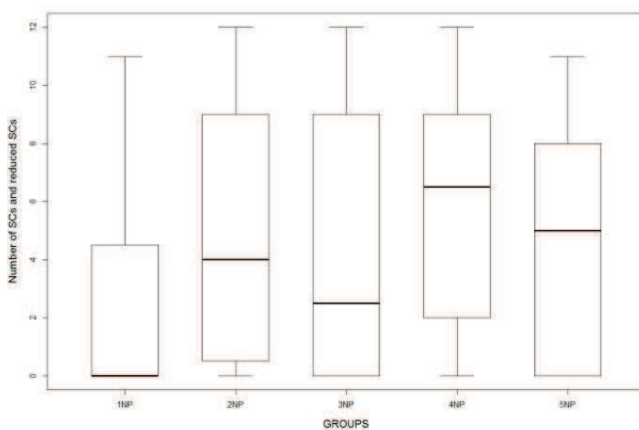


Fig. 18. Multiple box plots showing the distribution of SCs and reduced subject clefts on a total of 12 in all Non-priming groups. The box plots display, from bottom-up, 25th, 50th and 75th percentiles in the box and the least and greatest observed values as horizontal lines outside the box.

The gradual increase in the proportion of target clefts from 6 to 10 y.o. (Table 5, first column) does not seem to be related to the age of participants, despite appearance. Indeed, no significant effect of age-group was found.

As usage of cleft structures is widespread in the Venetian dialect, we took into account exposure to dialect as a factor that might contribute to explain variability among participants. However, exposure to dialect in one's family did not reach significance either. Indeed, children belonging to families where the dialect is commonly spoken at home did not produce more cleft sentences than the other children (as a whole, 35.5% SCs in the former participants, (98/276), 39% SCs in the latter (149/384)).

Subject clefts and their non-cleft SVO counterparts are the predominant types of

responses participants employed. In the child data, only 3 cleft sentences are of the infinitival kind, and only one adult participant makes use of them. The remaining strategies, when adopted, account for low percentages. No reduced cleft sentence was employed by adults in this condition; notice that the usage of a truncated cleft would sound odd, or somewhat “incomplete” when the target of correction is a preceding assertion expressed through a non-cleft sentence:

PUPPET B: E la farfalla solleva l’elefante!
‘And the butterfly is lifting the elephant up!’

(128a) #CHILD: No è L’UCCELLINO!
‘No it is THE LITTLE BIRD’

(If needed: EXPERIMENTER: Perché no?
‘Why not?’)

(128b) #Perché è L’UCCELLINO!
‘Because it is THE LITTLE BIRD’

Interestingly, the few reduced clefts used by children almost always occur at the end of a preceding negated cleft, namely in 14 out of 16 responses:

(129) No, perché non è LA FARFALLA che solleva l’elefante, ma è L’UCCELLINO. (7;4)
‘No, because it is not THE BUTTERFLY that is lifting the elephant up, but it is THE LITTLE BIRD’

As for the “other structures”, employed by G3 NP and G5 NP, a difference emerge between adults and children: the seven sentences uttered by the adults are all non-cleft passive sentences in which the patient/subject corresponds to the object of the preceding puppet’s claim, and the contrasted agent is inserted within a *by*-phrase in sentence-final position (*Il pesce viene inseguito dalle tartarughe* instead of *Sono LE TARTARUGHE che inseguono il pesce*). The alternative structure employed by children is the existential one of the type *c’è/ci sono*; these was never pronounced with contrastive stress on the subject constituent, but rather seem to associate with broad-focus.

Parallel to Table 5, Table 6 illustrates what participants belonging to the Priming groups produced during the experimental sessions.

GROUPS (N stimuli)	Correct responses					Incorrect responses		
	SC	SVO	REDUCED CLEFT	OTHER STRUCT	OTHER CORRECT	YES ANSWER	WRONG INT	OTHER WRONG
G1 P (132)	85 64% (48%)	35 27% (44%)	4 3%	0 0%	2 2%	1 1%	1 1%	4 3%
G2 P (204)	142 70% (46%)	40 20% (40%)	19 9%	0 0%	0 0%	0 0%	1 0%	2 1%
G3 P (156)	93 60% (49%)	45 29% (45%)	8 5%	1 1%	4 3%	1 1%	0 0%	4 3%
G4 P (228)	163 71% (45%)	40 18% (38%)	13 6%	1 0%	2 1%	3 1%	0 0%	6 3%
G5 P (48)	39 81% (39%)	4 8% (28%)	1 2%	0 0%	2 4%	0 0%	0 0%	2 4%

Table 6. Types of productions collected in the subject condition (Priming groups)

Remarkably, despite variability is again very high, the pattern of answers is different, and somehow reversed, as compared to the one relative to the Non-priming groups:

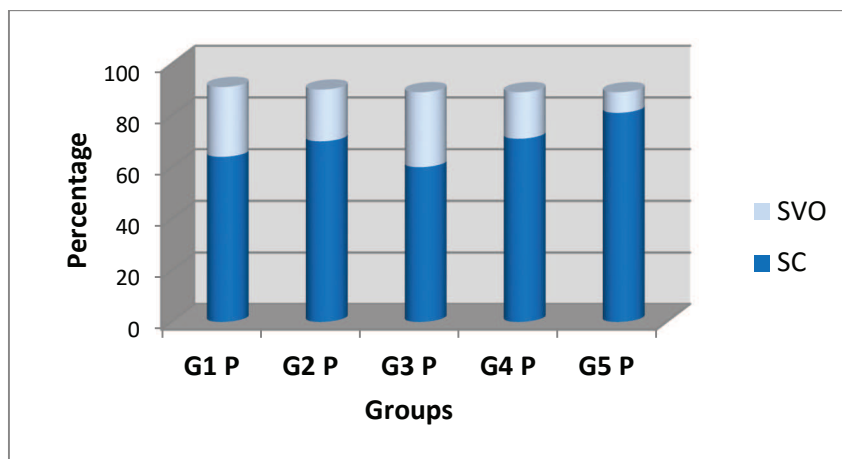


Fig. 19. Amount of SCs and SVO non-cleft sentences elicited per group (Priming groups)

Only 3 children out of 60 uttered no clefts at all; of these, 2 belong to the 6-years-old group, one to the 8-years-old group. 5 children produced 12/12 complete SCs. The remaining 52 children produced one up to 11 clefts. In this case, the frequency distribution is positively skewed, with a mode of 11 complete clefts, observed in 12 children; on average, children who produced at least one cleft uttered 8.5 clefts with a standard deviation of 3. Of the four adults, one produced 7 subject clefts, the others 10 or 11 clefts. The first column of Table 6, including reduced clefts, is graphically represented in Fig. 20.

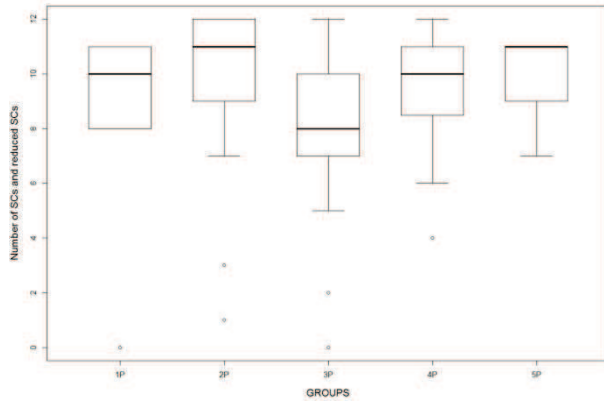


Fig. 20. Box plots showing the distribution of SCs and reduced clefts on a total of 12 in all Priming groups. The values below the horizontal lines, plotted as dots, deviate from the mean more than 1.5 standard deviations.

The graph shows that most participants belonging to the Priming groups have produced a consistent number of subject (complete or reduced) clefts. Again, we found no relation between the amount of clefts used and age, nor between the amount of clefts and exposure to dialect. As a whole, children whose parents reported to speak dialect at home employed 216/300 clefts (72%), children only exposed to Italian uttered 311/400 clefts (77%).

Subject clefts are the predominant strategy of answers across all Priming-groups, followed by the corresponding non-cleft SVO sentences. Infinitival clefts occurred only 7 times, 6 times in child data and once in adult data. The amount of reduced clefts collected is little higher as compared to the Non-priming groups. Noticeably, this time truncated clefts are used to correct the preceding puppets' claims directly, without the mediation of a cleft sentence being inserted by the children:

PUPPET B: E la farfalla solleva l'elefante!
 'And the butterfly is lifting the elephant up!'
 PUPPET A: Eh sì, è proprio la farfalla che solleva l'elefante!
 'Yes, it is the butterfly that is lifting the elephant up!'

(130a) CHILD: No è L'UCCELLINO!
 'No it is the LITTLE BIRD'

(If needed: EXPERIMENTER: Perché no?
 'Why not?')

(130b) Perché è L'UCCELLINO!
 'Because it is THE LITTLE BIRD'

A preceding negated cleft sentence was introduced only 2 times out of 44 productions by children, while the only reduced cleft uttered by an adult participant does follow a negated cleft.

As regards the category “other structure”, two sentences were used in which the patient/object is referred to through an object clitic pronoun and the contrasted agent/subject is placed postverbally, at the end of the sentence (*La capra non sta spaventando il coniglio. Lo spaventa il cane*). Finally, we observe that whenever a child produces a “wrong intonation” pattern, by contrastively focalizing a constituent distinct from the subject, this only concerns non-cleft, SVO sentences (*Gli orsi lavano L’ASINO* in place of *GLI ORSI lavano l’asino. / Sono GLI ORSI che lavano l’asino*), and never cleft sentences (e.g., *Sono gli orsi che lavano L’ASINO.*)

Overall, the “priming device” has had an effect in boosting the production of SCs: participants who have been exposed to cleft sentences have produced around twice as many clefts as participants who have not, and more participants belonging to the Priming-groups have used at least one subject cleft in their responses. Indeed, by contrasting a general mixed model having production of a target SC as our dependent variable and type of elicitation technique as our independent variable with a model containing random factors as the only predictors, we observe a main effect of elicitation technique on production of SCs (priming vs. non-priming groups): $\chi^2(1) = 23.76, p < 0.001$. As a whole, participants who were exposed to subject cleft sentences used subject clefts more frequently than the other participants (Wald $Z = 5.061, p < 0.001$).

3.2.3. The object condition

We now turn to the responses given by the same participants in the object condition. Table 7 shows participants' answers relative to the Non-Priming version of the test.

GROUPS (N stimuli)	Correct responses								Incorrect responses				
	OC	SVO	VO	BARE OBJ	RED CLEFT	SENT FOC	OTHER STRUCT	OTHER CORR	YES	O>S	WRONG INT	DUBIOUS	OTHER WRONG
G1 NP (96)	0 0%	68 71%	19 20%	1 1%	0 0%	0 0%	0 0%	0 0%	4 4%	1 1%	1 1%	0 0%	2 2%
G2 NP (180)	0 0%	154 86%	13 7%	1 1%	0 0%	6 3%	1 1%	0 0%	1 1%	0 0%	2 1%	1 1%	1 1%
G3 NP (168)	0 0%	136 81%	14 8%	7 4%	0 0%	1 1%	3 2%	1 1%	3 2%	0 0%	1 1%	0 0%	2 1%
G4 NP (216)	0 0%	157 73%	46 21%	0 0%	0 0%	9 4%	1 0%	1 0%	1 0%	0 0%	0 0%	0 0%	1 0%
G5 NP (84)	0 0%	75 89%	6 7%	0 0%	0 0%	0 0%	0 0%	2 2%	1 1%	0 0%	0 0%	0 0%	0 0%

Table 7. Types of productions collected in the object condition (Non-priming groups)

The first observation concerns the total absence of object clefts in the collected corpus. Instead, participants frequently chose to use non-cleft SVO sentences to correct the puppet's mistake, sometimes legitimately omitting the subject or, albeit rarely, producing a bare object. On average, across groups, non-cleft SVO and VO sentences account for 92% of children's responses. Moreover, no reduced cleft has been produced. This is in line with data collected in the subject condition; here, no object reduced clefts have been uttered at all; participants never started out with a negated object cleft sentence like the subject equivalent given in (129) above, as would be necessary in order to license the usage of a reduced object cleft.

Cleft structures in which the cleft phrase coincides with the agent/subject belong to the category "sentence focus"; in these cases, the subject is (correctly) not stressed and the intonation patterns with a default, declarative one. Among the other types of structures employed, there are two VOS sentences with focalized object and dislocated subject, and some existential sentences of the *c'è/ci sono* type. One young child (7;6 y.o.) has associated a contrastive focus prosody with the subject instead of the object constituent in a non-cleft SVO sentence ("O>S"); this is the same child who makes two phonological mistakes in the subject condition as well. Wrong intonation contours concern productions where two constituents in the same sentence are clearly contrasted; these are often the outcome of hesitations and uncertainty; presumably, the child starts out by focalizing the subject and then realizes that it is

the object that has to be corrected.

As regards the Priming-groups' productions, Table 8 illustrates the data collected:

GROUPS (N stimuli)	Correct responses								Incorrect responses				
	OC	SVO	VO	BARE OBJ	RED CLEFT	SENT FOC	OTHER STRUCT	OTHER CORR	YES	O>SC	WRONG INT	DUBIOUS	OTHER WRONG
G1 P (132)	2	101	11	0	0	6	0	0	1	2	0	7	2
	2%	77%	8%	0%	0%	5%	0%	0%	1%	2%	0%	5%	2%
G2 P (204)	3	143	13	2	9	14	1	1	1	7	6	1	3
	1%	70%	6%	1%	4%	7%	0%	0%	0%	3%	3%	0%	1%
G3 P (156)	3	123	5	1	1	10	4	3	2	1	1	0	2
	2%	79%	3%	1%	1%	6%	3%	2%	1%	1%	1%	0%	1%
G4 P (228)	7	174	2	1	10	19	7	1	1	2	0	1	3
	3%	76%	1%	0%	4%	8%	3%	0%	0%	1%	0%	0%	1%
G5 P (48)	0	37	8	0	0	0	0	3	0	0	0	0	0
	0%	77%	17%	0%	0%	0%	0%	6%	0%	0%	0%	0%	0%

Table 8. Types of productions collected in the object condition (Priming groups)

Noticeably, a very low amount of target object clefts, namely fifteen, were collected. Of these, one contained a null embedded subject (131), and two featured a postverbal subject (132):

(131) E' le ..le CAPRE che guarda. (7;11)

is the the goats that looks

'It is the...the GOATS that he is looking at'

(132) a. E' L'ORSO che lava, l'asino. (6;9)

is the bear that washes the donkey_{SUBJ}

'It is THE BEAR that the donkey is washing'

b. E' LA CAPRA che spinge, il gatto. (7;0)

is the goat that pushes the cat_{SUBJ}

'It is THE GOAT that the cat is pushing'

As in the Non-priming groups, participants by far preferred to use canonical SVO sentences when required to correct a discrepancy on the object constituent. In this respect, the pattern of responses shown in Table 8 parallels the one shown in Table 7. As compared to previous results,

children, but not adults, produced less VO sentences. Furthermore, some reduced clefts emerge, which are adequate corrections of preceding object cleft sentences, and cleft structures displaying a subject, non-contrasted clefted constituent are more numerous (“sentence focus”). Within “other structures”, two OV sentences with focalized object (*I TOPI, rincorre*, ‘The MICE, he is chasing’; *GLI ASINI, tocca*, ‘The DONKEYS, he is touching’), four VOS sentences with focalized object and dislocated subject (*No, guarda LE CAPRETTE, il serpente*, ‘No, the snake is looking at the little goats’) and six passive sentences are included; the latter are either embedded in a cleft structure (*E’ L’ORSO che viene lavato dall’asino*, ‘It is the BEAR that is being washed by the donkey’), or they are matrix clauses with focalized subject-patient (*LA CAPRA viene spinta dal gatto*, ‘The GOAT is being pushed by the cat’) and have been employed exclusively by the oldest children.

12 times, children produced cleft sentences with clear contrastive stress on the subject clefted constituent (“O>SC”), but correct assignment of theta roles (*E’ IL CAMMELLO che tira la mucca*, ‘It is the CAMEL that is pulling the cow’ instead of *E’ LA MUCCA che il cammello tira*, ‘It is the COW that the camel is pulling’). Ungrammatical sentences containing double contrastive focus occur as well (“wrong intonation”), both in cleft and non-cleft SVO sentences. Sentences counted as “dubious” are ambiguous between a genuine SC reading and a cleft construction bearing broad focus.

Importantly, a few children exposed to OC primes showed not to interpret them correctly; we know this thanks to their verbal explanations, which we exemplify in the following:

PUPPET B: E il pinguino guarda l’ape.

‘And the penguin is looking at the bee’

PUPPET A: Eh sì. È proprio l’ape che il pinguino guarda!

‘Yes, it is the bee that the penguin is looking at’

(133) No, perché il pinguino guarda il gatto e l’ape non guarda il pinguino. (9;2)

‘No, because the penguin is looking at the cat and the bee is not looking at the penguin’

PUPPET A: E il gatto spinge il pulcino.

‘And the cat is pushing the chick’

PUPPET B: Eh sì. È proprio il pulcino che il gatto spinge!

‘Yes, it is the chick that the cat is pushing’

(134) No perché hanno detto che il gatto spinge il pulcino e poi il pulcino che spinge il gatto invece il gatto spinge la capra. (6;6)

‘No, because they said that the cat is pushing the chick and then the chick that is pushing the cat, but the cat is pushing the goat’

Sometimes, this emerged also when children were expected to judge the puppets’ descriptions of the events as true, in the object condition; notice that verbal agreement has not guided comprehension:

PUPPET: Eh sì, sono proprio i pinguini che il nonno lava! (TRUE)

‘Yes, it is the penguins that the grandpa is washing’

(135) Sbagliato, perché è il nonno che lava i pinguini.

‘Wrong, because it is the grandpa that is washing the penguins’

The last observation concerning our findings regards the effect of the manipulation of number features in the two nominal phrases constituting the agent/subject and the patient/object of the targeted sentences. Difference/similarity in the DPs’ number features did not play any role in boosting or restraining production of subject cleft sentences: as a whole, children belonging to the Non-priming groups produced 119 SCs with mismatching DPs and 128 SCs with matching DPs, adults 18 vs. 14 SCs. Children belonging to the Priming groups produced 244 SCs in the mismatching condition and 239 in the matching one. Adults uttered, respectively, 19 and 20 SCs. The manipulation did not play any role either in boosting production of object cleft sentences: of the 15 OCs uttered by children, 7 contain mismatching DPs and 8 contain matching ones.

3.3. Discussion

One of the goal of this study is to investigate whether an asymmetry in production between correction of a subject and correction of an object constituent is found in Italian, as is attested in French and E. Portuguese. Indeed, such an asymmetry clearly surfaces, and it turns out to be radical: while subject-extracted clefts occur in both children and adults, object-extracted clefts and object reduced clefts appear only sporadically in the child corpus and are absent in the adult corpus. With respect to the existing acquisition literature on the elicited production of clefts, this pattern replicates the one found for French and E. Portuguese. This holds especially with respect to the object condition: in the three languages, no OC is attested in the adult productions, while it is attested in child production, albeit very infrequently, from the age of around 4-4;6 years. When they have to correct a discrepancy concerning the direct object constituent in a context where a nominal subject and a nominal object are both animate and lexically restricted, Italian-speaking children behave like their French- and Portuguese-speaking peers and adults, preferring to employ a canonical SVO sentence, no matter whether the two DPs match in their number features or not. Furthermore, no OSV non-cleft sentences similar to the ones tested by Moscati et al. (2015) appear in our corpus, not even in Priming groups. In other words, participants never produced sentences like the one in (136), containing an ex-situ, contrastively focused direct object and a preverbal subject:

(...)

PUPPET B: E la giraffa pettina gli scoiattoli!

‘And the giraffe is combing the squirrels!’

(PUPPET A: Eh sì, sono proprio gli scoiattoli che la giraffa pettina!)

Yes, it is the squirrels that the giraffe is combing!)

(...)

OSV CLEFT SENTENCE: Sono GLI ORSI che la giraffa pettina!

‘It is THE BEARS that the giraffe is combing!’

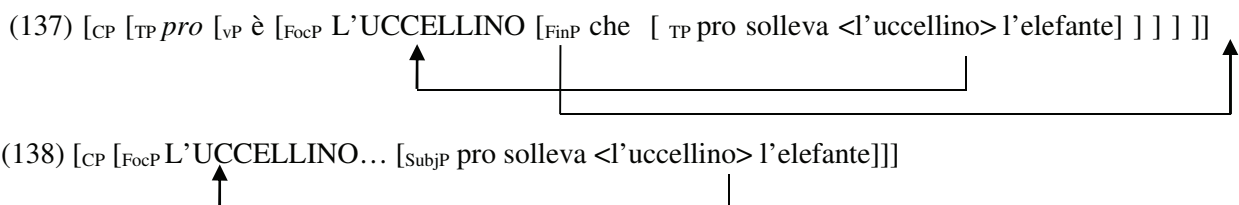
(136) OSV MAIN CLAUSE: GLI ORSI la giraffa pettina!

‘THE BEARS the giraffe is combing!’

As for the subject condition, things are different: although in general some “standard” subject clefts are produced, their proportion changes according to the language; in French,

where the very first sentential constituent is usually not stressed and postverbal subjects are banned in non-embedded contexts, clefts qualify as the best solution to contrastively focalize a subject constituent. For these reason, children taking part in Hupet and Tilmant’s (1989) experiment mainly employed subject clefts and reduced clefts in the subject condition. In E. Portuguese, prosodic marking on the subject in corrections targeting the subject constituent is possible, and, indeed, both children and adults resort to it in non-cleft SVO sentences. However, this strategy is not predominant (49% in the adults, 21% in the children, on average), and a variety of cleft structures are adopted. In particular, “standard clefts” are disfavoured as compared to *é que* clefts, and, for young children, *be* fragments (Santos, Lobo & Soares 2013; Lobo, Santos & Soares 2015).

Our results on Italian slightly depart from these two patterns: the huge variability observed among participants in the subject condition seems to indicate that non-cleft SVO sentences with focalized subject and subject clefts are ultimately equivalent for speakers. This is reasonable if one considers not only that in the discourse context we devised, both types of structure are felicitous, but also that syntactically, the two are comparable. As for contrastive clefts, we have seen that, as proposed by Belletti, the cleft phrase is supposed to undergo A' movement from its thematic position to the left periphery of the cleft clause, and, specifically, to the same peripheral position targeted by correctively focused constituents. There is also empirical evidence that in Italian, a contrastively focalized subject constituent in preverbal position is placed in a dedicated Focus position in the left periphery of the clause even in root sentences (Bocci 2004, 2013). Bocci shows that the involvement of a dedicated projection that encodes the relevant focus features in the syntax is needed if the subject is to be interpreted correctly and assigned its contrastive-focus prosodic properties. Comparing the structure of contrastive clefts as proposed by Belletti (137) and the one proposed by Bocci for simple left-peripheral focalization (138) highlights the parallelisms:



Therefore, SCs and their uncleft SVO counterparts with preverbal, focalized subject are comparable structures and have been used as alternative answers in our experiment.

By contrast, OCs are noncanonical OSV sentences. They are more marked than their uncleft SVO counterparts, where the postverbal contrasted object is realized in situ, occupies the rightmost position in the sentence and does not lead to a violation of the rightmostness constraint which is at work in Italian. Obviously, this holds also for non-cleft OSV sentences. Furthermore, the use of SVO sentences can be seen, at least for our Non-priming groups of participants, as the most immediately available structure: indeed, they may have chosen to naturally maintain A linear parallelism with the sentence to be corrected. In a way, we might have unintentionally primed canonical sentences. Since in the situation presented to the speakers, the less marked in-situ focus is licit, participants predominantly resort to SVO sentences in their utterances. This observation could be extended to the Portuguese and the French data as well. Besides, the strong preference for in-situ focus over ex-situ focus has been attested for adult Italian speakers by Bianchi & Bocci (2012) in the acceptability judgment task reported in section 1.3.

As for the detection of a possible developmental path, the same line of reasoning could explain why we did not detect any clear-cut developmental change in children's performance: we could assume that our school-aged children are already adult-like in the spontaneous choices they make. Actually, there seems to be a slight, very gradual increase related to age in the amount of SCs produced by participants belonging to the Non-priming groups (statistically not significant, however; Table 5 and Fig. 17). In this respect, data resemble the French findings and the developmental pattern found in the comprehension of clefts in English (Lempert & Kinsbourne 1978; Dick et al. 2004). Overall, we can safely say that SCs are commonly employed by Italian-speaking children in their school-age, alternatively to non-cleft SVO sentences with focalized subjects, and with no apparent influence exerted by exposure to dialect. Furthermore, we have evidence that children have subtle knowledge of the structure: specifically, they know when it is adequate to truncate a cleft, thus omitting the presuppositional part, and when it is not.

Another important claim concerns how children have processed the cleft sentences provided in the priming version of the task. Subject clefts have exerted the expected effect, priming similar sentences and, possibly, providing explicit presuppositions to be handed over to the following corrective statement. By contrast, OC primes exerted a much smaller influence, leading children to produce a few amount of OCs and reduced clefts. We have reasons to suspect that at least some of the children interpreted the OSV sentences as SOV ones. In fact, we do not dispose of oral comprehension data about OSV sentences by Italian children in their school-age, but literature on written comprehension by older children (Bazzanella 1988) and on other languages (English: Lempert & Kinsbourne 1978;1980, Dick et al. 2004; Greek: Stavrakaki

2004) suggests that OSV cleft sentences are often either not parsed or reversed. If sentences have not been processed adequately, priming of OSV sentences cannot have taken place. Noticeably, interpreting OSV clefts as SOV sentences may lead to the use of what we have called cleft structures conveying broad, “sentence-focus”:

(TARGET: E’ LA CAPRA che il gatto spinge!)

‘It is THE GOAT that the cat is pushing’

PUPPET B: E il gatto spinge il pulcino.

‘And the cat is pushing the chick’

PUPPET A: Eh sì, è proprio il pulcino_{subj} che il gatto_{obj} spinge!

‘Yes, it is the chick_{subj} that the cat_{obj} is pushing’

(139) CORRECTION: No, è il gatto che spinge la capra.

‘No, it is the cat the is pushing the goat’

Indeed, such structures occur more frequently in the Priming groups. Similarly, for the same reasons the priming version of the task might have caused more hesitations and uncertainties about which was the target constituent to be corrected. Indeed, the number of incorrect responses collected in the object condition in Priming groups significantly exceeded the ones collected in the subject condition, but the same did not happen in Non-priming groups.

In light of these facts, it seems to us, in agreement with Santos et al. (2013), that the asymmetry emerging from our data is different in nature as compared to the subject-object asymmetry typically found for relative clauses crosslinguistically (which will be discussed in next chapter). In a language like Italian, where the contexts in which contrastive clefts are felicitous always seem to allow for the use of non-cleft canonical sentences, the two are in competition as regards clefting of a subject constituent. When other types of constituents get corrected, clefts are not optimal candidates to introduce a linguistic contrast.

Destruel & Velleman (2014) observe that in languages like English, where both cleft and non-cleft sentences are in principle possible in the relevant contexts, a linguistic contrast is necessary to obtain a felicitous cleft; however, this is not sufficient to make the cleft the *preferred* structure; what it takes for a cleft to be preferred against its non-cleft, canonical counterpart in a certain context is the infelicity of its corresponding non-cleft sentence(s) in the same context. Building on the work by Zimmermann (2008; 2011), the authors try to investigate what such a context may be, and suggest that canonical, non-cleft “competitors” degrade in counter-

presuppositional contexts. They found that English-speaking adults rate the cleft sentence given in (140) as more natural than its non-cleft counterpart in (141) in contexts like the following:

Speaker A: This bean-dip is fantastic. I really want to get the recipe.

Speaker B: I can't believe that Shannon brought it. She's not normally a very good cook.

CORRECTION:

(140) CLEFT: It was TIM who made it.

(141) COMPETITOR: TIM made it.

In such a context, the antecedent, target of the correction, is not “at-issue”, that is, speaker B does not expect his interlocutor to rectify something he presupposes and to introduce an alternative to it; thus, speaker A says something that strongly conflicts with Speaker B's expectations. In such cases, clefts are judged as particularly natural. However, the authors find out that when a non-subject constituent is the target for correction, the preference for a cleft correction weakens. They hypothesize that clefting is typically preferred in case a grammatical subject is contrasted, because in languages in which the subject is generally topical, focalizing a subject is most of the times “unexpected” to the hearer. That presuppositions might play a crucial role in singling out a context where cleft sentences are (at least) preferred over non-cleft sentences could be sensible, since, as seen in Chapter One, the intrinsic, presuppositional nature of clefts is able to distinguish them from their non-cleft counterparts.

3.4. Concluding remarks

Summing up our findings, children and adults have chosen to use either a subject cleft or a parallel SVO main clause to correct a statement containing a mistake involving a syntactic subject, but massively favoured production of SVO non-cleft sentences when correcting a discrepancy concerning an object constituent. When exposure to cleft sentences during the experimental sessions was implemented, more SCs, a few OCs, and some more reduced clefts were collected, especially among children.

Furthermore, the Priming version of the test has led children to produce a slightly higher amount of different answering strategies and incorrect responses. Among the former, cleft structures carrying broad focus were collected. A mismatch in number feature between the subject and the object constituents did not exert any effect on clefts' production, which is in line with previous literature on the comprehension of clefts and OSV structures.

In addition, no clear-cut developmental pattern was detected, which is also in accordance with the existing acquisition literature (Dick et al. 2004; Hupet and Tilmant 1989).

All these facts point to a linguistic account of the emerged subject-object asymmetry, whereby, whereas contrastive subject clefts and their non-cleft counterparts qualify as comparable structures in many respects, OSV object clefts are more marked than their canonical simple SVO counterparts. OSV simple sentences with focalized object are not instantiated in the corpus, while sporadic OV variants surfaced. This is in line with Moscati et al. (2015) results concerning Italian speakers' truth-value judgments of OSV simple sentences.

Chapter Four

CLEFT SENTENCES AND RESTRICTIVE RELATIVE CLAUSES: COMPARISONS ACROSS STRUCTURES, TASKS, AND PARTICIPANTS

4. Introduction

In Chapter 3, we uncovered how adults and children behave when they are induced to produce a corrective statement targeting a subject or a direct object constituent. This represents new data on Italian and its acquisition. Much more is known about how children perform when they are requested to restrict the reference of a nominal phrase, in order to identify it among more possible options. For the Italian language, this has been investigated since 2003, when Guasti & Cardinaletti published the first paper to document children's skills with oral production of argument and oblique restrictive relative clauses (RCs). Since then, much literature has addressed the topic. The most popular finding concerns the detection of a "subject-object" asymmetry characterizing children and adults' repertoires as collected in experimental contexts, whereby subject-extracted relative clauses (SRs) are very accurately produced early in childhood while gap object relatives (ORs) lag behind, being often somehow simplified or replaced by other typologies of sentences, a fact that is commonly interpreted as an avoidance phenomenon. Such asymmetry holds for many languages and is generally mirrored in spontaneous speech (Labelle 1990 for French; Håkansson & Hansson 2000 for Swedish; McKee, McDaniel & Snedeker 1998 and Diessel & Tomasello 2000 for English; Novogrodsky & Friedmann 2006 for Hebrew; Costa, Lobo & Silva 2011 for E. Portuguese, a.o.). In addition, difficulties with object relative clauses are greater when the antecedent (or relative head) and the embedded subject DP are both animate and lexically restricted (Hamann & Tuller 2015b).

These aspects recall the pattern characterizing subject and object extracted cleft sentences, up to the point that it may be fruitful to investigate whether the arguments that have been proposed to account for the subject-object asymmetry regarding relative clauses could be applied to the asymmetry found for clefts, at least to some extent. This is one of the aspects that are covered in this chapter. Having elicited the production of cleft sentences and restrictive relative clauses in the very same participants, we can entertain a detailed comparison of the two structures. Such comparison is particularly welcome given the parallelisms existing between clefts and relatives. We address differences and similarities between the two in the first section. Then, we summarize the findings arrived at in the acquisition literature on relative clauses,

concentrating on Italian. Subsequently, we describe the task and the procedure we employed to elicit relative clauses. After having presented the results, we deal with the delayed-imitation task and the relevant results. A general discussion of the contents follows and concludes the present chapter.

4.1. Clefts and relatives

4.1.1. Relations between the two types of structures

In many languages, cleft clauses surface like restrictive relative clauses. This phenomenon has been addressed since Schachter (1973). In Schachter's *Focus and Relativization* paper, the author observes "formal striking similarities" between focus structures and structures involving restrictive relative clauses in four unrelated languages, among which there is English. As for English focus structures, Schachter concentrates on cleft sentences. He lists some surface resemblances between English clefting and relativization: one is the superficial ambiguity that could arise between the two if their intonational properties were not distinct:

(142) a. It's THE WOMAN that/who cleans the house (, not him).

(142) b. It's the woman that/who cleans the house.

Namely, only the presentational sentence given in (142b) is a felicitous answer to the question *Who's that?*. Second, an identical set of *wh*-pronouns introduces the subordinate clause. As for Italian, we observe the same in that relative clauses are introduced by the same element, *che* (that), as cleft clauses:

(143) a. E' LA RAGAZZA che pulisce la casa (, non lui).

(143) b. E' la ragazza che pulisce la casa.

Furthermore, both structures involve not only subordination, but also the same type of A' antecedent-gap dependency, whereby a constituent is related to a gap in the embedded clause. As it was said in Chapter One (section 1.1.1), resemblances between clefts and relative clauses have been underlined by proponents of the so called "extraposition approach", according to whom the cleft clause is an underlying restrictive relative clause forming a discontinuous definite description with the cleft pronoun to which it is associated. Finally, it has been claimed that in both relatives and clefts, the antecedent is interpreted as being exhaustive (Frison 2001).

However, cleft clauses are characterized by fundamental distinguishing properties, often stressed by supporters of the “predicative” and “expletive” analyses: first of all, notice that, as soon as the cleft phrase is not linked to the subject or the direct object in the post-focus sequence, Italian distinguishes between the two structures:

(144) a. Ho incontrato la maestra a cui/alla quale hanno dato un premio proprio oggi.

‘I met the teacher to whom (they) gave a prize just today’

(144) b. A. Non sapevo che avessero dato un premio al maestro.

‘I didn’t know that (they) gave a price to the teacher_(masc)’

B. E’ ALLA MAESTRA che hanno dato un premio.

‘It is TO THE TEACHER_(fem) that (they) gave a prize’

B’. *E’ LA MAESTRA a cui/alla quale hanno dato un premio.

‘It is THE TEACHER_(fem) to whom (they) gave a prize’

(144a) instantiates a pied piping relative where the relative pronoun is introduced by a preposition. (144b) exhibits the contrastive pattern, which shows that no explicit relative pronoun is allowed, only the complementizer *che* can surface, and that it is the focused NP that gets introduced by the preposition. This is because clefted constituents are not subject to the same restrictions as relative antecedents and, indeed, as we saw in section 1.2.1, can belong to a wider set of phrase categories. As for the antecedent of a RC, it must be a nominal projection.³³

Notice that a sentence like the one provided in (144a) features a non-standard counterpart, usually employed in spoken colloquial language and typically preferred by children until late in age (Guasti & Cardinaletti 2003): the relative clause is introduced by the complementizer *che* and a resumptive (here dative) pronoun appears:

(145) Ho incontrato la maestra che gli/le hanno dato un premio proprio oggi.

‘I met the teacher that they gave a prize to her right today’

³³ For a detailed description of the properties of Italian relative clauses, we refer the reader to Cinque (2001).

The occurrence of a resumptive clitic in relative clauses extracting a direct object constituent in sub-standard language can be accepted as well and, again, is attested in child speech:

(146) A. Ho parlato con quel signore.

‘I talked to that man’

B. Quale signore?

‘Which man?’

A. Quello che l’abbiamo visto ieri al bar.

‘The one that we met him yesterday at the bar’

As opposed to relatives, resumption of a direct object clefted constituent is ungrammatical:

(147) A. Non sapevo che avessi rivisto tua sorella.

‘I wasn’t aware of the fact that you met your sister’

B. *E’ MIO FRATELLO che l’ho rivisto (, non mia sorella).

‘It is MY BROTHER that I met him (, not my sister)’

This difference could be linked to the fact that cleft phrases in contrastive sentences are typically instances of (narrow) focus, and, therefore, cannot be resumed when bearing the role of syntactic direct objects (for this restriction on focus, Rizzi 1997); compare (148a) to (148b):

(148) a. * MIO FRATELLO l’ho rivisto.

my brother him I have met

(148) b. MIO FRATELLO ho rivisto.

‘MY BROTHER I met’

On the contrary, the relative head in (146) is the discourse topic³⁴; typically, when placed in the left-periphery of the clause, a direct object topic DP must be resumed (Cinque 1990)³⁵:

(149) Mio fratello, *(l)'ho rivisto ieri.

my brother *(him) I have met yesterday

'My brother, I met him yesterday'

Moreover, clefts differ from restrictive relative clauses in that the cleft phrase can denote a unique individual/entity in the universe of discourse (150). On the other hand, the head of a relative clause cannot be a proper noun, nor a personal pronoun (151)³⁶:

(150) E' MARCO/LUI che parla il russo.

'It is MARCO/HIM that speaks Russian'

(151) * Ho rivisto Marco/lui che parla il russo.

'I met Marco/him that speaks Russian'

³⁴ There is a consensus in the literature that relativized NPs tend to be the sentence topic (Kuno 1976, Lambrecht 1996; Mak, Vonk & Schriefers 2006; 2008, a.o.). See also section 4.8.3 below.

³⁵ As for fronted focused (clefted) indirect/prepositional objects, Frison (2001) maintains that clitic resumption gives rise to ungrammatical sequences:

(i) *E' A GIORGIO che gli darò un libro.

'It is TO GIORGIO that I will give him a book'

(ii) *E' CON GIORGIO che non ci esco mai.

'It is WITH GIORGIO that I never go out with him'

However, we believe that sentences improve in acceptability if inserted in the right discourse context:

(iii) A. Mi hanno detto che a Gianni darai un libro.

'I was told you will give a book to Gianni'

B. ?E' A GIORGIO che gli darò un libro (, non a Gianni).

'It is TO GIORGIO that I will give him a book'

(iv) A. Mi hanno detto che con Gianni non esci mai.

'I was told you never go out with Gianni'

B. E' CON GIORGIO che non ci esco mai.

'It is WITH GIORGIO that I never go out with him'

This seems to work for the corresponding non-cleft sentences with focus fronting as well:

(v) A. Mi hanno detto che a Gianni darai un libro.

'I was told you will give a book to Gianni'

B. ? A GIORGIO gli darò un libro (, non a Gianni).

'TO GIORGIO I will give him a book'

(vi) A. Mi hanno detto che con Gianni non esci mai.

'I was told you never go out with Gianni'

B. CON GIORGIO non ci esco mai.

'WITH GIORGIO I never go out with him'

³⁶ Sentence (151) becomes grammatical if the existence of at least two individuals whose name is Marco is presupposed, one of whom can speak Russian. In that case, a definite article may precede the proper noun.

This is because the reference of pronouns and proper nouns cannot be further narrowed down.

Clech-Darbon et al. (1999) point out that in French infinitival relatives can paraphrase ordinary tensed restrictive relatives, but this is not the case when cleft clauses are considered; we provide Italian examples, where the same holds:

(152) a. Ecco il libro che dobbiamo leggere.

‘Here is the book that we have to read’

(152) b. Ecco il libro da leggere.

‘Here is the book to read’

(153) a. E’ IL LIBRO che dobbiamo leggere, non la rivista.

‘It is THE BOOK that we have to read, not the magazine’

(153) b. *E’ IL LIBRO da leggere, non la rivista.

is the book to read not the magazine

‘It is THE BOOK that we have to read, not the magazine’

Indeed, among those who underline the dissimilarities between clefts and relatives, Clech-Darbon et al. endeavor to show that French contrastive focus clefts do not have the syntax characterizing restrictive relatives. Instead, they argue for an analysis in which the post-focal clause exhibited by clefts is a CP base-generated as right-adjoined to an identificational IP specified by *ce*:

(154) A. Ta fille est tombée dans l’escalier?

B. Non.

A. [_{IP} [_{IP}C’est le petit] [_{CP}qui est tombé dans l’escalier]].

The authors underline a fundamental difference distinguishing cleft clauses from relative clauses, which can explain many of the dissimilarities seen above: restrictive relatives qualify as nominal modifiers, and are therefore embedded inside a DP; cleft sentences do not involve embedding of the subordinate CP inside a DP³⁷. According to Hamann & Tuller (2015a), the

³⁷ This holds for “predicative” types of analyses of clefts (section 1.1).

reduced depth of embedding characterizing the subordinate CP in a cleft as compared to a relative would result in cleft sentences being easier to compute and to acquire.

The same hierarchy of difficulty is independently proposed by Thompson et al. (1998), Thompson & Shapiro (2007) and related work on aphasic patients, addressed in next section.

4.1.2. Handling clefts vs. relatives

Some psycholinguists and clinical linguists interested in studying how adults process complex sentences tested clefts and relatives in the same speakers. The advantage of studying clefts resides in the fact that although being superficially similar to relative clauses, they differentiate from them in that they allow a clefted constituent to be a referential expression, as we saw above. We already saw (section 2.2.) that when the two nominal elements involved in an argument cleft are of the same type (either two DPs, or two nouns), a subject-object asymmetry in processing is detected; when nominals differ (one lexically restricted DP, one proper name), an asymmetry is found as well, but it is smaller (Gordon et al. 2001). Interestingly, when measuring reading times at the critical word(s) for subject vs. object clefts (156) and subject vs. object relatives (155) in the same English-speaking adults, Gordon et al. (2001) found that a mismatch in the type of NPs reduced the asymmetry between subject and object relatives much more than that between subject and object clefts.

(155) a. The gardener that envied the homeowner/Liz was very friendly.

b. The gardener that the homeowner/Liz envied was very friendly.

(156) a. It was THE GARDENER/DAWN that envied the homeowner/Fran after the lottery ended.

b. It was THE GARDENER/DAWN that the homeowner/Fran envied after the lottery ended.

The researchers speculate that this finding can be accounted for by two alternative explanations: the first one is based on the fact that since a name (or a pronoun) cannot be modified by a restrictive RC, there is stronger additional information about the roles played by the two NPs when they differ. Clefted nominals are less typologically-restricted, which would result in greater similarity between the NPs with respect to their possible roles in the sentence, and hence, more similarity-based interference. Alternatively, the difference found between clefts

and relatives may be due to the fact that the head of a RC is semantically related to two lexical verbs, whereas the head of a cleft has only one meaningful verb with which it must be integrated; this is understood by the researchers as one cue less for processing.

Curiously, this very last point has been interpreted conversely by Thompson et al. (1998; 2003) and Thompson & Shapiro (2007) in studying aphasic agrammatic deficits. According to them, cleft sentences are less cognitively demanding than relatives because of theta-role assignment: as opposed to cleft phrases, which are related to a copula and to only one lexical verb, the antecedent of relative clauses is semantically dependent on two lexical verbs. More specifically, the authors developed the so-called Complexity Account of Treatment Efficacy (CATE), a linguistic-based approach to treatment of syntactic impairments in agrammatic aphasia. By conducting several studies examining the effects of treatment of various types of sentences in agrammatic patients, the therapists made a somewhat counterintuitive discovery: as for structures involving *wh*-movement, namely interrogatives, clefts and relatives, training certain types of sentences results in significantly increased production and comprehension of untrained *wh*-movement sentences, in the following direction: training object-extracted relative clauses (157) results in improved performance with untrained object clefts (158) and object *wh*-questions (159); the opposite, that is, training questions and/or clefts, does not affect relatives, nor does training of questions improve clefts:

(157) The man saw the artist who the thief chased.

(158) It was the artist who the thief chased.

(159) Who did the thief chase?

This is because training more complex sentences would result in generalizations occurring across similar, though less complex structures, while the opposite is not expected to occur: treating simpler structures does not result in cascading generalization to more complex structures sharing the same relevant properties. Similarity across structures is defined based on type of movement, in this case, movement targeting an A' position, which ensures that generalizations across structures can occur. Moreover, a hierarchy of complexity is pointed out, based on the level of subordination and theta-roles assignment: interrogatives like the one in (159) only involve one CP, while the cleft in (158) and the relative in (159) feature two CP levels. In turn, what distinguishes clefts and relatives, as mentioned above, is thematic assignment: *the artist* in (158) receives its thematic role only by the lexical verb *chase*. The

same DP in (157), instead, is semantically associated with two lexical verbs, namely *saw* and *chase*. Differently from Gordon et al., Thompson and colleagues see this last property of relative heads as a source of complexity for production and comprehension, as compared to clefts.

More recently, as seen in previous section, the role of depth of embedding as a crucial factor for characterizing complexity of linguistic derivations has been discussed by Hamann & Tuller (2015a). The authors adopt Belletti's syntactic approach to cleft sentences, whereby contrastive focus clefts are taken to involve a CP complement selected by the copula and movement of the focused phrase to the left periphery of such CP complement. In such an account, then, the CP is not a real relative clause, but rather a "pseudo-relative", not being a modifier of the clefted DP. On the contrary, what the authors call "genuine relatives", i.e. relative clauses which are modifiers restricting their nominal antecedent, involve a CP inside a DP, which qualifies as a deeper level of embedding. In turn, depth of structural embedding is considered to be crucial in influencing language processing and language development. Kimball (1973), cited in Hamann & Tuller, already pointed out a connection between increased depth of embedding and working memory load. Besides, Hamann & Tuller review the literature on the acquisition of French and pinpoint that "flatter" structures like presentational structures and cleft sentences are produced very early on by children, emerging prior to genuine relative clauses in elicitation contexts, spontaneous speech, and spoken and written narratives, and being favored long into childhood. The authors also report a study conducted with five groups of monolingual typically-developing, French-speaking children aged 6 to 14 years-old and one group of ten-to twelve-year-old children with SLI. A series of children's semi-spontaneous audio language samples were collected, in that participants were required to tell a story based on a series of drawings and to answer some questions about their interpretation of the pictures. Then, a free (albeit guided) conversation between child and investigator followed. Relatives and "pseudo-relatives" (i.e. contrastive clefts, new information clefts, presentational constructions) were coded by subtype; then, depth of embedding involved in each collected sentence was assessed. This factor was isolated by considering only sentences featuring subject extraction; the authors found the youngest child group (mean age 6;4) to pattern with the SLI group (mean age 11;7), in that the two displayed a lower rate of genuine SRs (10% and 6% respectively, out of the total number or relevant structures collected), compared to pseudo-SRs. The rate was much higher in older age groups (from 37% to 47% in the groups with mean age 8;2, 11;4 and 14;5).

As for Italian, to our knowledge no study has ever compared production or comprehension of clefts and relatives in children or adults. We are only aware of Garraffa & Grillo (2008)'s experimental data on the comprehension of subject and object relative clauses and cleft sentences by one agrammatic aphasic adult speaker. By administering the patient a picture selection task targeting semantically reversible sentences where both the antecedent of the subordinate clause and the embedded DP constituent were NP-restricted, it was found that the patient performed at chance level both in OCs (160) and in ORs (161) (8/20 correct responses in both cases); SCs and SRs were above chance, with 18/20 and 17/20 correct responses, respectively:

(160) E' IL RAGAZZO che la ragazza ha baciato.

'It is THE BOY that the girl kissed'

(161) Il ragazzo che la ragazza ha baciato è felice.

'The boy that the girl kissed is happy'

In this case, an impairment in comprehending non-canonical complex sentences is observed: it is imputed to the difficulty in constructing a chain between the antecedent and its related thematic position in the embedded clause over an intervening DP, a scenario that does not arise when a subject constituent is extracted from a lower position (Grillo 2003; 2005). More specifically, aphasic agrammatic patients would have reduced processing resources which make it impossible to activate (or maintain the level of activation of) the full array of morpho-syntactic features needed to compute sentences correctly; this, in turn, would give rise to Minimality Effects (Rizzi 1990, 2004; Starke 2001) in the relevant syntactic configurations. As for OCs and ORs, agrammatic patients fail to attribute a quantificational nature to the relative head, so that the antecedent and the intervening DP (the subject embedded in the relative/cleft clause) ultimately share common features; hence, for locality reasons, the subject intervenes in the dependency between the antecedent element and its first merge position inside the subordinate clause, impeding formation of the relevant chain. To exemplify Grillo's proposal, we provide a simplified version of his schema of how the OC sentence in (160) would be represented by normal adult speakers, (162). Relativized Minimality legitimates the formation of the relevant chain between the moved NP and its trace by virtue of the difference between the feature set associated with the subject NP and the feature set associated with the object NP.

In particular, the presence of the *wh*-feature is crucial in that it distinguishes the class to which the object belongs (Operator) from the one characterizing the subject (Argument).

(162)

$+N, \theta_2, \text{acc}, +wh$ $+N, \theta_1, \text{nom}$ $+N, \theta_2, \text{acc}, +wh$
 E' **IL RAGAZZO** [che **la ragazza** ha baciato <**il ragazzo**>]

In (163), a representation of the same structure by an agrammatical aphasic is schematized (adapted from Garraffa and Grillo (2008)).

(163)

$+N, \theta_2, \dots$ $+N, \theta_2, \dots$ $+N, \theta_2, \dots$
 E' **IL RAGAZZO** [che **la ragazza** ha baciato <...>]
 ×

The impoverishment of the set of features concerns the absence in activation of the *wh*-feature; this, in turn, leads to Relativized Minimality blocking chain formation: as a consequence, it becomes impossible to assign the correct thematic role to each argument, and poor comprehension follows. Notice that Grillo's analysis predicts that a different pattern will arise with SRs and SCs, where no relevant intervener is present. However, as for the comparison between relative clauses and clefts, Grillo's analysis does not predict specific differences.

4.2. Comprehension and production of restrictive relative clauses by Italian-speaking children and the subject-object asymmetry

As a whole, relative clauses have been identified as some of the hardest structures to acquire crosslinguistically. Research on the acquisition of relative clauses in Italian has replicated the findings pointed out for a number of languages (among others, Hamburger & Crain 1982 and McKee, McDaniel & Snedeker 1998 for American English, Labelle 1990 for French; Håkansson and Hansson 2000 for Swedish; Novogrodsky and Friedmann 2006 for Hebrew; Costa, Lobo & Silva 2011 for Portuguese). One of the most popular outcomes has been the detection of a marked subject-object asymmetry in both production and comprehension studies, with right-branching ORs featuring two animate, lexically-restricted DPs being frequently

replaced by other types of sentences in elicitation situations and reaching lower degrees of accuracy in comprehension, as compared to SRs³⁸.

More specifically, research on the Italian language revealed that as for comprehension, SRs are comprehended very accurately already in 3-year-olds, while problematic comprehension of ORs may linger on up to 10 y.o., depending on the superficial position in which the embedded subject occurs: indeed, a gradient of difficulty is found, with ORs with preverbal subjects being easier to process than ORs with postverbal subjects (also Arosio et al. 2005; Adani 2008, 2011; Volpato & Adani 2009; Volpato 2010, 2012). ORs with preverbal embedded subject have been shown to be understood around the age of 6-7 y.o. up to 85-89%, while comprehension of ORs containing a postverbal subject seems to reach adult levels around the age of 11. Furthermore, number feature mismatch between the relative head and the embedded subject constituent has been shown to facilitate comprehension of center-embedded ORs (Adani et al. 2010) and right-branching ORs (Volpato 2010, 2012). Besides, oral comprehension of (subject) passive relatives (164) is more accurate than comprehension of gap ORs, (165), even in 5 y.o. children (Contemori & Belletti 2014):

(164) Vorrei essere il bambino che viene abbracciato dalla mamma.

‘I would like to be the child that is being hugged by the mother’

(165) Vorrei essere il bambino che la mamma abbraccia.

‘I would like to be the child that the mother is hugging’

As regards production, Guasti and Cardinaletti (2003) demonstrated that Italian-speaking children produce well-formed subject and object relative clauses from the age of 3-4 y.o. However, the pattern typically found in comprehension has also been attested in production: while children perform at ceiling when required to produce a SR, they may experience difficulties when an OR is targeted. To be more precise, a number of gap ORs with lexical embedded subjects (both preverbal and postverbal) is attested in young and school-aged Italian-speaking children’s productions (Utzeri 2006, 2007; Volpato 2010; Belletti & Contemori 2010). However, the targeted gap ORs are not the predominant typology of answers

³⁸ Most of the work on the acquisition and processing of relative clauses has been based on SVO, nominative-accusative languages with postnominal restrictive relative clauses. Results from research on languages with prenominal RCs have yielded mixed results (e.g., Gutierrez-Mangado & Ezeizabarrena 2012 for the acquisition of Basque).

collected; sometimes, ORs containing pronouns or DPs resuming the antecedent are produced; more often, the targeted relatives are turned into subject relatives, either by changing the relative head, or by using a causative construction, or, more consistently from school-age on, through passivization of the relative head (as in (164)). Passive relatives are predominantly employed by adults and adolescents in the same experimental contexts; indeed, differently from children, they hardly ever produce object relative clauses. All these strategies of answers have been widely interpreted as “avoidance strategies”, namely as means to avoid a more taxing production of gap ORs. As opposed to comprehension, a mismatch in number features between a lexically-restricted head and a lexical embedded subject does not seem to influence production (Belletti & Contemori 2010; Contemori & Belletti 2014).

Since the appearance of Friedmann, Belletti and Rizzi’s (2009) very influential paper, the higher level of difficulty that children experience in development with certain types of gap ORs has been seen as the manifestation of specific structural intervention effects which are at work in sentences containing long-distance dependencies. In line with Grillo’s (2005, 2008) morphosyntactic account of agrammatic impairments with complex sentences (see section 4.1.2), Friedmann et al. defend a structural explanation of the subject-object asymmetry attested in the literature which captures the source of difficulty generated by “similar” argument DPs. According to the authors, such similarity induces a violation of Relativized Minimality (RM) in featural terms, in a stricter fashion in children than in adults. Featural-RM states that in a configuration like the one given in (166), a local relation between X and Y cannot hold when Z intervenes and Z is a position of the same type as X (Rizzi 1990, 2004), where being of the same type means sharing relevant features.

(166) X.....Z.....Y
 Target Intervener Original merge position

Friedmann et al. follow Rizzi’s approach in maintaining that a feature +NP (realized as a lexical restriction) is among the attracting features of the relative head (the target in the configuration in (166)) in the subordinate CP, much like in other A’ dependencies (i.e., interrogatives introduced by *which*). Building on Starke (2001), they propose that if the feature composition of the target of syntactic movement is richer than the feature composition of the intervener, so that they are dissimilar, the structure is licit for the adult grammar. This is the case of object

relatives, where the features characterizing the embedded subject (the intervener) are a subset of the features associated to the target:

(167) **Il bambino**[che **la mamma** abbraccia <**il bambino**>]

+R, +NP	+NP	+R, +NP
X	Z	Y

This holds because the relative head is also associated to the quantificational R/wh feature. Crucially, “inclusion configurations” such as the one schematized in (167) seem to be problematic for an immature child system, which more strictly insists on a featural-disjunction requirement. A disjunction configuration is in place, for instance, in headed object relatives where either the relative head or the embedded subject are not lexically-restricted, and in object-extracted *who*-questions vs. object-extracted *which*-questions containing embedded lexical subjects. Moreover, a mismatch in number features between the target and the intervener would weaken intervention effects (and, as a consequence, ameliorate sentence comprehension) because number features are morphosyntactically prominent within the DP functional structure of a noun phrase, and the computational system could take advantage of such prominence in calculating an important dissimilarity. Obviously, the reason why subject relatives are properly comprehended and produced by young children is the absence of intervention.

An intervention account is also able to explain why passive relatives are easier to comprehend and preferably adopted in production as compared to ORs in experimental settings (e.g., Contemori & Belletti 2014, Belletti 2009, 2012; Belletti and Rizzi 2012): essentially, under Collins’ (2005 and related work) analysis of standard passives in terms of *smuggling*, intervention does not arise at all. Because movement of the vP-internally merged direct object of a transitive verb cannot occur due to the violation of locality that would otherwise take place (168), smuggling is taken to be at work. This is the operation that first moves the VP chunk including the verb and the direct object to a position above DP(S), thus allowing for the avoidance of intervention (169):

(168) [CP ... DP(O) [TP [vP DP(S) [vP V DP(O)]]]]

(169) [CP il bambino che [TP *pro* è [vP abbracciato <il bambino>] da [vP la mamma <VP>]]]

In a passive relative clause like (165), DP(O) can then move to CP from the position where the VP chunk is smuggled.

Belletti (2009) argues that the use of passive relatives represents a minimally complex structural solution, i.e. the optimal way to eliminate intervention effects. This would explain why passive relatives are comprehended better than their corresponding ORs and are resorted to so widely by adults in elicitation contexts; moreover, it would account for the fact that children make a consistent use of passive relatives as soon as the passive structure becomes fully available.

Very recently, Hamann and Tuller (2015b) showed that a tendency to avoid intervention is in place in spontaneous production of French-speaking children and adolescents aged 6 to 14 y.o., who, in controlled conversations, hardly ever pronounce non-subject relative clauses showing NP-restricted relative heads and NP-restricted (preverbal) embedded subjects. Instead, the most frequent pattern collected in naturalistic speech is the one featuring a restricted relative head and a non-restricted, pronominal embedded subject. However, additional factors which do not count as syntactically active, like different animacy specifications, are taken to influence speakers' productions, possibly because they alleviate the processing cost for thematic assignment; more precisely, inanimate relative antecedents and animate embedded subjects were most often employed in children's non-subject relatives (cf. also Kidd et al. 2007 for younger English- and German-speaking children): the authors observe that animacy may be used in spontaneous production to unambiguously mark agent theta-role and subjecthood. In this spirit, recent fine-grained analyses of child comprehension of relative clauses displaying various syntactic and semantic configurations have been undertaken, which seem to suggest that the role played by processing factors might be particularly effective in explaining children's difficulties with ORs (Durrleman & Bentea 2015; Bentea & Durrleman 2015). Furthermore, in Hamann and Tuller's (2015b) oral speech corpus, passive relatives were almost absent; that is, children hardly ever turned a potential OR into a subject one by means of a passive in their spontaneous speech. This result is in line with Belletti and Chesi's (2011) corpus-based analysis of relative clauses, which reports passive relatives to be only rarely found in spontaneous speech in Italian; these findings might indicate that the high amounts of passive relatives usually collected in elicited production experiments on relative clauses are in fact a by-product of the methodology employed. This will be further discussed in section 4.8.3.

4.3. Research questions and expectations

All these facts considered, what do we expect to find by comparing production of argument clefts and relatives in our children?

- From the point of view of locality and intervention, children should experience similar difficulties with OCs and ORs as compared to SCs and SRs, such that the former should be more frequently avoided or replaced by computationally easier structures than the latter: the grammatical account proposed by Friedmann, Belletti and Rizzi (2009) has extensively and fruitfully been used in the literature to explain the asymmetry found crosslinguistically between subject and object relatives and subject and object *which*-questions, both in comprehension and production. But such account could in principle be extended to argument contrastive cleft sentences, under Belletti's analysis of clefts:

(170) [_{VP} è [_{FocP} IL BAMBINO [_{FinP} che [_{IP} **la mamma** abbraccia <il bambino>]]]]]

(171) [_{DP} il [_{CP} [_{NP} bambino] che [_{IP} **la mamma** abbraccia <bambino>]]]³⁹

Notably, the A' movement dependency holding between the cleft/relative antecedent in left peripheral position and its corresponding gap within the cleft/relative clause is the same across structures. Therefore, when an object constituent is extracted to be focalized and moves to the left periphery of the cleft clause, it crosses a potential subject intervener. The type of cleft sentences that we tested involve exactly the configuration with which children may struggle, namely an inclusion configuration like the one given in (167). Similarly, turning OCs into passive clefts should contribute to the elimination of intervention.

³⁹ We adopt, just for the sake of simplicity, a head-raising analysis of restrictive RCs (see, a.o., the variants proposed by Kayne 1994, Bianchi 1999, Cecchetto & Donati 2011) whereby the relative clause is selected by an external DP head and the NP relative head moves to Spec,CP from its internal position inside the clause. However, see Cinque (2013, 2015) for a discussion of the two syntactic analyses that have been proposed in the literature for relative clauses, with specific reference to the “raising” and the “matching” one. Both types of analysis involve the creation of an A' dependency, which is relevant to our aims. We refer the reader to Reeve (2011:160-168) for the extension to cleft clauses of the arguments proposed in the literature to account for the need of both a raising and a matching analysis for relative clauses. According to Reeve, cleft clauses behave like restrictive relative clauses in allowing a matching derivation along with a raising derivation.

- The smaller depth of embedding characterizing clefts as compared to RCs should facilitate production of the former and hamper production of the latter;
- More complex thematic role assignment might render relative clauses harder to produce with respect to clefts; however, conversely, it could also be the case that it helps identifying the roles of the two relevant DPs (Thompson et al. 2003 and related work vs. Gordon et al. 2001).
- The semantic, discourse-pragmatic and phonological properties characterizing contrastive clefts, which make the structure marked from several points of view (see Chapter One), might influence their use, thus obscuring the emergence of a potential syntactic hierarchy of difficulty. This would happen if less marked corrective options are left available in the cleft task (as it actually happened) whereas a more stringent task is employed to test production of RCs.

4.4. Production of restrictive relative clauses: our experiment

4.4.1. Participants

The very same participants that took part in the correction task eliciting cleft sentences also carried out a task eliciting restrictive relative clauses. Differently from the correction task, adults count one participant less. Table 1 is replicated below in Table 9 with the adjusted data:

Groups (age range)	N° of participants	Mean age	SD (months)
G1 (6;3 - 6;11)	19	6;6	2
G2 (7 - 7;11)	32	7;4	3
G3 (8 - 8;11)	27	8;5	3
G4 (9 - 10;4)	37	9;6	4
G5 (19 - 30)	10	23;8	46

Table 9. Participants across age groups

Since all participants were exposed to the same elicitation technique, no further subgroups were created. However, when needed, we will make reference to the same subgroups presented in Chapter Three, section 3.1.1.

4.4.2. Design and Materials

Participants carried out a Preference Task; this is a well-known elicitation technique originally devised by Novogrodsky & Friedmann (2006) and Friedmann & Szterman (2006) to induce oral production of restrictive relative clauses in Hebrew-speaking children, which has been extensively adapted and applied to other languages as well. The task consists in having participants answer to a set of *which*-questions calling for a preference between two possible alternatives; every question requires to employ, as its answer, either a subject or an object restrictive relative clause. Although this kind of task has already been previously administered to Italian-speaking children (Utzeri 2006, 2007; Belletti & Contemori 2010, 2012; Volpato 2010; Contemori & Garraffa 2010; Contemori 2011), we decided to introduce some methodological modifications, briefly described in the following and more extensively discussed in Pivi (2014). First of all, we only elicited 12 SRs and 12 ORs containing a singular

relative head and a plural embedded object/subject. The use of a number-mismatch configuration is needed in Italian in order to avoid ambiguity, as postverbal subjects are allowed and, therefore, a postverbal DP may be interpreted as a syntactic subject or a syntactic object in case its number features are identical to those of the verb and the relative antecedent (no particular prosodic cues distinguish the two readings). Second, the discourse was made more felicitous as compared to the previous literature. As reported in Pivi (2014: 59-66), we constantly changed in each picture each character whose reference was about to be restricted through the use of a relative clause. In previous literature, *a child* is instead always the agent or the patient to be relativized. Furthermore, we constantly introduced to the children every character involved in the events. Here is an example of trial taken from Utzeri (2006), the first study on Italian eliciting RCs by means of the Preference Task:

Ci sono due bambine. La mamma sta baciando una bambina, il nonno sta baciando un'altra bambina. Quale bambina preferiresti essere?

'There are two children. The mother is kissing one child, the grandfather is kissing another child. Which child would you rather be?'

(172) TARGET: La bambina che la mamma sta baciando.

'The child that the mother is kissing'.

In the following, we exemplify a trial created by us to elicit a SR:

PUPPET: Ci sono due dottori e due nonne. Un dottore saluta le nonne, l'altro dottore VISITA le nonne. Quale dottore ti piace?

PUPPET: 'There are two doctors and two grandmothers. One doctor is greeting the grandmothers, the other doctor is SEEING the grandmothers. Which doctor do you like?'

(173) TARGET: (Mi piace) il dottore che visita / saluta le nonne.

(I like) the doctor that is greeting / seeing the grandmothers.



Fig. 21. Sample of experimental picture

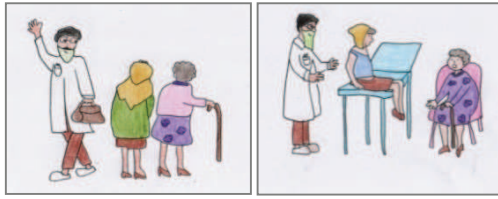


Fig. 22. Sample of experimental picture

Following previous literature, two elicitation conditions were exploited when targeting a SR, one contrasting the action carried out by the same agent-character, as illustrated in (173), and one contrasting two patient-characters undergoing the same action.

Similarly, production of an OR was induced as in the following: two types of contrast were exploited, one in which the contrast is based on the action (174), “change of action condition”, and one in which two agents are opposed (175), “change of agent condition”:

PUPPET: Ci sono due nonni e due elefanti. I nonni, sollevano un elefante, e guardano l’altro elefante. Quale elefante ti piace?.

(174) TARGET: Mi piace l’elefante che (i nonni) sollevano / guardano.

PUPPET: ‘There are two grandparents and two elephants. The grandparents are lifting up one elephant and staring at the other elephant. Which elephant do you like?’.

TARGET: ‘(I like) the elephant that (the grandparents) are lifting up / staring at’.

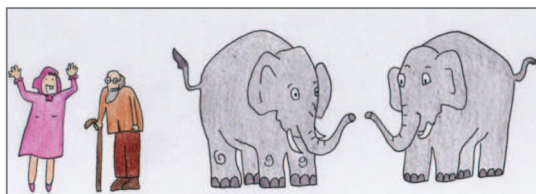


Fig. 23. Sample of experimental picture

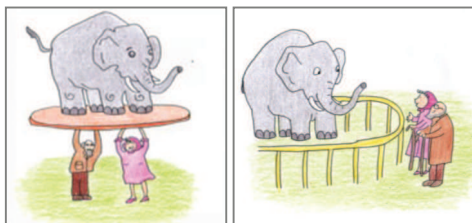


Fig. 24. Sample of experimental picture

PUPPET: Ci sono due mamme, due papà e due elefanti. Le mamme sollevano un elefante, i papà sollevano l’altro elefante. Quale elefante ti piace?

(175) TARGET: (Mi piace) l’elefante che sollevano le mamme / i papà.

PUPPET: ‘There are two mums, two dads and two elephants. The mums are lifting one elephant up, the dads are lifting the other elephant up. Which elephant do you like?’

TARGET: ‘(I like) the elephant that the mums/the dads are lifting up’.

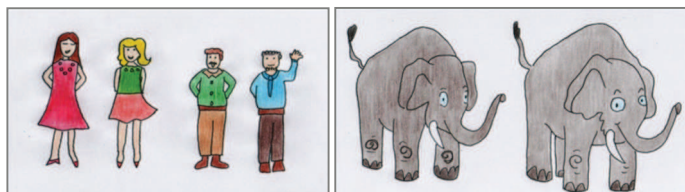


Fig. 25. Sample of experimental picture

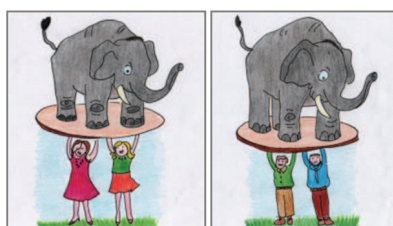


Fig. 26. Sample of experimental picture

The changes we introduced with respect to the previous literature were meant to avoid strong topicalization of the antecedent of the relative clause in the object condition, which we hypothesized, inspired by work by Mak et al. (2006, 2008), may encourage production of SRs instead of ORs in languages like Italian where syntactic subjects are usually topical. On the contrary, what we tried to do was making *the agents* in the object condition discursively more “topic-like”, so as to encourage their realization as syntactic (embedded) subjects⁴⁰.

24 RCs per participant were elicited: 12 stimuli elicited SRs and 12 stimuli elicited ORs. Half stimuli per type of relative clause was tested using a certain elicitation condition; as for ORs, 6 stimuli were elicited through the change-of-action condition, and 6 through the change-of-agent condition. The order of the stimuli was pseudorandomized in order not to have two consecutive similar stimuli. All the target sentences were semantically reversible and contained animate referents, either human or animal. We used the following transitive, actional verbs: *lavare, sporcare, salutare, visitare, baciare, fermare, inseguire, toccare, sollevare, guardare, mordere, accarezzare, prendere, sgridare, premiare, pettinare, tirare, mandare via* (‘wash’, ‘soil’, ‘greet’, ‘see’, ‘kiss’, ‘stop’, ‘chase’, ‘touch’, ‘lift up’, ‘look at’, ‘bite’, ‘caress’, ‘catch’, ‘scold’, ‘reward’, ‘comb’, ‘pull’, ‘send away’). The direction of the actions illustrated in the

⁴⁰ See Pivi (2014: 129-136) for more details on our results as compared to previous studies.

pictures was balanced so that half pictures showed right-oriented actions and half depicted left-oriented actions. Any time the child saw the first picture of one trial on a Power Point presentation (i.e., Fig. 25), the voice of a puppet introducing the characters was played.⁴¹ Then, the two drawings depicting the contrasted events (i.e., Fig. 26) appeared, one next to the other. At that point, the puppet described what was going on in the pictures and at the end, it asked the child which character he/she liked best. As in the correction task, some simple fillers were included. Besides, sometimes the child was induced to ask a question to the puppet named Poldo. As before, all puppets' utterances had been pre-recorded, to ensure that every participant was exposed to the very same intonation patterns. In all, children were presented with 42 pseudo-randomized trials: 24 stimuli eliciting relative clauses, 6 stimuli inducing production of simple active sentences, and 12 stimuli eliciting interrogative sentences.

4.4.3. Procedure

Just as was done for the task on clefts, this test was introduced to participants as a game to be played with the computer. The tape recorded voices/videos employed for the lead-ins were attributed to one of our three puppets, either Lisa, the snail, Pippo, the hippo, or Carletto, the crow. In order to justify the task, we told children that the puppets, who were also present in the experimental setting, were very curious and wanted to know which characters children liked best. For this reason, children were invited to express their preferences. As already said in the previous chapter, every participant was administered the whole battery of tests; children carried out the battery in two different experimental sessions; every session started with the correction task and ended with the preference task. Adults were tested in one single session with the same order.

4.4.4. Coding

As regards production of SRs, gap relative clauses having as their antecedent either a lexical DP (176) or the demonstrative pronoun *quello* (177) were counted as target-like:

(176) Mi piace il bambino che saluta le mucche. (8;0)

'I like best the child that is greeting the cows'.

⁴¹ As for the correction task, some children only listened to the recorded voices of the puppet talking; the other children also watched the correspondent video-recordings. The audio tracks, however, were identical.

(177) Quello che saluta i cani. (6;4)

‘The one that is greeting the dogs’.

We did the same for ORs: target sentences are exemplified in (178) and (179):

(178) Mi piace il gatto che stanno accarezzando i bambini. (9;11)

‘I like the cat that are caressing the children_{SUBJ}’.

(179) Quella che stanno baciando i cani. (8;5)

‘The one that are kissing the dogs_{SUBJ}’.

TARGET: (Mi piace) la bambina che baciano i nonni / i cani.

‘I like the girl that are kissing the grandfathers/the dogs_{SUBJ}’.

Depending on the experimental condition, the embedded subjects contained in ORs can be either postverbal, especially when the agent is contrasted (175), or preverbal, most probably when the agent is kept the same and the action is contrasted (174); in the latter case, a null subject is perfectly appropriate as well (180):

(180) Mi piace quello che accarezzano. (7;0)

‘I like the one that (they) are caressing’

TARGET: Mi piace il gatto che i bambini accarezzano/mandano via.

‘I like the cat that the children are caressing/sending away’

Such types of target ORs, when needed, will be subcategorized as “ORs with postverbal subject”, “ORs with preverbal subject”, and “ORs with null subject”, respectively.

Sometimes, children employed resumptive relatives: (181) instantiates an OR where the head *il cane* is resumed by a clitic pronoun, coded as “resumptive clitic”, and (182) a sentence where a resumptive DP is located in the position where a gap would be expected, “resumptive DP”.

(181) Mi piace il cane che lo lavano. (7;0)

‘I like the dog that (they) it-CLIT_{male sing} are washing’

TARGET: (Mi piace) il cane che (i papà) lavano/sporcano.

‘(I like best) the dog that (the fathers) are washing/soiling’

(182) Quella che i bambini guardano la scimmia. (6;6)

‘The one that the children are looking at the monkey’

TARGET: (Mi piace) la scimmia che guardano i bambini/i gatti.

‘(I like best) the monkey that are looking at the children/the cats_{SUBJ}’

In line with previous literature, participants sometimes produced subject relatives instead of object relatives: they used passive relatives like the one exemplified in (183), relative clauses with causative constructions (184), head inversions (185) or, more rarely, change of the verb (186).

(183) Mi piace il cane che viene pettinato dai barbieri. (8;0)

‘I like the dog that is being combed by the hairdressers’

(184) Mi piace di più il cane che si fa pettinare dai due barbieri. (9;10)

‘I like the dog that has itself combed by the two hairdressers’

TARGET: (Mi piace) il cane che pettinano i bambini/i barbieri.

‘(I like) the dog that are combing the children/the hairdressers’

(185) I gatti che guardano la scimmia. (7;3)

‘The cats that are looking at the monkey’

TARGET: (Mi piace) la scimmia che guardano i gatti/i bambini.

‘(I like) the monkey that are looking at the cats/the children_{subj}’

(186) Il vigile che scappa dai cani. (7;1)

‘The policeman that is running away from the dogs’

TARGET: (Mi piace) il vigile che i cani mordono/inseguono.

‘(I like) the policeman that the dogs are biting/chasing’

These are all acceptable responses, except for the head-inversion strategy, which from a pragmatic point of view does not qualify as a proper answer to the experimental question. Respectively, such answering strategies were coded as “passive relatives”, “causative

relatives”, “head inversion” and “other”. We classified under “other” also (infrequent) ungrammatical sentences like (187):

(187) A me piace quella che sono baciando i nonni. (8;5)

I like best the one that ESSERE_{3° PL PERSON} kissing the grandparents

TARGET: (Mi piace) la bambina che baciano i cani/i nonni.

‘(I like) the girl that are kissing the dogs/the grandparents_{subj}’

Relative clauses with *wh*-fillers such as *dove/quando/in cui* instead of the complementizer *che*, as in (188), were coded under “wh”:

(188) Quello dove i vigili salutano la maestra. (7;4)

‘The one where the policemen are greeting the teacher’

TARGET: (Mi piace) la maestra che i vigili salutano/fermano.

‘(I like) the teacher that the policemen are greeting/stopping’

Finally, declarative-like sentences like the one in (189) and SVO simple sentences like the one in (190) were coded under “declarative”.

(189) Mi piace la figura che i papà stanno lavando il cane. (6;9)

‘I like the picture that the fathers are washing the dog’

TARGET: (Mi piace) il cane che i papà lavano/sporciano.

‘(I like) the dog that the fathers are washing/dirtying’

(190) I vigili FERMANO la maestra. (10;4)

‘The policemen ARE STOPPING the teacher’

TARGET: Mi piace la maestra che i vigili fermano/salutano.

‘(I like) the teacher that the policemen are stopping/greeting’

4.5. Results I: subject and object RCs

The main results of our preference task are briefly presented here, and discussed in the following sections in the form of a comparison with the findings collected in the correction task. First of all, as expected, a solid subject-object asymmetry is attested: children produced a high amount of target SRs, 98% out of the total amount: in raw numbers, 1347/1380. Adults uttered 118/120 SRs, that is 98% target answers. As for the object condition, the total amount of gap ORs is lower: children produced 24% target ORs, in raw numbers 338/1380. Only two ORs were collected in the adult corpus, that is 2%. Table 10 provides more detailed data on the performance of each age group:

Groups	Type of Relative	Target productions	Mean (SD)
G1	SR	221/228	97% (5.7)
	OR	41/228	18% (29)
G2	SR	376/384	98% (4.7)
	OR	107/384	28% (30)
G3	SR	317/324	97% (5.5)
	OR	50/324	15% (23)
G4	SR	433/444	97.5% (6.5)
	OR	140/444	32% (40)
G5	SR	118/120	98% (3.5)
	OR	2/120	2% (4)

Table 10. Raw numbers and percentages of target relative clauses produced across groups (SD %)

In the following, we concentrate on the object condition and report how responses given by participants distribute across the different typologies of answers:

GROUPS (N items)	OR		RES CLIT		RES DP		PASSIVE REL		CAUSAT REL		HEAD INV		WH		DECL		OTHER	
	SD		SD		SD		SD		SD		SD		SD		SD		SD	
G1 (228)	41		16		23		42		5		61		1		23		16	
	18%	29%	7%	8%	10%	21%	18%	34%	2%	8%	27%	30%	0%	2%	10%	17%	7%	9%
G2 (384)	107		39		31		76		10		83		22		1		15	
	28%	30%	10%	18%	8%	19%	20%	32%	3%	11%	22%	31%	6%	19%	0%	1%	4%	8%
G3 (324)	50		24		10		133		12		56		18		4		17	
	15%	23%	7%	19%	3%	9%	41%	40%	4%	12%	17%	30%	6%	14%	1%	3%	5%	8%
G4 (444)	140		13		11		158		18		61		23		1		19	
	32%	40%	3%	8%	2%	6%	36%	41%	4%	15%	14%	23%	5%	13%	0%	1%	4%	18%
G5 (120)	2		0		0		112		0		2		0		0		4	
	2%	4%	0%	0%	0%	0%	93%	8%	0%	0%	2%	4%	0%	0%	0%	0%	3%	4%

Table 11. Raw numbers and percentages of answering strategies across groups, object condition

The first column (replicating data from Table 10) shows that children produced around one third gap ORs up to the age of 9-10 y.o, with quite high variability among participants. The other most frequent strategies of answers are passive relatives and subject relatives built thanks to the use of a non-target relative head (“head inversion”). As a whole, resumptive relatives decline with age; finally, declarative embedded clauses and SVO simple sentences are mostly collected in the youngest group (“declarative”).

The gap ORs that were collected can be distinguished based on the properties characterizing the embedded subject and on the type of relative head. First of all, we counted 161 ORs (15%) featuring a lexically-restricted relative head and a lexically-restricted embedded subject; of these, 76 ORs contain a preverbal subject and 85 ORs a postverbal one.

As for the embedded subject, children often (adequately) employed a null subject in the change-of-action condition: this occurred as a whole 42% of times, out of all gap ORs which were produced in the suitable condition. Actually, G1 strongly favoured gap ORs with null embedded subject (88% of times). G2 and G3 omitted the subject 36% and 45% of times, whereas G4 preferred the use of full preverbal subjects (46% against 28% null subjects). As for the change-of-agent condition, children never made the mistake of omitting the subject; rather, they felicitously placed it after the verb most of the times (on average across groups, 78% of times, ranging from 67% to 94%).

As for the type of relative head, children frequently opted for a pronominal demonstrative antecedent, which was preferred the most by younger children and the least by the older ones: specifically, G1 used the demonstrative pronoun *quello* 93% of times when a

gap OR was uttered; G2 and G3 did the same 48% and 52% of times, while in G4 the usage of a full lexical DP head was predominant (71%).

The two phenomena, namely the use of a null subject and of a “light” relative head, often overlap; out of 79 gap ORs featuring a pronominal antecedent, 49 also contain a null embedded subject. As noted by Pivi (2014), a developmental pattern emerges in this respect: indeed, G1 preferred the use of “light-headed” object relative clauses with null subjects (80%) (191), whereas G4 used more full headed object relative clauses with expressed subject (61%), as in (192).

(191) *Quella che stanno salutando.* (6;3)

‘The one that (they) are greeting’

TARGET: *Mi piace la maestra che (i vigili) salutano/fermano.*

‘I like the teacher that (the policemen) are greeting/stopping’

(192) “*Mi piace la maestra che i vigili fermano.*” (9;8)

‘I like the teacher that the policemen are stopping’

TARGET: *Mi piace la maestra che (i vigili) salutano/fermano.*

‘I like the teacher that (the policemen) are greeting/stopping’

Finally, we point out that the usage of relative clauses headed by the pronoun *quello/a* is not restricted to the object condition, nor to cases where a gap OR was uttered: a high amount of SRs headed by a pronominal element was found, displaying a similar decrease in proportion with age (from 72% in G1 to 31% in G4 and 9% in G5), as was found for the object condition.

4.6. Results II. Clefts and relatives: a comparison between structures, tasks, and participants

The very first between-structures observation one would make out of what we have seen so far concerns the subject-object asymmetry. This has been outlined in both the preference task and the correction task; in Tables 12 and 13 we provide data concerning the targeted relatives and the targeted clefts collected in each group, subdividing participants as we did in the experiment on clefts, in order to make a more precise comparison within subjects. Table 12 illustrates data concerning the subject condition and compares production of SRs to that of SCs in the same participants; Table 13 illustrates data concerning the object condition and compares production of ORs against OCs⁴².

⁴² The first column of Table 13 seems to suggest that those groups that took part in the priming version of the correction task produced more gap ORs than Non-Priming groups in the preference task (as a whole, 28% vs. 17% gap ORs). In order to verify whether this is borne out, we conducted a statistical analysis by calculating the change in probability of producing a gap OR vs. another answering strategy, with respect to exposure to prime object cleft sentences in the correction task. As a result, we found a marginal effect of experimental condition on production of gap ORs: $\chi^2(1) = 3.78, p=0.05$. The same effect is found by considering only gap ORs with preverbal subject (which are more similar to the OCs presented to participants in the priming version of the cleft task): $\chi^2(1) = 3.82, p=0.05$. Such findings were unexpected, and although the effect is only marginal, they may deserve further scrutiny. Indeed, this type of data could reveal a certain degree of underlying, abstract similarity between cleft clauses and relative clauses, which may explain why prior exposure to the former can facilitate subsequent retrieval and use of the latter.

Groups	Type of sentence	
	SR	SC
G1 NP	96/96	19/96
	100% (0)	20% (40)
G1 P	125/132	85/132
	95% (7)	64% (48)
G2 NP	175/180	61/180
	97% (5)	34% (47)
G2 P	201/204	142/204
	99% (4)	70% (46)
G3 NP	162/168	62/168
	96% (7)	37% (48)
G3 P	155/156	93/156
	99% (2)	60% (49)
G4 NP	213/216	105/216
	99% (4)	49% (50)
G4 P	220/228	163/228
	96% (8)	71% (45)
G5 NP	71/72	32/84
	99% (3)	38% (49)
G5 P	47/48	39/48
	98% (4)	81% (39)

Table 12. Raw numbers and percentages (SD%) of SRs and SCs across groups

Groups	Type of sentence	
	OR	OC
G1 NP	3/96	0/96
	3% (6)	0% (0)
G1 P	38/132	2/132
	29% (34)	2% (3)
G2 NP	36/180	0/180
	20% (29)	0% (0)
G2 P	71/204	3/204
	35% (29)	1% (4)
G3 NP	19/168	0/168
	11% (16)	0% (0)
G3 P	31/156	3/156
	20% (29)	2% (5)
G4 NP	70/216	0/216
	32% (41)	0% (0)
G4 P	70/228	7/228
	31% (39)	3% (8)
G5 NP	0/72	0/84
	0% (0)	0% (0)
G5 P	2/48	0/48
	4% (5)	0% (0)

Table 13. Raw numbers and percentages (SD%) of ORs and OCs across groups

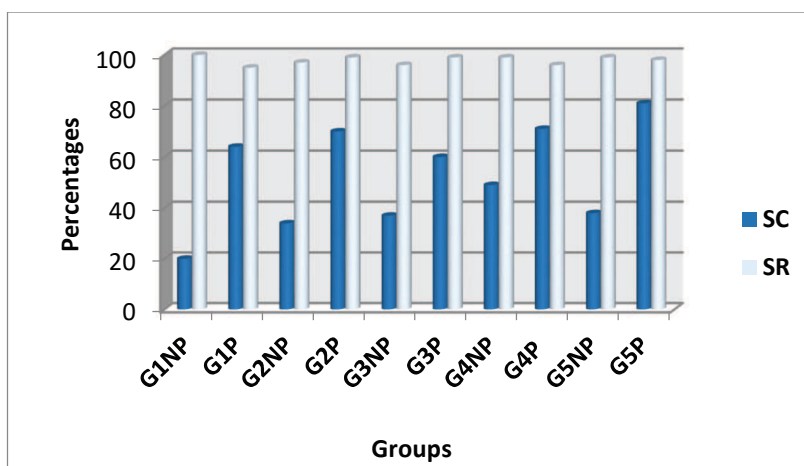


Fig. 27. Amount of SCs and SRs elicited per group

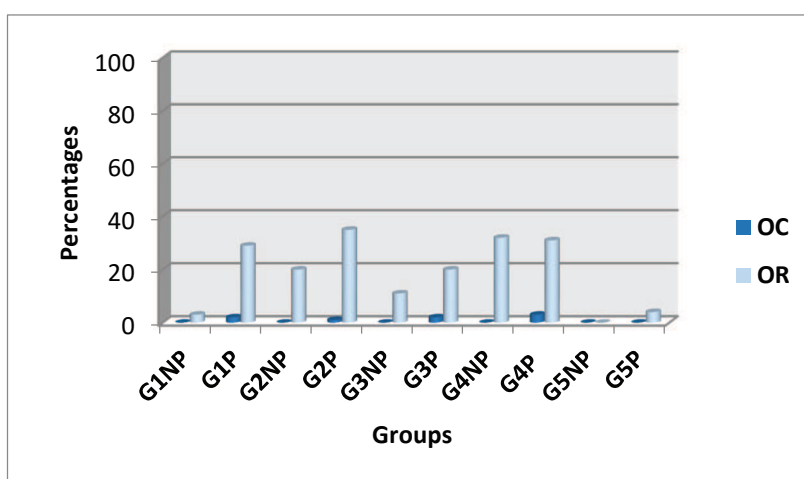


Fig. 28. Amount of OCs and ORs elicited per group

As was said in Chapter Three, a radical subject-object asymmetry is found when clefts are considered: hardly any contrastive OC is uttered by children, while SCs are explored as a possible correction strategy. This somehow recalls the subject-object asymmetry found in RCs by testing the very same children. However, when looking at the data, we observe some “internal” asymmetries between the two types of structures: Table 12 and Fig. 27 show that in every experimental group, SRs are almost at ceiling, while SCs reach lower proportions, ranging from 20% to 71% in the child corpus; moreover, they display larger standard deviations. Table 13 and Fig. 28 show that ORs are employed by every group of children ranging from 3% to 35%, while OCs remain trivially unexploited as means for correction.

Perhaps even more telling is the fact that participants did not even consider reducing or simplifying clefts in the object condition. Let us compare the typologies of relative clauses collected in the preference task with the cleft structures employed or exploitable in principle in the correction task, concerning the object condition.

In the following, we exemplify the usage of relative clauses and of their parallel cleft structures as they were used, or could have been used in the correction task. We report the discourse lead-in presented to participants in the two tasks; to make the comparison more reliable, we take into account the change-of-action condition for the preference task, where the subject is topicalized and not contrasted, and the number mismatch condition for the correction task, since only number features mismatch characterized the targeted RCs⁴³. As concerns relatives, we take into account gap ORs with preverbal (193a), postverbal (193b), and null embedded subject (193c), ORs turned into SRs by substitution of the expected head (194) and ORs turned into SRs by passivization⁴⁴ (195) or by the use of a causative construction (196).

PUPPET: “Ci sono due nonni e due elefanti. I nonni, sollevano un elefante, e guardano l’altro elefante. Quale elefante ti piace?”.

(193) a. Mi piace l’elefante/quello che i nonni sollevano.

‘I like the elephant/the one that the grandparents are lifting up’

b. Mi piace l’elefante/quello che sollevano i nonni.

‘I like the elephant/the one that are lifting up the grandparents_{Ssubj}’

c. Mi piace l’elefante/quello che sollevano.

‘I like the elephant/the one that (they) are lifting up’

(194) Mi piacciono i nonni che sollevano l’elefante.

‘I like the grandfathers that are lifting the elephant up’

(195) Mi piace l’elefante/quello che viene sollevato (dai nonni).

‘I like the elephant/ the one that is being lifted up (by the grandfathers)’

⁴³ However, data collected in the number match condition strongly resemble those obtained in the mismatch condition.

⁴⁴ We did not include reduced passive relatives in the counting, because reduced passives are not available in cleft clauses, and, indeed, they never occurred in our corpus:

i. Mi piace l’elefante sollevato.

‘I like the elephant lifted up’

ii. *Sono GLI ORSI pettinati!

‘It is THE BEARS combed’

(196) Mi piace l'elefante/quello che si fa sollevare (dai nonni).

'I like the elephant/ the one that gets himself lifted up (by the grandfathers)'

Parallel to the above examples, we illustrate the following cleft counterparts: OCs with preverbal (197a), postverbal (197b) and null embedded subject (197c), a cleft that we previously coded as "sentence focus" structure, which can only license a clefted subject constituent and which we interpret as being the counterpart of relatives with "head-inversion" (for this reason, it was recoded here as "SC with head inversion") (198), and an OC turned into a SC by passivization of the cleft phrase (199) or by the use of a causative construction (200).

PUPPET A: Qui ci sono degli animali birichini: due scoiattoli, due orsi e una giraffa.

PUPPET B: E la giraffa pettina gli scoiattoli!

(PUPPET A: Eh sì, sono proprio gli scoiattoli che la giraffa pettina!)

(...)

(197) a. Sono GLI ORSI che la giraffa pettina!

'It is THE BEARS that the giraffe is combing'

b. Sono GLI ORSI che pettina, la giraffa!

'It is THE BEARS that is combing the giraffe_{subj}'

c. Sono GLI ORSI che pettina!

'It is THE BEARS that (it) is combing'

(198) E' la giraffa che pettina gli orsi.

'It is the giraffe that is combing the bears'

(199) Sono GLI ORSI che vengono pettinati (dalla giraffa)!

'It is THE BEARS that are being combed (by the giraffe)'

(200) Sono GLI ORSI che si fanno pettinare (dalla giraffa)!

'It is THE BEARS that are getting themselves combed (by the giraffe)'

In Table 14, we provide the amounts of the relevant types of relative clauses which were employed by participants when an OR was targeted by means of the change-of-action condition (which, as said before, ensures a more accurate comparison with the sentences collected in the correction task), as exemplified in the sentences (193) to (196):

GROUPS (N items)	OR prev emb subj	OR emb postv subj	OR null subj	SR head inversion	passive relative	causative relative
G1 (114)	3 3%	0 0%	22 19%	28 25%	16 14%	2 2%
G2 (192)	15 8%	15 8%	17 9%	41 21%	36 19%	3 2%
G3 (162)	6 4%	6 4%	10 6%	29 18%	62 38%	4 2%
G4 (222)	34 15%	19 9%	21 9%	31 14%	72 32%	7 3%
G5 (60)	0 0%	1 2%	0 0%	1 2%	45 75%	0 0%

Table 14. Raw numbers and percentages of relevant typologies of RCs (object, change of action condition)

In Table 15, we provide the amounts of correspondent types of cleft clauses uttered by participants when an OC was targeted in the number mismatch condition, as exemplified in the sentences (197) to (200):

GROUPS (N items)	OC prev emb subj	OC emb postv subj	OC null subj	SC head inversion	passive cleft	causative cleft
G1 (114)	1 0.9%	0 0%	0 0%	4 3.5%	0 0%	0 0%
G2 (192)	1 0.5%	0 0%	1 0.5%	10 5.2%	0 0%	0 0%
G3 (162)	2 1.2%	0 0%	0 0%	8 4.9%	0 0%	0 0%
G4 (222)	2 0.9%	0 0%	0 0%	18 8.1%	2 0.9%	0 0%
G5 (66)	0 0%	0 0%	0 0%	0 0%	0 0%	0 0%

Table 15. Raw numbers and percentages of relevant typologies of Clefts (object, number mismatch condition)

As already mentioned in previous section, target gap ORs were predominantly produced with null embedded subjects by the youngest children, whereas preverbal embedded subjects were favoured by older children. Although slightly decreasing with age and pragmatically infelicitous, the use of “head-inversion” was consistent across groups. Moreover, passive relatives qualify as one of the preferred answering strategies, especially in the older child groups and in the adult group, while causative relatives occurred much less frequently.

In the cleft task, no answer strategy illustrated in Table 15 parallels its correspondent relative typology in proportion; only the category “SC-head inversion” was chosen in comparable amounts. Yet, we believe that the cleft sentences instantiated in (197) to (200) are pragmatically felicitous in the discourse context provided to participants (except for head-inverted clefts, (198), which are not welcome in the Non-priming version of the task), so one could in principle expect more similar typologies of responses to appear across structures. This holds in particular for participants belonging to the Priming groups, who received an OSV prime featuring an initial patient-object. An additional type of correction which could be considered a simplified object cleft, but whose relative counterpart is impossible, is the reduced cleft (*E’ LA CAPRA!* ‘It is THE GOAT!’). Reduced OCs have been employed 20/720 times in the object condition by children belonging to the Priming groups, in the amount of 3%.

We conclude this subpart with some final observations: notably, as was shown in the previous section (Table 11), children produced 92/1380 ORs with clitic resumption and 75/1380 ORs with DP resumption of the relative head. The very same children never uttered “resumptive OCs”, which would give rise to ungrammatical sequences (section 4.1.1).

Finally, as for the phenomenon of passivization, the difference between clefts and relatives seems to be striking, since almost no passive cleft was used in the object condition.

4.6.1. A look at the single participants

In principle, one could fairly argue that proportions of the various types of clefts reported in Table 14 are lower than the correspondent relatives because non-cleft types of corrections were available in the correction task. However, what we want to point out here is the fact that cleft sentences involving an object cleft phrase were almost totally absent from our corpus, and that the same children who produced certain types of sentences in one task did not resort to similar strategies in the other task.

Looking at how the single participants performed across tasks and structures, we notice that the fifteen object clefts that were collected in the corpus were uttered by ten children who did not necessarily produce gap ORs in the preference task. In Table 16 we provide a small comparison of the types of structures employed by these children, considering, as before, only the change-of-action condition for RCs:

Children	Group	prev embedded subj		postv embedded subj		null embedded subj	
		OC	OR	OC	OR	OC	OR
C1	G1			1			4
C2	G1	1					
C3	G2		1			1	1
C4	G2	1		1	1		2
C5	G3	1			2		
C6	G3	2					
C7	G4	1	4		1		
C8	G4	4	2				
C9	G4	1	5		1		
C10	G4	1					

Table 16. Raw numbers of correspondent typologies of OCs and ORs in the same children (for ORs: change-of-action condition)

Three children, C2, C6, and C10, did not use any gap OR. C1 and C5 placed the embedded subject in different positions across structures. For the remaining five children, there is some overlapping, especially in children belonging to G4, who seem to have a preference for placing the expressed subject preverbally. However, we do not seem to find systematic correspondences. Furthermore, some of the children who produced at least one OC also used resumptive ORs and/or inverted the head of the relative clause, and 12 children who were exposed to the priming version of the cleft task produced at least one gap OR with preverbal subject in the relevant condition (range 1-5), but no OC at all.

In order to dispose of more reliable data, we decided to statistically check whether the proportion of object-extracted relative clauses produced by children predicts the probability of producing one object extracted cleft, for children belonging to the Priming groups. We submitted our data to a repeated mixed logit model with item and participant as random factors, production of OCs as the dependent variable and proportions of gap ORs calculated for each child as independent variable. As a result, no significant effect of proportions of ORs was found. Thus, the tendency to produce an OC did not significantly correlate with the likelihood to produce a gap OR. Concluding, there does not seem to be any strong association in children's responses between performance in the cleft task and in the preference task, indicating that production of OCs is not contingent upon production of ORs.

4.6.2. The use of passives across tasks, structures, and participants

As said before and reported in our result sections, passive sentences are often used when ORs are targeted in elicitation contexts, leading to production of syntactic subject relatives, while passive clefts are trivially not adopted.

Here, we will compare passives elicited in the preference task with those produced in the correction task by the same participants, providing some observations for a subtler characterization of passive relatives from the discourse point of view, as is also discussed in Hamann & Tuller (2015b) for French. This, in turn, will give us the opportunity to make some relevant methodological considerations, which we postpone till the discussion section.

In the following tables, we provide a detailed picture of how passives were employed in the preference task by our participants. First, we analyze the proportions of short and long passives as they distributed across conditions. Of course, one expects long passives, i.e. passives equipped with *by*-phrases, to be necessarily produced in the change-of-agent condition, where the agentive referent is explicitly contrasted:

PUPPET: Ci sono due bambini, due barbieri e due cani. I bambini pettinano un cane, i barbieri pettinano l'altro cane. Quale cane ti piace?

TARGET: Mi piace il cane che pettinano i bambini/i barbieri.

'I like the dog that are combing the children/the hairdressers_{subj}'

(201) PASSIVE RELATIVE: Mi piace il cane che viene/è pettinato dai bambini/dai barbieri.

'I like the dog that is being combed by the children/the hairdressers'

By contrast, agentive *by*-phrases can naturally be omitted in passive relatives uttered in the change-of-action condition, just like embedded subjects can be null in ORs.

PUPPET: Ci sono due mamme, due papà e due elefanti. Le mamme sollevano un elefante, i papà sollevano l'altro elefante. Quale elefante ti piace?

TARGET: Mi piace l'elefante che sollevano/guardano.

'I like the elephant that (they) are lifting up/looking at'

(202) PASSIVE RELATIVE: Mi piace l'elefante che viene/è sollevato/guardato.

'I like the elephant that is being lifted up/looked at'

In Italian, two types of auxiliaries are available for an eventive passive in the present tense, namely *venire* (come) and *essere* (be); for periphrastic tenses only *essere* is legitimate. We will keep the two types of auxiliaries separated to be more detailed.

As a whole, children produced 212 passive relatives in the change-of-agent condition, all of which contained a *by*-phrase. Table 17 shows how they distributed across age groups⁴⁵:

GROUPS (N items)	CHANGE OF AGENT		
	VENIRE	ESSERE	REDUCED
G1 (114)	24 21%	0 0%	0 0%
G2 (192)	31 16%	7 4%	2 1%
G3 (162)	51 31%	8 5%	6 4%
G4 (222)	80 36%	1 0%	2 1%
G5 (60)	31 52%	11 18%	16 27%

Table 17. Raw numbers and proportions of passive relatives (change-of-agent condition)

As for the change of action condition, 132 long passives and 65 short passives were collected:

GROUPS (N items)	CHANGE OF ACTION			BY-PHRASE
	VENIRE	ESSERE	REDUCED	
G1 (114)	16 14%	0 0%	2 2%	8/18 44%
G2 (192)	31 16%	5 3%	0 0%	19/36 53%
G3 (162)	55 34%	7 4%	6 4%	45/68 66%
G4 (222)	69 31%	3 1%	3 1%	60/75 80%
G5 (60)	33 55%	12 20%	11 18%	50/56 89%

Table 18. Raw numbers and proportions of passive relatives and *by*-phrases (change-of-action condition)

⁴⁵ We do not present detailed data concerning causative structures here, because they were produced only once in the cleft task, in the object condition (*Non è vero, perché gli orsi si fanno pettinare dalla giraffa*. ‘It’s not true, because the bears have themselves combed by the giraffe’; 8;6 y.o.), and, on average across groups, 3% of times in the preference task (Table 11 and Table 15).

One property still distinguishes adult and child productions: adults make use of the auxiliary verb *essere* more often, both in the past and in the present tense (203)⁴⁶. Children, instead, systematically adopt it for the past tense only (204a), where *venire* is not acceptable (204b), and always employ *venire* for the present tense.

(203) Mi piace l'elefante che è sollevato dai nonni. (29;0)

'I like the elephant that is being lifted up by the grandfathers'

(204) a. Mi piace l'elefante che è stato sollevato dai nonni. (8;8)

'I like the elephant that has been lifted up by the grandfathers'

(204) b. *Mi piace l'elefante che è venuto sollevato dai nonni.

'I like the elephant that has come lifted up by the grandfathers'

Passive relatives, like gap ORs, sometimes had a pronominal, demonstrative antecedent:

(205) Mi piace di più quello che viene sollevato dai nonni. (9;0)

'I like best the one that is being lifted up by the grandfathers'

This occurred more frequently in the younger children's productions (62%), was less frequent in the older children (39%) and dropped to 27% in adults; again, this recalls the pattern found for both subject and object relatives (see section 4.5).

We now look at the passive sentences collected in the correction task; Table 15 (referring to the number mismatch condition only) already gave an hint about the scarce amount of passive cleft clauses collected in the object condition; as a whole, only 4 passive clefts were produced, exclusively by two children aged 9;6 who were exposed to the priming version of the task. We report two examples, one drawn from the number mismatch condition, the other from the match condition:

(...)

PUPPET A: Eh sì, sono proprio gli scoiattoli che la giraffa pettina!

'Yes, it is the squirrels that the giraffe is combing'

⁴⁶ Actually, another property distinguishes adults' usage of relative passives from child usage, namely a more sounding preference for reduced passive relatives (adults 20% vs. children 1.5%). Notably, reduced passive clefts are not possible in Italian.

(206) No, sono GLI ORSI che vengono pettinati dalla giraffa. (9;6)

‘No, it is THE BEARS that are being combed by the giraffe’

(...)

PUPPET A: Eh sì, è proprio il maiale che l’asino lava!

‘Yes, it is the pig that the donkey is washing’

(207) No, perché è L’ ORSO che viene lavato dall’asino. (9;6)

‘No, because it is THE BEAR that is being washed by the donkey’

In addition to passives embedded in subordinate clauses, two main passive sentences were employed by one child tested with the priming technique:

(...)

PUPPET A: Eh sì, è proprio il pulcino che il gatto spinge!

‘Yes, it is the chick that the cat is pushing’

(208) LA CAPRA viene spinta dal gatto. (10;4)

‘THE GOAT is being pushed by the cat’

Moreover, one instance of causative sentence was found (see footnote 45). All sentences included a *by*-phrase and were built with the auxiliary *venire*.

No adult employed a passive in the object condition. Interestingly, though, some main passive sentences occurred in the subject condition, as in the following:

(...)

PUPPET: E le farfalle colpiscono la pecora.

‘And the butterflies hit the sheep’

(209) No, la pecora viene colpita dai gatti. (21;0)

‘No, the sheep is hit by the cats’

This occurred 7 times in the adult corpus only (5%). The two adults who uttered these passive corrections did not hear any priming cleft sentences.

Looking at how the single participants performed across tasks and structures, we notice that children who produced passive sentences (either passive clefts or main passive sentences) in the cleft task also produced many passive relatives in the preference task:

Children	Group	Passive cleft	Passive correction	Passive relative
C8	G4	1		9
C11	G4		2	10
C12	G4	3		12

Table 19. Raw numbers of passives elicited in the cleft task and in the preference task in the same children

However, there were other 21 children who produced 9-to-12 passive relatives in the preference task, but did not utter any passive in the cleft task. So, it seems that passive is a much better-suited solution in the preference task anyway.

Notice, finally, that few sentences which we coded under the category “other structures” in the subject condition may be seen as active counterparts of passive sentences from the information structure point of view: 2 active sentences with postverbal, focalized subject and cliticized, patient object are found, (210) and (211):

(...)

PUPPET A: Eh sì, è proprio la capra che spaventa il coniglio!

‘Yes, it is the goat that is frightening the rabbit’

(210) No, la capra non sta spaventando il coniglio, lo spaventa il cane. (9;8)

‘No, the goat is not frightening the rabbit, the dog is frightening him’

(...)

PUPPET A: Eh sì, è proprio il coniglio che pettina il cammello!

‘Yes, it is the rabbit that is combing the camel’

(211) No, lo sta pettinando l’oca. (8;7)

‘No, the duck is combing him’

As was observed for target ORs vs. target OCs, given the possibility for a passive (cleft) correction to be used in the cleft task and the high amount of passive relative clauses collected in the preference task, one would in principle expect some more passives to be used in the former by the very same participants. But participants clearly preferred other typologies of correction.

4.7. The delayed-repetition task

Elicited imitation of sentences is a widely exploited experimental elicitation technique, fruitfully used in child language research, neuropsychological research, and second language research since the Sixties. Its usefulness for linguistic research rests primarily on the fact that structures which happen to occur only rarely or hardly ever in spontaneous speech and which need the assembly of elaborate methodology to be induced orally can be elicited rapidly and practically. This is precisely the case of contrastive non-subject clefts in Italian. The rationale behind imitation hinges upon the fact that imitating a sentence accurately involves having formed a correct syntactic representation of that sentence (Lust, Chien & Flynn 1987; Crain & Thornton 1998 a.o.). Although this assumption has long been debated and criticized, general agreement as to the effectiveness of elicited imitation seems to have been achieved, as long as the technique is applied with great care. As pointed out in a recent review on the topic (Vinther 2002), it is of particular importance to provide information about the reason for the sentence being uttered, and to provide a sensible communicative context. Furthermore, it is desirable to avoid the phenomenon called “parroting”. This occurs when sentences can be retained in short-term memory as an acoustic image, and immediately reproduced, which does not ensure accurate understanding of that sentence. This may happen, for example, when the tested sentences are too short. A way of avoiding parroting is to administer participants a delayed imitation task, that is trying to make the speakers repeat the target sentences only after recoverability of their acoustic image in immediate memory has faded.

We addressed these two important methodological aspects in the following ways. Participants were told that the puppet named Pippo (the hippo) had previously played the same games that they had just been playing (the repetition task was carried out at the end of the second experimental session): he had been correcting the other puppets’ utterances, saying which characters were his favourite ones, guessing what was happening to some characters and

telling what some other characters were doing in the pictures. The participants' task was to watch the pictures they had just seen in the PPT presentation and listen to what Pippo had said. Then, they had to repeat its sentences just as he had pronounced them, as a final game. This way, we had our participants imitating 12 object-extracted cleft sentences and 12 object-extracted relative clauses identical to those which were targeted in the two elicitation tasks. Furthermore, a complication was included: after having listened to Pippo's utterances, children had to count out loud from one until three (about one digit at a second), as in Friedmann & Szterman (2011). Only after having counted, could they start their repetitions.

4.7.1. Participants

Every speaker who carried out our battery of tasks took part in the final delayed-imitation task. However, we only report the results relative to those children and adults who did *not* hear any cleft-prime in the correction task, which was administered before the repetition task. This ensures a more balanced comparison between findings obtained in repetition of OCs vs. that of ORs.

So, the same participants presented in Table 2 in Chapter Three will be taken into account. They are repeated in Table 20 for convenience.

Subgroups	N of participants	Mean age (SD months)
G1 NP	8	6;6 (2)
G2 NP	15	7;5 (3)
G3 NP	14	8;4 (3)
G4 NP	18	9;6 (4)
G5 NP	7	23;1 (37)

Table 20. Participants at the repetition task

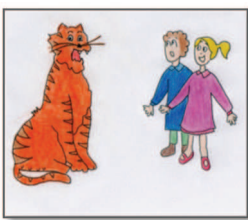
4.7.2. Design and materials

As already hinted at above, materials were the same as the ones employed in the elicited production task. More specifically, participants were presented with the same pictures. As soon as each picture was shown on the laptop screen, the voice of Pippo was played, as shown in the following trials, first for an object cleft (212), and then for an object relative clause (213):



(212) PIPPO: “E’ LA CAPRA che il gatto spinge!”

‘It is THE GOAT that the cat is pushing’



(213) PIPPO: “Mi piace la tigre che vedono i bambini”

‘I like the tiger that the children are looking at’

The target stimuli were the same 12 OCs and 12 ORs (6 ORs with preverbal and 6 ORs with postverbal subject) that were tested in the cleft task and in the preference task, respectively. These were interspersed with 5 simple SVO sentences and 8 passive sentences. Before starting the game, one stimulus was provided for training. The child sat in front of the computer screen, and one experimenter helped him or her going ahead with the slides. The other experimenter sat opposite to the child and reminded him or her to start counting when needed. This test lasted about 10 minutes; 6 years-old children were allowed a pause after the first 20 stimuli. At the end of this last test, every child was rewarded with a sticker.

4.7.3. Results

Findings from the repetition task show that both object-extracted clefts and object-extracted relatives were quite accurately repeated, reaching high levels of correctness in each group of participants. As a whole, children repeated accurately 611/660 OCs, tantamount to 92.5%. As regards ORs, the same children imitated 576/660 sentences, reaching 87% correct repetitions.

Adult performance reached 100% correct responses when a cleft was elicited, vs. 97% when imitation of an OR was targeted. Scores distribute across groups as follows:

Groups	Type of Sentence	Target	Mean (SD)
G1 NP	OC	87/96	10.8 (1.4)
	OR	76/96	9.5 (1.8)
G2 NP	OC	157/180	10.4 (2.1)
	OR	158/180	10.5 (2.3)
G3 NP	OC	159/168	11.3 (1.2)
	OR	148/168	10.5 (2.1)
G4 NP	OC	208/216	11.5 (0.7)
	OR	194/216	10.7 (1.6)
G5 NP	OC	84/84	12 (0)
	OR	81/84	11.5 (0.7)

Table 21. Scores and mean (SD) of correctly repeated OCs and ORs (out of 12 stimuli per participant)

By statistically analyzing the change in probability of producing a correct repetition rather than an incorrect one, for the factor “type of sentence”, we found a main effect of sentence type: $\chi^2(1) = 4.66, p < 0.05$, namely OCs are easier to repeat than ORs (Wald $Z = 2.20, p < 0.05$).

Fig. 29 illustrates the percentages of correct repetitions collected and underlines differences and tendencies in development:

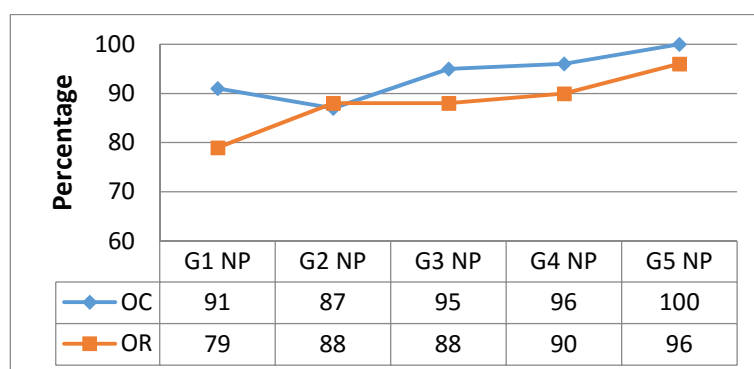


Fig. 29. Percentages of correct OC and OR repetitions

By comparing the age groups on overall performance at repetition of OCs (correct vs. incorrect repetitions), we found a significant effect of group ($\chi^2(4) = 11.82, p = 0.01$). Specifically, 6 and 7 y.o. children do not differ between each other, neither do 8 and 9 year-olds. However, children belonging to the two younger groups perform worse than children belonging to G3 NP and G4 NP (Wald $Z = 2.11, p < 0.05$). G3 NP and G4 NP, in turn, do not differ from adults.

As for ORs, the developmental scenario is slightly different, with G1 NP performing worse than the adult group (Wald $Z=2.71$, $p<0.01$), and the other groups performing likewise.

Let us now verify whether number features upon the two DPs involved in OCs played a relevant role in the accuracy with which the sentences were repeated: as a whole, 296 vs. 315 OCs were correctly repeated by children in the matching vs. mismatching condition respectively, out of 330 stimuli. Although OCs with number mismatch were repeated better than OCs with number match in each child group, the discrepancy does not reach statistical significance ($p=0.08$).

As for the change of agent vs. change of action condition manipulated in ORs, no statistical difference is detected, with ORs with postverbal, contrasted subject being imitated accurately 285 times, and ORs with topicalized, preverbal subject being repeated correctly 291 times out of 330 sentences.

A look at the performance of the single children shows that 23/55 children did not make any mistake in the imitation task. 10 children repeated at least one OR incorrectly without making any mistakes in OCs. Moreover, 22/55 children made at least one mistake in repeating OCs: of these, all but 2 children also produced incorrect ORs and 15, the majority, made more mistakes when repeating an OR than when repeating an OC; conversely, 6 children made more mistakes in the imitation of OCs vs. ORs; finally, one child produced the same amount of mistakes across structures.

The most common types of mistake made by children when repeating an OC are shown in the following set of sentences: (214) and (215) instantiate two examples of placement of the preverbal subordinate subject in postverbal position, which occurred in both conditions:

TARGET: E' IL GATTO che il pinguino guarda!

'It is THE CAT that the penguin is looking at'

(214) E' IL GATTO che guarda il pinguino! (7;4)

'It is THE CAT that is looking at the penguin_{subj}'

TARGET: Sono I TOPI che il cavallo rincorre!

'It is THE MICE that the horse is chasing'

(215) Sono I TOPI che rincorre il cavallo! (7;4)

'It is THE MICE that is chasing the horse_{subj}'

Moreover, reversal of the clefted constituent occurred, with the effect of turning an OC into a “sentence-focus” SC:

TARGET: E’ LA CAPRA che il gatto spinge!

‘It is THE GOAT that the cat is pushing’

(216) E’ il gatto che spinge la capra. (9;8)

‘It is the cat that is pushing the goat’

Sometimes, children gave us hints that, perhaps, OSV clefts were being understood as having SOV order; this happened when the verb was produced with the wrong number features:

TARGET: Sono GLI ORSI che la giraffa pettina!

‘It is THE BEARS that the giraffe is combing’

(217) Sono GLI ORSI che pettinano la giraffa! (6;8)

‘It is THE BEARS that are combing the giraffe’

TARGET: Sono LE TIGRI che il cavallo morde!

‘It is THE TIGERS that the horse is biting’

(218) *Sono LE TIGRI che il cavallo mordono! (8;10)

‘It is THE TIGERS that the horse are biting’

More rarely, mistakes concerned the omission of the copula or of both the copula and the complementizer *che*, production of a passive cleft as in (219) and some other unclear errors.

TARGET: E’ LA GALLINA che la pecora picchia!

‘It is THE CHICKEN that the sheep is beating’

(219) E’ LA GALLINA che viene picchiata dalla pecora! (6;8)

‘It is THE CHICKEN that is being beaten by the sheep’

What distinguishes imitation of OCs from imitation ORs qualitatively, is that, additionally, ORs were sometimes repeated by inserting a clitic pronoun resuming the head; moreover, the

embedded subject was sometimes omitted in the change-of-action condition. Furthermore, more ungrammatical sentences appeared in the data. For a detailed report on the typologies of mistakes participants made when repeating ORs we refer the reader to Pivi (2014: 116-123).

4.8. Discussion

4.8.1. The subject-object asymmetry

One of our main research questions was to determine whether the subject-object asymmetry found for clefts turns out to be similar to the one characterizing relative clauses. At a first sight, one would say that it doesn't, neither from a quantitative point of view, nor from a qualitative point of view. Indeed, more gap RCs than clefts were produced in both the subject and the object condition. This is true even considering only the ORs that are characterized by the most difficult configuration pattern in terms of Friedmann et al.'s (2009) RM account. Furthermore, one exception apart (the case of "head-inverted" clefts), no comparable strategies of responses were exploited across structures and tasks, albeit possible in principle. Specifically, no cleft was uttered in a simplified way, i.e. a form that could avoid intervention effects. When OCs were produced, they were fully realized, or, at most, they were reduced. However, in connection to Chapter Three, we could say that participants opted for another, less marked, alternative corrective structure, namely an SVO sentence, which is obviously not available when restrictive relatives are elicited (indeed, simple SVO and declarative embedded sentences were much more rarely pronounced in the preference task; Table 11). This would explain why we also collected fewer SCs than SRs, which are structures where locality and intervention do not play a crucial role. What is certain is that we cannot say that OCs were only rarely produced because of a difficulty in handling with the complex syntactic configuration characterizing the targeted sentences: this is confirmed by the fact that the same participants showed to master the inclusion pattern that may be problematic by producing a number of gap ORs of the relevant typology. This finding, then, enriches the results presented and discussed in Chapter Three by excluding a possible reason for the trivial absence of OCs found in the cleft task.

4.8.2. Handling clefts and relatives: tasks and structures

As for the proposed depth of embedding factor, and, perhaps, thematic assignment, one would have expected clefts to be more easily and abundantly produced than what we found, syntactic complexity in RM terms being equal. Even more, the pattern that emerged in the correction task and in the preference task is somehow reversed with respect to our expectations. Nevertheless, we dispose of more coherent data thanks to the repetition task, which showed that ORs are indeed more prone to errors than OCs, also in adult speakers. One question is in order at this point: if clefts are not syntactically more complex than relatives, what is the reason for the pattern of results we detected by comparing the two types of structure within-subjects?

Recalling what we said in Chapter Three, we impute the trivial absence of OCs observed in our corpus to the availability of a less marked typology of response. This in turn could be seen as an important methodological weakness: indeed, one may argue that the discrepancy outlined between clefts and relatives may at least partly be explained by considering relevant dissimilarities between tasks. The Preference Task is very effective, because it forces participants to produce, at least, a restrictive relative clause that unequivocally limits the reference of the clausal antecedent; our Cleft Task is far less stringent, as it leaves available non-cleft types of answers, among which there are matrix, unmarked SVO sentences. As a consequence, the former task elicits very high proportions of relative clauses, which will be, if anything, modified as compared to the expected sentence; more precisely, no reasonable alternative to the target is conceivable in case a SR is elicited⁴⁷, contrary to what concerns object relatives, whose head may be resumed and reduced, or which can be turned into subject relatives by passivization. Moreover, even though, among all the types of subject relatives employed by children in the object condition, only passive relatives are grammatical and perfectly acceptable as alternatives to the elicited gap ORs, the best competitors of the targeted gap ORs are still relative clauses. The same does not hold for clefts; this is evident in the subject condition, since non-cleft SVO sentences with left-peripheral focalization of the subject constituent are often chosen alternatively to SCs: as a whole, the same children produced 98% target SRs vs. 53% target SCs (adults: 98% vs. 54%,

⁴⁷ Excluding much more marked choices, e.g. the use of an oblique relative clause like the following one:
Ci sono due bambini e due cani. Un bambino accarezza i cani, l'altro bambino SALUTA i cani. Quale bambino ti piace?

TARGET: Mi piace il bambino che accarezza i cani.

'I like the child that is caressing the dogs'

i. Mi piace il bambino da cui i cani si fanno accarezzare.

'I like the child by whom the dogs have themselves caressed'

respectively). Besides, the correction task might be cognitively more demanding than the preference task: it implies, in addition to the detection of a possible contrast, the correction of it. These methodological considerations are reasonable; however, one could see them as a consequence of the different fundamental properties distinguishing the two types of structures: first of all, differently from restrictive relatives, clefts need special discourse-pragmatic requirements to be realized. Clearly, they need a preceding claim to be contrasted; moreover, they are presuppositional in nature. Therefore, we impute the scarcity of clefts to the level of markedness associated with them. Since a correctively focalized clefted constituent also bears contrastive prosody, clefts are prosodically marked as well, given the fact that the main prominence does not fall on the rightmost sentential constituent. As a whole, all these facts seem to underline the differences distinguishing clefts from relatives, in spite of a “deceptive” superficial similarity.

4.8.3. More methodological considerations: on the use of passive

Literature on the elicited production and comprehension of RCs by Italian-speaking children report passive relatives to be more easily comprehended and more frequently produced than the corresponding gap ORs. This is in accordance with findings from studies investigating children’s mastery of passives in matrix clauses (Manetti 2012, 2013; Volpato et al. 2013, 2014) reporting copular passives to be correctly understood and accurately produced from preschool-age, with visible developmental improvements. The preference for passive relatives observed in the tasks aimed at eliciting gap ORs has been interpreted as the reflection of an avoidance strategy, namely the tendency to escape a syntactic configuration that may be problematic to compute for children, in Friedmann et al.’s (2009) words. Such tendency would lead to a massive use of passive relatives in adult age, because it qualifies as the optimal (i.e., pragmatically equivalent, but less costly) solution to overcome intervention. However, production of passive relatives in experimental contexts might be explained differently: typically, restrictive relative clauses are elicited as answers to *which*-questions, whereby participants are presented with a contrast between two (animate) characters, usually two children, and have to choose between them (Preference Task: Novogrodsky & Friedmann 2006; Friedmann & Szterman 2006). This makes the referent that has to be associated to the relative head particularly salient in discourse; more specifically, it clearly constitutes the discourse topic; as such, it is very naturally turned into a subject constituent by means of a passive. This

would be in line with the “topichood hypothesis” proposed by Mak et al. (2006; 2008) to account for the general preference for subject relatives vs. object relatives when the antecedent of the relative clause is the most topicworthy entity in discourse. Notice that, even if we tried to make the agentive referent (the expected subject) more salient in the discourse context as compared to previous studies, we did not prevent passive relatives to be exploited: clearly, our methodological manipulations did not suffice to avoid subjectivization of the relative head.

Furthermore, one of the main pragmatic functions of passives is to allow for the maintenance of the same discourse topic when moving from one sentence to another; this is precisely what happens in the relevant elicitation contexts:

PUPPET: ‘(...) Which elephant do you like?’

TARGET: ‘(I like) the elephant that ...’

Moreover, recall that, in our experiment, the elicitation of an object relative clause could be based either on a contrast between agents or on a contrast between actions; in the former case, children and adults always produced a sentence final, focalized *by*-phrase, which can be seen as a perfectly adequate strategy adopted to mark the contrast on the agent; in the latter case, the *by*-phrase could be absent (Table 18); the reason why this occurred may be related to the possibility typically made available by the passive to omit the agent.

That this sort of experimental task may induce the production of passives would be confirmed by studies analyzing the types of relative clauses usually employed in spontaneous speech (Hamann & Tuller 2015b, Belletti & Chesi 2011), which show that passive relatives are hardly ever adopted when discourse is under the speaker’s control.

Besides, as mentioned in the introduction to this dissertation, our participants also carried out an elicited production task aimed at inducing production of passives in matrix clauses through a set of patient-oriented questions (Del Puppo, Pivi in prep.; Cardinaletti, Del Puppo, Pivi in prep.); by comparing the amount of passives uttered by the same participants in the task designed to elicit passives and in the preference task, we established that more passives were uttered in the latter.

Belletti and Guasti (2015) claim that although the experimental design typically employed to elicit object relative clauses may be critical in favoring production of passives, children and adults’ data cannot simply be reduced to a task-related effect. The reason for this lies in the fact that a consistent amount of passive relatives has been detected also when elicitation techniques different from the Preference Task have been employed; specifically, the

authors refer to the Picture Description Task (adapted by Contemori & Belletti 2014 from Novogrodsky and Friedmann 2006) and to the task adopted by Guasti et al. (2012b), who in turn modeled it after Hamburger and Crain (1982) and Crain and Thornton (1998).

The procedure used in the Picture Description Task in order to elicit an OR in Italian is illustrated in the following (Contemori & Belletti 2014):

“In these pictures there are two rabbits. In one picture the rabbit is pushing the penguin and in the other picture the penguin is pushing the rabbit. Which rabbit is this? (pointing to the second picture). Start with this is the rabbit...”

Target sentence: This is the rabbit that the penguin is pushing.

An instance of lead-in employed in Guasti et al.’s (2012b) work is provided in the following (the authors only report an example of how subject relative clauses were elicited; however, the scenario eliciting an OR is easy to grasp):

“There are two pigs, two sheeps and two lions. One pig plays with the lions, the other one wants to play a trick and hides the two sheeps. What would you say to the puppet if you wanted it to touch this pig?” (The assistant points to the pig that is hiding the sheeps on a computer screen)

Target sentence: Touch the pig that hides the sheeps.

Notice that an analogue discourse context was also previously adopted by Guasti & Cardinaletti (2003), who also reported Italian- and French-speaking children to utter passive relatives in place of ORs; here, we show an example of the protocol they report for eliciting an object relative clause:

“There are two identical zebras in this story and there is a child. Today the child has decided to wash his zebras, but he has time to wash only one because he has to go to a movie with his friends. Cover your eyes, Carolina” (an experimenter covers the puppet’s eyes). “The child examines the first zebra and notices that it is not very well. So, he decides that is not wise to wash it. He then looks at the second zebra. This is very dirty and is not sick. So he decides to wash it. What would you say (to the puppet) if you want the puppet to touch this?” (the experimenter points to the zebra that the child is washing).

Target sentence: Touch the zebra that the child is washing. (The experimenter uncovers the puppet’s eyes and the puppet picks up the designated zebra).

We do not find a substantial difference between the Preference Task and the Picture Description Task from the discourse context point of view, so the collection of similar amounts of passive relatives may be expected. Besides, in the slightly different elicitation technique employed by Guasti et al. (2012), the contrast between the two relevant characters, which is the key for the restriction, is evident and salient in discourse. Somewhat less obvious is the situation provided in the last protocol provided above. Indeed, the child is clearly the main character in the story, so, according to Mak et al.'s hypothesis, one could in principle expect more gap ORs to be elicited in this task. Guasti and Cardinaletti (2003: 61) report, for Italian-speaking children (aged 5 to 9) around 65% ORs (including a few resumptive relatives) and 35% subject relatives produced in the "direct object" condition, and specify that subject relatives were the result of passivization of the targeted structure. On the one hand, the amount of ORs collected is indeed higher as compared to the findings from other studies on Italian (see Pivi 2014: 131); on the other hand, we do not know whether the relevant DPs involved in the object condition were controlled for animacy (the scenario implied the use of characters and toys), so it is not possible to make a reliable comparison. Anyway, also this task led to the production of passive relatives; what all these tasks have in common, is the fact that the referent associated to the relative head is the subject of a contrast, which is repeatedly provided to participants and may be the source of the tendency to "turn" the topicalized, relative head into a subject.

That the discourse properties may play a fundamental role in favoring the passivization of the relative head is suggested by the trivial absence of passive clefts/passives in matrix clauses collected in the object condition of our correction task: albeit possible in principle, a focused constituent was not passivized, not even by speakers who systematically produced passive relatives in the preference task, such as adult participants. In fact, adults sometimes employed a passive correction when the agent had to be contrastively focalized, i.e. in the subject condition (*No, la pecora viene colpita dai gatti (non dalle farfalle)*). 'No, the sheep is being beaten by the cats' (not by the butterflies). Thus, as mentioned above for the preference task, adults resort to the possibility, made available by the passive structure, to focalize a *by*-phrase in sentence final position, and at the same time to start their utterance with the last (patient) referent mentioned in the previous sentence.

All these things considered, we believe it is legitimate to doubt that the passive relatives typically collected in elicitation studies on restrictive relatives should be considered as a strategy adopted by speakers to avoid a specific syntactic configuration. Rather, it may be the case that the methodology employed naturally leads to the production of passive structures.

However, a final word of caution is needed: passive relatives (and, to a certain extent, passive clefts) have been shown to be easier to comprehend than their active counterparts with object extraction: why should this be so? Comprehension tasks are not normally equipped with subtle discourse conditions that may influence participants' choices. We will leave the question open, since we are not in the position to answer it.

4.9. School-aged, Italian-speaking children's mastery of contrastive clefts

We would like to end this discussion section with some final observations concerning school-aged, Italian-speaking children's knowledge of contrastive clefts.

First of all, their performance did not differ statistically from the adult one; rather, children uttered at least a few well-formed OCs; moreover, they correctly took advantage of the possibility of producing reduced clefts, showing to possess fine, subtle pragmatic abilities. Furthermore, even children who often employed resumptive ORs never uttered "resumptive clefts", showing to master relevant properties characterizing the structure.

Results from the delayed-imitation task also confirm a good knowledge of cleft sentences. Furthermore, we pointed out a common finding concerning clefts and relatives: their production does not seem to be influenced by number-mismatch features associated to the two relevant DPs.

Although children seem to produce and comprehend contrastive passive clefts from early on, as reported in the literature (Chapter Two, section 2.3), children gave us some hints that have led us to suspect that at least some of them may not have correctly interpreted the OSV sentences provided in the Priming version of the correction task or in the repetition task. Difficult comprehension of OSV clefts (and non cleft sentences) would be in line with the existing cross-linguistic research, but needs to be better evaluated for the Italian language.

Part Two

Introduction

Part One has dealt with children's and adults' mastery of contrastive focalization. In this second part, we will be concerned with focalization in *wh*-questions. Building on Rizzi (1997, 2001), we assume that main questions involve A' movement to a left-peripheral focus projection. In Chapter Five, we will introduce the syntactic aspects relevant to our aims, including the syntactic analysis of interrogative cleft sentences, and with special attention devoted to the distribution of subjects. Moreover, the fundamental intonational properties of Italian *wh*-questions known so far will be presented. Furthermore, data from the acquisition literature on Italian and some existing psycholinguistic literature on the comprehension of interrogative sentences will be addressed.

Differently from previous studies on Italian, we tested older children's production of potentially ambiguous, argument *who*-questions, whose ambiguity in Italian is contingent upon the possibility of placing the subject postverbally: our experiment, whose design recalls the one employed by Guasti, Branchini and Arosio (2012) in many respects, is described in Chapter Six, where we also discuss differences and similarities that emerged in our findings as compared to Guasti et al.'s study. Indeed, the authors investigated the elicited production of unambiguous *wh*-questions in younger, preschool-aged children. Connecting to the first part of the thesis are two brief asides, one on the use of the interrogative clefts that emerged in our corpus, and one on the use participants made of passives when required to produce *who*-questions.

Having tested participants on the production of superficially ambiguous sentences gives us the opportunity to investigate whether speakers distinguished between subject and object extracted questions intonationally or not. Therefore, in Chapter Six we present the prosodic analysis we ran of the superficially ambiguous interrogative sentences collected during the task on interrogatives. This represents an element of originality, as no child prosodic data are available for the Italian language, specifically for the production modality. This type of study could be particularly interesting: although infants are known to rely on prosodic cues to acquire their mother tongue (Gerken et al. 1994; Hirsh-Pasek et al. 1987; Christophe et al. 2003, a.o.), there is evidence that children's prosodic competence may take time to become adult-like (Wells et al. 2004, Costa & Szendroi 2006, Patel & Grigos 2006; Moscati et al. 2015).

In concluding Chapter Six, we discuss our findings, trying to integrate the investigated aspects together.

Chapter Five

FOCALIZATION IN *WHO*-QUESTIONS

5. Introduction

In the present chapter, we will introduce the syntactic characterization of Italian *wh*-questions (section 5.1.1), including cleft questions (5.1.2), which will be useful for the interpretation of the child data reported in next chapter. Moreover, the basic intonational properties of Italian *wh*-questions known so-far will be presented (section 5.1.3). Section 5.2. is devoted to the literature on the acquisition and processing of *wh*-questions in Italian: section 5.2.1 addresses the existing literature on child comprehension and production of *who*- and *which*-questions; here, the study by Guasti et al. (2012) deserves special attention, as it is the object of a comparison with our data, reported in Chapter Six. Section 5.2.2 addresses some psycholinguistic evidence on the processing of *who*-questions by adult speakers of Italian.

5.1. The properties of Italian subject and object extracted *who*-questions

5.1.1. Syntactic aspects

In his very influential work on the fine structure of the left periphery, Rizzi (1997) shows that focus elements occupy a unique, dedicated position between Force and Finiteness in the complementizer system. Moreover, it is traditionally assumed that a focus-like feature is involved in *wh*-questions (e.g., Rizzi 2001). Specifically, the incompatibility between focus and Wh-elements, instantiated in the Italian sentence (220), has been interpreted as a piece of evidence showing that Wh-elements move to the specifier of the Focus head, and therefore compete with focused constituents for this position.

- (220) a. *A GIANNI che cosa hanno detto (non a Piero)?
 ‘TO GIANNI what they said (not to Piero)?’
 b. *Che cosa A GIANNI hanno detto (non a Piero)?
 ‘What TO GIANNI they said (not to Piero)?’

This is generally assumed for main *wh*-questions and for the majority of Wh-elements in Italian, namely those corresponding to arguments or lower adverbials (*cosa* ‘what’, *dove* ‘where’, *quando* ‘when’, and *chi* ‘who’, albeit to some extent).⁴⁸ Interrogative elements like *perché* ‘why’ and *come mai* ‘how come’ would be hosted in a higher structural position, the same position that is filled by the element *se* ‘if’, which introduces embedded interrogative sentences in Italian. The relevant projection is named Int(errogative) by Rizzi (2001). Furthermore, Wh-elements in embedded clauses seem to behave differently. Contrary to most interrogative elements introducing main clauses, they are not forced to move to the specifier of the focus projection. Distributional facts suggest that they may fill a lower position; in the grammatical example given below, a contrastively focalized constituent co-occurs with the embedded Wh-element.

- (221) a. Mi domando A GIANNI che cosa abbiano detto (non a Piero).
 ‘I wonder TO GIANNI what they said (not to Piero)’

Specifically, Rizzi (2001) proposes the following ordering of elements in the left periphery, where Wh stands for the position targeted by Wh-elements in embedded clauses:

- (222) Force...Int...Foc...Wh...

The proposal that a small set of Wh-elements may target the specifier position of Int in main *wh*-questions originates from the observation that contrary to ordinary Wh-elements, they are more acceptable with narrow focus, and the order seems to be fixed:

- (223) Perché A GIANNI hanno detto questo (non a Piero)?
 ‘Why TO GIANNI have they said so (not to Piero)?’
 (224) *A GIANNI perché hanno detto questo (non a Piero)?
 ‘TO GIANNI why have they said so (not to Piero)?’

Besides, with these elements the subject can be placed between the interrogative operator and the inflected verb:

⁴⁸ See section 5.1.3.

(225) Perché Gianni è partito?

‘Why has Gianni left’?

By contrast, this is impossible in main *wh*-questions introduced by those interrogative elements that would target Foc:

(226) *Dove Gianni è andato?

‘Where has Gianni gone’?

Indeed, it is a well known fact that in Italian and other Romance languages (Spanish, Catalan, E. Portuguese, French, Romanian), the distribution of subjects in *wh*-questions is restricted: a DP subject cannot occur between the *wh*-phrase and the verb; moreover, it cannot invert with the verb, as shown in the following object-extracted interrogative:

(227) *Chi sta il bambino inseguendo?

who is the child chasing

‘Whom is the child chasing?’

To form a grammatical object *wh*-question, a lexical DP subject must be placed either in postverbal position (228), or in a left-peripheral position (229):

(228) Chi sta inseguendo il bambino?

who is chasing the child

‘Whom is the child chasing?’

(229) Il bambino, chi sta inseguendo?

‘The child, whom is (he) chasing?’

Besides, since Italian is a null subject language, a null subject is licit when a non-subject constituent is extracted (230):

(230) Chi sta inseguendo?

who is chasing

‘Whom is (he) chasing?’

According to Rizzi (1996), this is because ordinary Wh-elements require verb-adjacency, which in turn is due to the fact that a *wh*-phrase must be in a Spec-head configuration with a head endowed with the same *wh* feature, which is realized by the verb (Wh-Criterion)⁴⁹. Therefore, the ungrammaticality of (226) would follow from a violation of the Wh-Criterion, namely from the absence of T-to-C movement^{50,51}. As for interrogative elements sitting in IntP such as *perché*, it is assumed that Int selects clausal operators in its specifier which are first merged there; as a consequence, such elements do not need to trigger inversion with the subject; this would be impossible for *wh*-arguments and low adverbials.

Analyzing the distribution of different types of subjects in Italian main *wh*-questions, Cardinaletti (2007) accounts for the data provided in (226)-(230) in a different way. She argues that the impossibility for the subject to occur between a *wh*-phrase and the verb in the relevant sentences is to be recast in terms of the following, more restrictive generalization: that position is banned to DPs and strong pronouns, namely subjects whose specialized position is the highest subject position available in IP (specSubjP according to Cardinaletti 2004⁵²); by contrast, subjects hosted in lower positions, such as null subjects, are permitted. Of course, the position of silent *pro* cannot be established a priori, since the Italian language does not possess overt, weak⁵³ pronominal elements that could make it visible; in other Romance languages, though, weak pronouns are licit (231a) where full DPs are not (231b); the following example is taken from Caribbean Spanish (Ordoñez and Olarrea 2006, cited in Cardinaletti 2007: 65):

- (231) a. ¿Qué tú quieres?
b. *¿Qué José quiere?

⁴⁹ Wh-Criterion: A *wh*-operator must be in a specifier-head relation with a head carrying the *wh*-feature. A head carrying the *wh*-feature must be in a specifier-head relation with a *wh*-operator (Rizzi 1996).

⁵⁰ As for (227), the explanation of why the subject is banned from between a functional and a lexical verb in main interrogatives is independently given in case theoretic terms, based on Rizzi & Roberts' (1989) analysis of French questions.

⁵¹ As a general rule, Rizzi phrases the requirements on A' movement in terms of satisfaction of specific Criteria whereby functional heads endowed with interpretive, discourse-related features attract elements bearing the same features and establish with them an agreement relation.

⁵² In her cartographic approach to subject positions, Cardinaletti (1994, 1997, 2004) hypothesizes that more than one subject positions is available in the preverbal field, and each dedicated functional projection realizes one or more features: SpecSubjP is the highest one, checks the subject-of-predication feature and typically hosts strong subjects and the Italian pronoun *egli*; AgrSP checks nominative case and verb agreement with the subject DP, and hosts weak subjects, among which null subjects.

⁵³ “Weak” is opposed to “strong” in terms of Cardinaletti and Starke (1999).

As for postverbal subjects occurring in *wh*-questions, (228), they are assumed to be marginalized⁵⁴ and “destressed” in-situ; indeed, there is evidence showing that postverbal subjects in *wh*-questions do not behave like preverbal subjects, but rather pattern with postverbal, marginalized subjects, which Cardinaletti (2001, 2002) claims to occur in SpecVP. This is clear, for instance, with negative quantifiers like *nessuno* (‘nobody’):

- (232) a. Nessuno (*non) ha telefonato.
 ‘Nobody has called’.
 b. *(Non) ha telefonato nessuno.
 (not) has called nobody
 c. Quando *(non) ha telefonato nessuno?
 ‘When *(not) has anybody called?’

Right peripheral strong subjects are not necessarily marginalized, though; when an object constituent precedes them, for example, they behave like right-dislocated subjects; this is instantiated by the following binding facts, as c-command is not possible by a right-dislocated subject, but it is by a marginalized one:

- (233) a. *Hanno visitato GIANNI_i, i propri_i genitori.
 have visited Gianni_i his_i own parents
 b. *Quando hanno visitato Gianni_i, i propri_i genitori?
 when have visited Gianni_i his_i own parents
 c. Quando ha visitato Gianni_i, i propri_i genitori?
 when has visited Gianni_i his_i own parents

As for left-peripheral subjects (229), Cardinaletti assumes they are left-dislocated. Differently from Rizzi’s *wh*-criterion approach to the analysis of *wh*-questions, Cardinaletti does not assume T-to-C movement in Romance. This would explain the ungrammaticality of a sentence like (227) and of (234a), and, conversely, the grammaticality of the English and

⁵⁴ The term *marginalization* goes back to Antinucci and Cinque (1977), who employ it to refer to cases where the displacement of one constituent in a sentence has visible consequences on the reordering of the other elements; specifically, they would be “extracted from the starting structure and placed at its end”. They show that when the subject is postponed, it behaves as it had remained inside the clause.

German counterparts of the latter, where movement of the verb to C accounts for the “wh-Aux-Subj-V” order (Cardinaletti 2007: 70, following Kayne 1994):

- (234) a. *Chi ha Gianni invitato?
 b. Who did John invite?
 c. Wen hat Hans eingeladen?

Summarizing Cardinaletti’s approach to *wh*-questions and maintaining, following Rizzi (1997), that *wh*-pronouns target FocP, the following examples illustrate, respectively, the (simplified) structure of a *who*-question with postverbal subject, a *who*-question with null subject, and a *who*-question with left-dislocated subject:

(235) [_{FocP} Chi_j [_{AgrSP} *pro*_{expl} ha [_{AspP} invitato_v [_{vP} Gianni t_v t_j]]]]

(236) [_{FocP} Chi_j [_{AgrSP} *pro*_s ha [_{AspP} invitato_v [_{vP} t_s t_v t_j]]]]

(237) [_{TopP} Gianni_s [_{FocP} chi_j [_{AgrSP} *pro*_s ha [_{AspP} invitato_v [_{vP} t_s t_v t_j]]]]]]

Building on Cardinaletti’s analyses, subject-verb agreement is checked in AgrSP in (236) and (237), where *pro* is argumental; this cannot be the case of (235), where *pro* is assumed to be an expletive. Instead, agreement between the verb and the postverbal subject can be realized through the mechanism AGREE (Chomsky 1995, 2000, and related work; Franck et al. 2006; see also Chapter Six).

Relevant to our aims is the fact that the presence of a postverbal subject in *wh*-questions makes it possible to generate superficially ambiguous sentences. More specifically, given that the interrogative pronoun *chi* is syntactically singular and does not bear special morphological marking, its role is potentially ambiguous between an object and a subject interpretation if the verb and the postverbal DP are also singular in number; this is true in a sentence like (228) above, here repeated as (238).

- (238) Chi sta inseguendo il bambino?
 who is chasing the child

On the other hand, (229) and (230), here reported as (239) and (240), cannot be interpreted as questioning the subject: a dislocated direct object topic would be necessarily resumed by a clitic pronoun in Italian, (241) (Cinque 1990); as for null arguments, Italian does not license object-drop.⁵⁵

(239) Il bambino, chi sta inseguendo?

the child who is chasing

(240) Chi sta inseguendo?

who is chasing

(241) Il bambino, chi **lo** sta inseguendo?

the child who him is chasing

When the subject occurs postverbally, subject-verb agreement can be a cue for disambiguation; in both (242) and (243), the postverbal DP is plural; (242) contains a plural verb agreeing with the postverbal DP; thus, the sentence can only be interpreted as questioning the object; the opposite is true for the subject-extracted question in (243), which contains a singular verb agreeing with the interrogative pronoun *who*.

(242) Chi stanno inseguendo i bambini?

who are chasing the children

‘Whom are the children chasing?’

(243) Chi sta inseguendo i bambini?

who is chasing the children

‘Who is chasing the children?’

⁵⁵ See Rizzi (1986) for a description of the few cases where null objects are permitted in Italian.

5.1.2. Interrogative clefts

The Italian language displays an additional way of forming an interrogative sentence, namely cleft questions:

(244) Chi è che stanno inseguendo i bambini?

‘Who is it that the children are chasing?’

(245) Dov’è che è andato Gianni?

‘Where is it that John has gone?’

Such types of structures are attested in standard Italian, and are particularly common in colloquial Italian, in Northern Italian varieties and dialects. In some varieties, they have lost the semantic import typically associated with clefts, namely the presupposition of existence, and are in free-variation with non cleft questions; in others, they may constitute the only way to ask a question (Poletto and Vanelli 1993; Munaro 1999). Cleft questions extracting the subject constituent possess a special status, since, if a certain variety allows for cleft questions, it will at least display subject cleft ones. Indeed, in some Venetan dialects, cleft questions are the only possible way of forming subject questions, while more options are possible with the other interrogative phrases. As for subordinate cleft questions, they are attested in a subset of the varieties licensing main cleft questions (Poletto and Vanelli 1993). As regards the distribution of subjects, cleft questions allow for one more option as compared to main questions; since they involve embedding, they license preverbal DP subjects to appear in the cleft clause, when a distinct constituent is questioned:

(246) a. Chi è che i bambini stanno inseguendo?

‘Who is it that the children are chasing?’

b. Dov’è che Gianni è andato?

‘Where is it that John has gone?’

However, we believe that, on the basis of our own competence as speaker of a Venetan linguistic variety, the sentences in (246) are less common, and perhaps more marked, as compared to their counterparts with postverbal subject.

In concluding this section concerning the analysis of (cleft) questions, we would like to provide a piece of evidence in favour of Belletti's hypothesis that the CP of clefts is truncated. Belletti (2015) proposes that the CP of clefts is reduced at the level of FocP, which ensures a direct relation between the copula and the Focus head. In previous section, we saw that interrogative operators like the Italian *perché* and *come mai* differ from "ordinary" interrogative elements like *chi*, *dove*, *quando*, and *come* in that they occupy Int in the left periphery. In turn, Int is structurally higher than Foc:

(251) Force...Int...Foc...Wh...

If the CP of clefts is truncated at Foc, it follows that cleft interrogative sentences introduced by *perché* and *come mai* should not be allowed. This is indeed the case, as is shown by the following contrasts:

- (252) a. *Dov'è che te ne sei andato?*
 'Where is it that you have gone?'
 b. *Quand'è che te ne sei andato?*
 'When is it that you left?'
 c. *Com'è che te ne sei andato?*
 'How is it that you left?'
 'How come you left?'
 d. **Perché è che te ne sei andato?*
 'Why is it that you left?'
 e. **Come mai è che te ne sei andato?*
 'How come is it that you left?'

The contrast between (252c) and (252d,e) is particularly telling. Under one interpretation of *come* (the one corresponding to English 'how come'), the three share the same meaning. Curiously, this special interpretation of *come* is ruled out in main questions:

- (253) *Come te ne sei andato?*
 'How did you leave?'

Indeed, (253) can only be interpreted as asking *how* the interlocutor left (e.g., with what means of transportation).

5.1.3. Prosodic aspects

The phonological patterns characterizing Italian information-seeking *wh*-questions are subject to an extremely high diatopic variation. Moreover, a strong inter-variety is observed: even in the same variety, more than one options can be available to speakers. In the varieties spoken in Milan, Turin, Lucca, Florence, Siena, Rome, Salerno, Bari and Lecce, the nuclear pitch accent associated to *wh*-questions is H+L*, whose realization can undergo strong phonetic variation (Gili Fivela et al. 2015). Moreover, a final rise can be present and optional (for Tuscan Italian, Marotta & Sorianello 1999, cited in Bocci 2013). In the spirit of Marotta (2001), Bocci & Avesani (in prep.) experimentally studied the placement of main prominence in main *wh*-questions in Italian, taking into account different types of *wh*-elements. Building on production and perception data, they propose that bare *wh*-elements (except for Int elements like *perché*) and aggressively non-D-linked elements (like *chi diavolo*, ‘who the hell’) cannot bear main prominence; with this set of elements, prominence can only be assigned to the verb or, to a much lesser extent, to the last word in the sentence, the default prominence position in the Italian language (Nespor & Vogel 1986). *Wh*-elements that do not require adjacency with the verb, namely Int elements and D-linked elements, are different in that they often bear main prominence, even though this is not compulsory. Notice that as a consequence of this, a *wh*-interrogative pronoun like *chi* is particularly prone to give rise to ambiguity between a D-linked and non-D-linked interpretation, in case it does not bear main prominence.⁵⁶

Bocci (2013) discusses in detail the placement of the main prominence in main *wh*-questions in Italian and develops a syntactic-prosodic account of the possible intonational patterns. As for questions introduced by bare *wh*-elements that require adjacency with the verb, the prototypical prosodic pattern, namely the one whereby the verb usually bears main prominence, is explained by assuming that the verb shares an agreement relation with the *wh*-elements targeting FocP in the left-periphery of the clause. Specifically, Bocci assumes that

⁵⁶ There is evidence showing that *Chi* is not a clitic element; for instance, it can be used in isolation. Therefore, it can bear main prominence in a sentence.

the verb is endowed with an uninterpretable focus feature. Such feature, sent to the phonological component, is read by the feature-sensitive mapping rules that apply to the syntactic output and assign main prominence to the last word endowed with the focus feature in the relevant sequence (i.e., the verb), overriding the default mapping rules that would otherwise assign main prominence to the rightmost constituent. Notice that under this approach, the verb is assumed to undergo V-to-C movement. This is the most frequent intonation pattern we found in our corpus of subject and object *who*-questions (Chapter Six, section 6.4). When main prominence is assigned to the *wh*-element itself (Interrogative and D-linked elements), the feature-sensitive mapping rules assign main prominence to the focus element, again overwriting the default mapping rules and, thus, violating the constraint on rightmostness, as the metrical head is on the left of the intonational phrase. The same mechanism takes place in cases of fronted-focus in the left periphery of the clause (see Chapter One, section 1.3). As we saw in section 5.1.1, it has been proposed that postverbal subjects in main *wh*-questions in Italian are marginalized, namely they lie in-situ and are “destressed” (Antinucci & Cinque 1977; Cardinaletti 2001, 2002, 2007), even though they qualify as the last element in the clause (254); there are, however, cases where they are right-dislocated, for instance when they follow a postverbal object (255). When an object constituent follows the verb in a main *wh*-question questioning, for instance, the subject, the postverbal object is also marginalized (256). If it were right-dislocated, an object clitic should be obligatory (257); a resumptive clitic is instead not available for right-dislocated DP subjects:

(254) Chi stanno inseguendo i bambini?

who are chasing the children

‘Who are the children chasing?’

(255) Dove ha comprato il giornale, Gianni?

where has bought the newspaper Gianni

‘Where has Gianni bought the newspaper?’

(256) Chi sta inseguendo i bambini?

who is chasing the children

‘Who is chasing the children?’

(257) Chi **li** sta inseguendo, i bambini?

who them is chasing the children

‘Who is chasing the children?’

Since it is possible to discriminate between an in-situ and a right-dislocated object in subject-extracted *who*-questions, the phonological properties of a sentence like (256) could constitute empirical, prosodic evidence that the postverbal subject DP in a sentence like (254) is in situ, if it turned out that the postverbal DPs in the two interrogative sentences share the same prosodic properties. Indeed, if the postverbal DPs in questions like (254) and (256) were right-dislocated, they should be phrased into an independent intonational phrase (see Bocci & Avesani 2015, Zubizarreta 1998: 151-158), differently from in-situ constituents. This is precisely the type of analysis we conducted on the data we collected (section 6.4).

5.2. Studies on the acquisition and processing of interrogatives

5.2.1. Production and comprehension of *wh*-questions by Italian-speaking children

Guasti (2002) points out that since their first *wh*-questions, learners of Italian utter adult-like questions; specifically, she underlines that they do not insert a DP subject between a *wh*-operator and the verb in main questions. Correct *wh*-questions are attested in Italian spontaneous child speech before the age of three (Guasti 1996: 263). Moreover, Guasti managed to elicit various types of adult-like interrogative sentences in 3 and 4 y.o. children, including cleft questions (258), object questions with postverbal subjects (259), object questions with left-dislocated subjects (260), and questions with null subjects (261):

(258) Chi è che aiuta la mamma? (3;1)
who is that helps the mum
‘Who is it that helps the mum?’

(259) Cosa può fare il cowboy? (3;1)
what can do the cowboy
‘What can the cowboy do?’

(260) Luigino, dove non può andare? (4;7)
Luigino where not can go

‘Luigino, where can’t he go?’

(261) Che cosa compra? (3;11)

what buys

‘What does (he) buy?’

Children participating in Guasti’s experiment showed to prefer questions containing null subjects, which were acceptable in the provided experimental context.

As for the comprehension modality, by administering a picture-matching task to 352 Italian-speaking children ranging in age from 3 to 11 years old, De Vincenzi et al. (1999) showed that children comprehend subject *who*-questions and *which*-questions disambiguated by subject-verb agreement like the one in (262a,b) far better than their counterparts involving object extraction, (263a,b);

(262) a. Chi sta inseguendo le tartarughe?

‘Who is chasing the turtles?’

b. Quale gallina sta inseguendo le tartarughe?

‘Which chicken is chasing the turtles?’

(263) a. Chi stanno inseguendo le tartarughe?

‘Who are the turtles chasing?’

b. Quale gallina stanno inseguendo le tartarughe?

‘Which chicken are the turtles chasing?’

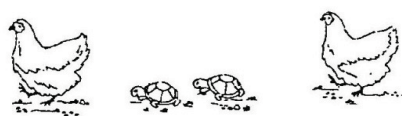


Fig. 30 Example of picture (De Vincenzi et al. 1999)

As shown in Table 22, the detected asymmetry was particularly remarkable from the age of 4 until the age of 9/10, and was statistically corroborated until the age of 11 y.o. Furthermore, until the age of 6 the difficulty with object extraction was greater with *which*- questions as compared to *who*-questions.

AGE	WHO		WHICH	
	SUBJ	OBJ	SUBJ	OBJ
3-4	64	53	75	45
4-5	83	56	83	38
5-6	90	54	92	39
6-7	97	50	98	36
7-8	97	54	97	47
8-9	96	60	99	52
9-10	97	58	98	53
10-11	97	83	99	81

Table 22. Percentages of correct responses by age groups and experimental condition (De Vincenzi et al. 1999: 305)

De Vincenzi and colleagues analysed their findings within De Vincenzi's (1991) approach to syntactically based parsing strategies, with specific reference to the Minimal Chain Principle (MCP):

MCP (De Vincenzi 1991):

Avoid postulating unnecessary chain members at surface-structure,
but do not delay required chain members.

Basically, the MCP predicts that due to economy reasons, the human parser decides for a *wh* interpretation as soon as possible, and without waiting for a disambiguation. This has been proved experimentally (De Vincenzi 1996). Since the processor has a pressure to structure the incoming linguistic input, the preferred speakers' analysis, i.e., the one that they read faster and understand more accurately, will be the one that is available first within the structure. When a moved *wh* element like *chi* in (262a) and (263a) is recognized, a gap will be postulated as soon as possible, in order to create the shortest chain between the element and its trace. As a consequence, a preference for a subject reading of the relevant questions is expected. When speakers encounter the plural verb morphology which disambiguates the role of the *wh*-pronoun, and having already postulated the extraction of a subject, their parser is forced to abandon the postulated subject reading and to reanalyze the chain. According to De

Vincenzi et al., such reanalysis is costly, and leads to difficulties in comprehension for children, who have reduced working memory and limited cognitive capacities. However, that *wh* object-extraction has been acquired is confirmed by production data; indeed, what comprehension findings show is that children systematically distinguish between subject and object extracted questions, and are sensitive to morphosyntactic information provided by the verb and the postverbal DP, but they may fail in the process of structural revision. Finally, De Vincenzi et al. account for the extra-difficulty posed by object *which*-questions by pointing out that the latter may be involved in binding chains and have more semantic content.

In a recent elicitation experiment, Guasti, Branchini and Arosio (2012) complemented De Vincenzi et al.'s comprehension study by analyzing preschool children's production of argument *who*- and *which*-questions disambiguated by subject-verb agreement, analogue to those tested by De Vincenzi et al. They tested 35 children aged 3;11-5;11 and a control group of 20 adults by having participants ask questions to a puppet (or to an imaginary person for adults). The adopted experimental design was adapted from Yoshinaga (1996) as reported in O' Grady (2005). In general, adults were more accurate (i.e., they produced more correct responses) than children (around 90% vs. 78%). As for *who*-questions, it turned out that children perform more accurately with subject questions as compared to object questions. Moreover, the authors report production of a wider set of adequate answering strategies alternative to the target sentences in the object condition: besides producing the object Wh V DP questions that the authors counted as target⁵⁷, (264), children dropped the subject DP (265) or placed it in a left peripheral position (266); by contrast, adults hardly ever dropped the subject in object questions, and employed a left-dislocated, topicalized subject much more rarely than children. Participants never resorted to non-target-like questions in the subject condition, with the exception of the use of passive questions extracting the *by*-phrase, made by adults ((268b) below).

(264) Chi sporcano gli elefanti?
 who dirty-3PL the elephants
 'Whom are the elephants dirtying?'

(265) Chi sporcano?

⁵⁷ Guasti et al. (2012) provide the proportions of response divided per typology of sentence calculating them out of the amount of all correct responses given by participants. Moreover, *who*-questions produced instead of *which*-questions were counted as *who*-questions and responses substituting *who* with *what* in the object condition were scored as *who*-questions. However, such substitutions, albeit concerning more frequently the object condition, were low in number (Guasti et al. 2012: 201).

who dirty-3PL
“Whom are (they) dirtying?”

(266) Gli elefanti, chi sporcano?
the elephants who dirty-3PL
“The elephants, whom are (they) dirtying?”

Furthermore, subject and object cleft questions were employed more frequently by children; in the case of object cleft questions, the subject was placed primarily in postverbal position, but cleft questions with preverbal subject were attested as well:

(267) Chi è che (gli elefanti) sporcano (gli elefanti)?
who is that (the elephants) dirty-3PL (the elephants)
“Whom is it that the elephants are dirtying?”

Passive questions were exploited by adults, more often in the object condition (268a) than in the subject one (268b):

(268) a. Chi è sporcato dagli elefanti?
who is dirtied by-the elephants
‘Who is being dirtied by the elephants?’

(268) b. Da chi sono lavati gli orsi?
by whom are washed the bears
‘By whom are the bears being washed?’

The data are summarized in Table 23:

TYPE OF STRUCTURE	CHILDREN		ADULTS	
	SUBJ	OBJ	SUBJ	OBJ
WH V DP	73	38	92	83
SUBJ-TOP	0	20	0	2
NULL ARGUMENT	3	30	0.8	0.8
PASSIVE	0	0	5	14
CLEFT	24	13	0.8	0.8

Table 23. Percentages and types of correct responses concerning *who*-questions by groups and experimental condition (from Belletti & Guasti 2015: 214-215)

As for *which*-questions, the picture looks different: the subject-object asymmetry disappears, because subject *which*-questions posed more problems. Moreover, children omitted the subject more often in object *which*-questions than in object *who*-questions, while adults used the passive more often in the former than in the latter. Such data reinforce the fact that *which*-questions are more demanding than the correspondent *who*-questions. Guasti et al. observe that children sometimes turned object questions into subject questions by changing agreement on the verb, i.e., by producing a third person singular verb instead of a plural⁵⁸.

(269) Quali bambini tirano la fatina?

‘Which children are pulling the fairy?’

TARGET: Quali bambini tira la fatina?

which children pulls the fairy

‘Which children is the fairy pulling?’

Guasti et al. (2012) interpret young children’s subject-object asymmetry with *who*-questions, which manifests itself in terms of a higher accuracy rate in subject questions and a larger variety of interrogative structures adopted in the object condition, as the consequence of a

⁵⁸ The exact amount of subject questions produced instead of object questions is not reported in Guasti et al. (2012).

greater level of difficulty posed by object-constituent extraction when a postverbal subject is present in the sentence, as is allowed in the grammar of Italian.

For *who*-questions, such asymmetry is not expected under Friedmann, Belletti & Rizzi (2009) well-known account according to which children have difficulties in comprehending and producing structures where a moved element and a subject intervening between the first and the last merged position of that element share a lexical restriction, as in object-extracted restrictive relative clauses with DP subjects (Chapter Four):

- (270) *Tocca il bambino che il signore saluta <il bambino>*
 Touch the child that the man greets <the child>

In *who*-questions, the interrogative element is not lexically restricted; therefore, children should not find *who*-object questions particularly problematic to compute. According to Guasti et al., the subject-object asymmetry found in production in Italian-speaking children's questions is better accounted for by taking the distinction between subject-verb (SV) and verb-subject (VS) agreement into consideration, and by conceiving the object questions produced alternatively to the target ones by young children, i.e. questions with null and dislocated subjects, as means to avoid a configuration containing a postverbal subject. The account is based on the generalization, discussed in Guasti and Rizzi (2002), that SV agreement is more robust than VS agreement crosslinguistically: in languages that possess the relevant morphology, when a DP subject occurs in a position higher than the verb, the morphological expression of agreement is compulsory; when not, languages may not express morphological agreement between the verb and the postverbal DP, and agreement is more prone to variation, that is, it is "weak". Guasti et al. (2012) implement this theoretical notion of robustness of agreement by applying Franck et al.'s (2006) syntactic analysis of attraction to children's performance in *wh*-questions (Figg. 31 and 32).

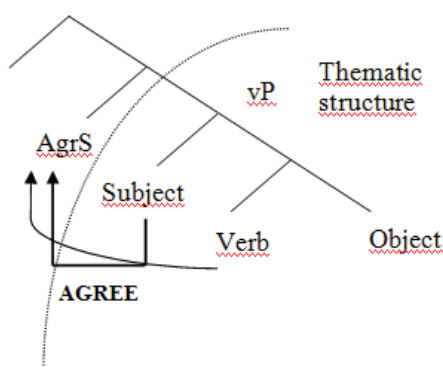


Fig.31 AGREE

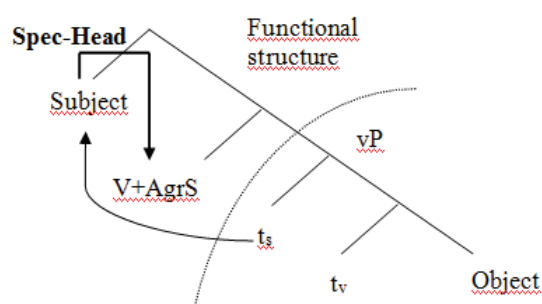


Fig.32 Spec-head agreement

According to Franck et al. (2006), agreement consists of two sub-processes, AGREE and Spec-head. Through AGREE (Fig. 31), number and person features of the subject in its thematic position are copied onto an “AgrS” node; then, the verb is assumed to move to AgrS to receive its morphological specification. In languages displaying SV order, the subject moves out of VP to Spec AgrS, giving rise to a local Spec-head relationship (Fig. 32). Crucially, Franck et al. assume that the sharing of featural values established by AGREE gets further checked in the local Spec-head configuration. Thus, rephrasing Guasti and Rizzi (2002), Franck et al. propose that the morphological manifestation of agreement is more stable when AGREE is associated with movement of the subject to Spec AgrS, because the relevant features are checked twice. In such cases, agreement manifests itself as SV agreement; superficial VS agreement, on the other hand, is realized solely by AGREE.

Guasti et al. (2012) make use of such account to explain why object questions containing a postverbal subject DP may be particularly challenging: when an object constituent is extracted in a question, the object copy⁵⁹ interferes in the AGREE relation between the subject in its thematic position and AgrS (Fig. 33).

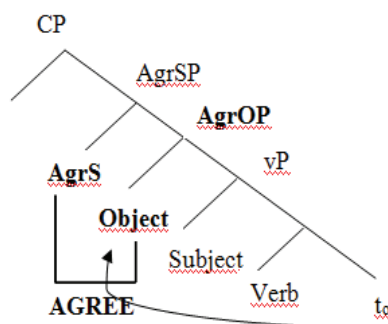


Fig.33 Intervention and Attraction

If agreement is weak, i.e. the subject DP is postverbal, the object copy may transfer its features into AgrS without the possibility for a Spec-head agreement relation between the subject and the verb to “repair” the error; this gives rise to an attraction error like the one instantiated in (271), where it is the object interrogative constituent that ultimately agrees with the verb, and not the postverbal subject:

⁵⁹ Franck et al. (2006) assume that movement of an object to the left periphery is stepwise and proceeds through AgrOP (Kayne 1989; Chomsky 1995), an intermediate projection where the object transits triggering participial agreement with the verb.

(271) Chi sporca gli elefanti?
'Who is dirtying the elephants?'

Target sentence: Chi sporcano gli elefanti?
'Whom are the elephants dirtying?'

Crucially, Guasti et al. (2012) point out that interference is the source of difficulty for young children (and, to a lesser extent, for adults too). To avoid VS agreement configurations in *wh*-questions and, ultimately, attraction errors, object questions with null or dislocated subjects would be employed, because they allow for double feature checking, involving both AGREE and Spec-head relationships.⁶⁰ Guasti et al. follow Cardinaletti (2004, 2007) by assuming that in object questions with null subjects and left-dislocated subjects, the argumental subject *pro* occurs preverbally, and agreement is therefore strong⁶¹. Passive questions, predominant in the object condition and employed by adults, would qualify as a way to eliminate the interference problem: only the internal argument, i.e., the *wh*-element, could be selected for AGREE to take place. Young, preschool children did not choose such avoidance strategy because of their young age, but the authors expect older children to employ more passive questions instead of object Wh V DP ones. By contrast, cleft questions are not considered a way of avoiding attraction errors. Although they have the possibility to place the subject preverbally, children did not do so most of the times, preferring the postverbal subject instead. The trivial absence of cleft questions from adults' productions may stem from cleft questions being felt as belonging to a colloquial register. As for *what*-questions produced instead of *who*-questions, which only occurred in the object condition, Guasti et al. propose that the object copy does not qualify as an interfering element in the AGREE relation, because of its [-animate] feature (Arosio, Guasti & Stucchi 2011, cit. in Guasti et al. 2012), so that it might be tempting to interpret *what*-questions as avoiding strategies. The additional difficulty posed by *which*-questions would be due to the fact that they involve pied-piping of the nominal element and that in subject-extracted questions, the *which*-phrase has to agree with the verb. Belletti and Guasti (2015) observe that De Vincenzi et al.'s (1999) comprehension findings, explained in terms of processing, can be accounted for by the interference and attraction approach, so that children may sometimes interpret object questions as subject-extracted ones due to

⁶⁰ The same approach has been successfully used by Volpato (2010) and Volpato and Vernice (2014) to account for the different production of object relative clauses with preverbal and postverbal subjects.

⁶¹ Guasti et al. assume Cecchetto's (2000) analysis of left dislocation, whereby the null subject is placed in Spec AgrSP, and the lexical NP is moved to the left periphery of the sentence.

interference of the object copy in the AGREE process. As a whole, the production modality would give rise to a much better performance as compared to comprehension due to the fact that while in comprehension potential attraction errors are unlikely to be repaired, children can more easily avoid them in production, having more strategies of asking a question at their disposal. Finally, Guasti et al. (2012) point out that their approach to the computation of *wh*-questions can explain the difference, observed in the crosslinguistic literature, in the timing of acquisition of object *who*-questions: learners of English (Yoshinaga 1996) and Hebrew (Friedmann et al. 2009), which are only exposed to main *wh*-questions with preverbal subjects, show unproblematic comprehension and production of object *who*-questions already at the age of four.

5.2.2. Processing of *wh*-questions by adult Italian speakers

A subtle subject-object asymmetry in the on-line processing of *wh*-questions is attested for adult speakers of Italian (De Vincenzi 1991, De Vincenzi et al. 2004, Penolazzi et al. 2005). In particular, Penolazzi et al. (2005) measured the event-related potentials (ERPs) evoked in a group of 25 native speakers of Italian engaged in a reading task. Stimuli were *wh*-questions like the following, similar to those employed by De Vincenzi et al. (1999) and elicited by Guasti et al. (2012).

(272) Chi bacia i nonni con affetto?

‘Who is kissing the grandfathers with affection?’

(273) Chi baciano i nonni con affetto?

‘Who are kissing the grandfathers_{subj} with affection?’

The authors point out that processing of such sentences present a temporary ambiguity of the grammatical role of the initial *wh*-pronoun, which is solved at the verb. While no special effects were found in the processing of subject-extracted questions, positive effects were observed at the disambiguating word in object-extraction sentences, which are interpreted as the reflection of higher cognitive load involved in their computation: it is as if the parser had detected an incongruity. Following De Vincenzi’s (1991) MCP, this would be due, in turn, to the fact that one constituent has to be reanalyzed as object and at the same time a non completely structured sentence representation has to be maintained in the working memory.

Therefore, Italian object-extracted *who*-questions with postverbal subjects are more demanding than subject extracted *who*-questions for every speaker.

5.3. Summary

In this chapter, we described some relevant properties, syntactic and prosodic, of Italian *wh*-questions, assuming that they represent an instance of left-peripheral focalization and analyzing the distribution of subjects within them. The availability of a postverbal DP subject leads to a set of interesting consequences on the child and adult computation of main *wh*-questions, making it more cognitively demanding. In elicited production, this difficulty manifests, according to Guasti et al. (2012), with young Italian-speaking children's tendency to avoid *Wh V DP* constituent order in object questions. Instead, children would preferably adopt interrogative structures involving preverbal subjects, or, more precisely, an *SV* agreement configuration, because computationally more stable and less prone to give rise to attraction errors in the sense of Franck et al. (2006). In next chapter, we will see how older Italian-speaking children deal with the production of subject and object *who*-questions when these are not morphologically distinguished.

Chapter Six

FOCALIZATION IN *WHO*-QUESTIONS: OUR EXPERIMENT SYNTACTIC AND PROSODIC DATA

6. Introduction

The literature attesting production of *wh*-questions by young Italian-speaking children suggests that the rules involved in the formation of questions appear to be known from around age 2;0. However, we also saw that comprehension of object-extracted *who*-questions in controlled experimental contexts seems to be hindered until at least 9 y.o. Moreover, processing of the latter type of sentences has been shown to be harder than processing of subject-extracted *who*-questions in adult speakers. According to Guasti et al. (2012), such discrepancy emerges in a subtle way in elicited production: young children often choose not to produce a complete, object *Wh* V DP interrogative sentence, while at the same time employing subject *Wh* V DP questions consistently.

This chapter aims at uncovering how older children perform when carrying out an elicited-production task similar to the one employed by Guasti et al. (2012), though testing potentially ambiguous sentences. Indeed, our findings widen the results reported by Guasti et al. in two respects: first, we investigate the elicited production of *who*-questions by older, school-aged Italian-speaking children, in order to explore similarities and differences manifested in development as compared to 3 and 4 y.o. children. Secondly, we test the elicited production of potentially ambiguous *who*-questions, i.e. questions that cannot be disambiguated by subject-verb agreement, in order to check what is the factor behind the difficulty of object *who*-questions with respect to subject *who*-questions, whether marked plural verb morphology or the postverbal position of the subject (indeed, 3rd person singular is an unmarked form in Italian, with no dedicated morphology).

Section 6.1 presents the participants, describes the task, the methodology employed, and the way we coded the collected sentences. Section 6.2 reports the results, and contains two subsections dedicated to cleft questions (6.2.5.1) and to passive questions (6.2.5.1). After a summary of the main findings (6.3), a prosodic analysis of the minimal pairs of sentences collected is presented (6.4).

6.1. The task eliciting potentially ambiguous *who*-questions

6.1.1. Participants

One hundred and fifteen typically developing children aged 6;3 to 10;2 carried out the task. These children were the same that took part in the correction task and in the preference task; however, with respect to these other tasks, the responses of two children belonging to the youngest group were discarded: one child always produced short questions involving only the *wh*-pronoun and the verb *be* (*‘Chi è?’* Who is (it)?), while the other child always tried to guess the answer and never formulated a question. The eleven university students who took part in the correction task participated as control participants. Table 24 illustrates the distribution of participants according to their age:

Groups (age range)	N° of participants	Mean age	SD (months)
G1 (6;3 - 6;11)	17	6;7	2
G2 (7 - 7;11)	32	7;4	3
G3 (8 - 8;11)	27	8;5	3
G4 (9 - 10;4)	37	9;6	4
G5 (19 - 30)	11	23;6	44

Table 24. Participants across age groups

As previously said, we point out that some of the children lived with parents who habitually used the dialect spoken in Venice or another dialect from the Veneto region at home. No adults reported to make use of dialect, although the majority of them told us to be exposed to dialect in their familiar environment.

6.1.2. Design and Materials

For each participant, 6 subject-extracted interrogative sentences and 6 object-extracted interrogative sentences were targeted as a means to find out the identity of a set of characters who were hidden behind some colored circles/ellipses. Similarly to the technique employed by Guasti et al. (2012), who in turn cite Yoshinaga (1996) (cited in O’ Grady 2005), participants were induced to ask *who*-questions to the puppet named Poldo that was present in the experimental scene. They were told that the puppet knew the answers to their questions.

The experimental stimuli were shown in a PowerPoint presentation: both children and adults saw a set of pictures where either the agent or the patient of the event was hidden, depending on whether the targeted interrogative sentence questioned the subject or the object constituent (Fig. 34 and Fig. 35, respectively). Simultaneously, participants listened to a prerecorded voice that described what was happening in the depicted event; the hidden, mysterious character was referred to as “someone”.



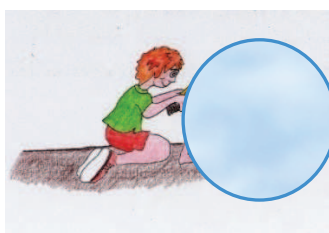
PUPPET: *Qui, qualcuno sta pettinando un bambino.
E forse Poldo sa chi. Chiedilo a lui.*

‘Here, someone is combing a child.
And maybe Poldo knows who. Ask him who’.

Fig. 34 Sample of experimental picture

(274) TARGET QUESTION: *Chi sta pettinando/pettina il bambino?*

‘Who is combing/combs the child?’



PUPPET: *Qui, un bambino sta pettinando qualcuno.
E forse Poldo sa chi. Chiedilo a lui.*

‘Here, a child is combing someone.
And maybe Poldo knows whom. Ask him whom’

Fig. 35 Sample of experimental picture

(275) TARGET QUESTION: *Chi sta pettinando/pettina il bambino?*

‘Whom is the child combing?’

‘Whom does the child comb?’

Six transitive, reversible verbs were employed: *inseguire* ‘chase’, *lavare* ‘wash’, *pettinare* ‘comb’, *baciare* ‘kiss’, *accarezzare* ‘caress’, *salutare* ‘greet’. The character that was visible in each picture, and which was meant to be referred to as the postverbal DP in the targeted questions, was always either a child or a man. Hidden characters, referred to as *qualcuno* (‘someone’), were either human beings or animals. The relevant DPs were all singular in number. Each verb was presented twice, once to elicit a subject question and once to elicit an object question, so as to collect six minimal pairs of superficially identical, potentially ambiguous interrogative sentences, as shown in (274) and (275). On the whole, participants

were exposed to 12 stimuli eliciting *who*-questions; in the same session, participants heard 6 filler stimuli and carried out the preference task. Before carrying out this task, participants had been tested on the production of contrastive clefts and passive sentences.

6.1.3. Procedure

In order to find out who was hidden behind the coloured circles/ellipses, participants had to ask a question to the puppet Poldo, the reindeer; when participants asked him a question, Poldo, who looked at the same (though complete) pictures that participants saw in his copybook, looked for the answer in his illustrations by lifting a slip of paper that covered the mysterious character and responded to the question trying to give the correct answer; participants were then shown the complete images on the PPT presentation and could correct Poldo if he was wrong. When Poldo gave the correct answer, children could give him a reward (a small plastic toy, or a sticker that they picked from a bag). Poldo was manipulated and given voice to by one of the two experimenters, who sat opposite the participants. No time limit was given for the response; furthermore, when children seemed not to have paid attention to the lead-in and looked confused, or when they asked for the possibility to listen to the lead-in again, we let them hear the stimulus a second time. The same procedure was used when testing adults. Each response was audio recorded, later transcribed and coded by the two experimenters. When more than one sentence was produced in one stimulus, we took into account the last one for the analysis of the results.

6.1.4. Coding

In the following subsections, we report the typologies of sentences that were adopted by participants. In doing this, we distinguish questions that were uttered in the subject condition (6.1.4.1) from questions that were produced in the object condition (6.1.4.2).

6.1.4.1. Responses collected in the subject condition

Wh V DP questions like the one exemplified in (274) were counted as target responses and coded as “*Wh* V DP”. In addition, some children and adults employed other types of correct and pragmatically adequate interrogative sentences; the main typology is the one represented by cleft questions (276a) and (276b), which were coded as “cleft” interrogatives:

(276) a. Chi è che pettina il bambino? (6;5)
'Who is it that combs the child?'

(276) b. Chi è che sta pettinando un bambino? (6;10)
'Who is it that is combing a child?'

Less frequently, indirect, "polite" questions introduced by a matrix, declarative verb like *dire* ('tell') or *sapere* ('know') were employed, (277a) and (277b), which we classified as "embedded".

(277) a. Poldo per piacere mi puoi dire chi sta pettinando il bambino? (7;0)
'Poldo can you please tell me who is combing the child?'

(277) b. Sai chi sta pettinando il bambino? (7;11)
'Do you know who is combing the child?'

Sometimes children correctly combined more categories of response; for instance, they produced embedded cleft interrogatives, which we counted under the category "embedded":

(278) Potresti dirmi chi è che saluta il signore? (9;6)
'Could you tell me who is it that is greeting the gentleman?'

Some passive questions were collected; as regards children, these were all like the following one, featuring a left-dislocated (patient) subject and an interrogative *by*-phrase:

(279) Il bambino, da chi viene pettinato? (8;2)
'The child, by whom is (he) combed?'

Adults uttered passive questions as well, though their productions involved initial interrogative *by*-phrases and postverbal subject DPs:

(280) Da chi viene pettinato il bambino? (27;0)
'By whom is the child combed?'

Such types of responses were classified under "passive" questions.

Moreover, children uttered sentences that we coded under “other” correct, instantiated in the following:

(281) Chi è questo qualcuno che sta pettinando il bambino? (9;7)

‘Who is this somebody that is combing the child?’

(282) Chi è quella persona che sta pettinando il bambino? (9;8)

‘Who is that person that is combing the child?’

Finally, sometimes children gave responses that were classified as “incorrect”. These include production of undifferentiated forms like the one in (283), questions featuring the omission of the relevant object DP (284), passive questions produced instead of subject questions, (285), and other types of responses, such as (286):

(283) Poldo, chi è dietro all’ovale? (7;1)

‘Poldo, who is (there) behind the oval?’

(284) Chi sta pettinando? (7;1)

‘Who is combing?’

(285) Chi viene pettinato dal bambino? (10;0)

‘Who is being combed by the child?’

(286) Chi sta lavando i bambini? (7;9)

‘Who is washing the children?’

6.1.4.2. Responses collected in the object condition

As for the object condition, target-like *Wh V DP* questions like the one exemplified in (275) were counted under the category “*Wh V DP*”, as we did for the subject questions. As before, however, other types of correct and discourse adequate interrogative sentences were collected; these were more varied in the object condition than in the subject condition. A number of “cleft” interrogatives were gathered: these contained either a postverbal, or a preverbal subject DP, as shown in (287) and (288), respectively:

(287) Chi è che sta lavando il bambino? (7;4)

‘Who is it that the child is washing?’

(288) *Ma chi è che il bambino sta lavando?* (6;8)

‘But who is it that the child is washing?’

Questions featuring a left-dislocated subject were also collected and included in the analysis as “subject-topicalization” structures (289); these were sometimes combined with clefting (290):

(289) *Il bambino, chi sta inseguendo?* (7;0)

‘The child, whom is (he) chasing?’

(290) *Il bambino, chi è che sta rincorrendo?* (7;11)

‘The child, who is it that (he) chasing?’

Similarly to questions collected in the subject condition, embedded, indirect interrogatives emerged in the child corpus in the object condition; in addition to a postverbal embedded DP (291), these sometimes contained a left-dislocated subject DP (292):

(291) *Sai chi sta inseguendo il bambino?* (7;11)

‘Do you know whom the child is chasing?’

(292) *Sai il bambino chi sta accarezzando?* (6;7)

‘Do you know the child whom is (he) caressing?’

Besides, embedded interrogatives have been combined with clefting featuring a postverbal (293) or a preverbal subject DP (294):

(293) *Sai chi è che sta pettinando il bambino?* (7;11)

‘Do you know who is it that the child is washing?’

(294) *Sai chi è che il bambino sta lavando?* (9;7)

‘Do you know who is it that the child is washing?’

When not differently specified, such productions will be counted under the category “embedded” interrogatives.

In addition, children sometimes omitted the subject constituent, yielding a sentence which is licit in Italian and which we coded under “subject-drop”:

(295) Chi sta inseguendo? (7;3)

‘Whom is (he) chasing?’

Questions featuring null subjects appeared also in other shapes: indeed, subjects were omitted in polite questions (296) and in cleft questions (297) too:

(296) Poldo per piacere mi puoi dire chi sta baciando? (9;6)

‘Poldo can you please tell me whom is (he) kissing?’

(297) Chi è che saluta? (7;0)

‘Who is it that (he) greets?’

All interrogatives involving a null subject will be included in the category “subject-drop”, unless differently specified.

Albeit infrequently, passives were employed in (subject) interrogative sentences questioning the patient; these were classified as “passive” questions:

(298) Chi viene accarezzato dal bambino? (9;6)

‘Who is being caressed by the child?’

(299) Potresti dirmi chi è che viene baciato dal bambino? (9;6)

‘Could you tell me who is it that is being kissed by the child?’

Sporadically, children used questions that were coded under “other” correct: these are instantiated by a (subject) question containing a causative verb (300), a (subject) question featuring a change of verb (*scappare*, ‘run away from’, (301)), a question containing an embedded relative clause (302) and an irrelevant type of response (303):

(300) Chi si sta facendo pettinare? (6;9)

‘Who is having his hair combed?’

TARGET SENTENCE: ‘Whom is the child combing?’

(301) Chi sta scappando dal bambino? (6;8)

‘Who is running away from the child?’

TARGET SENTENCE: ‘Whom is the child chasing?’

(302) Chi è l'animale che sta inseguendo il bambino? (8;11)

'Who is the animal that the child is chasing?'

(303) Con chi sta giocando il bambino? (7;3)

'With whom is the child playing?'

TARGET SENTENCE: 'Whom is the child chasing?'

Finally, interrogative sentences introduced by *what* occurred in the corpus, assuming different shapes, exemplified in (304) to (306):

(304) Cosa sta lavando il bambino? (8;3)

'What is the child washing?'

(305) Il bambino cosa sta rincorrendo? (10;1)

'The child, what is (he) chasing?'

(306) Poldo sai cosa rincorre il bambino? (8;3)

'Poldo do you know what is the child chasing?'

These will be included in the "other" correct category, unless differently specified.

Similarly to responses collected in the subject condition, we considered as "incorrect" production of undifferentiated forms like the one in (307), and other types of responses, such as (308) and (309).

(307) Chi è dietro a quella palla? (7;1)

'Who is (there) behind that ball?'

(308) Qua dietro c'è qualcuno che il bambino sta baciando ... (8;4)

'Behind here there is someone whom the child is kissing...'

(309) Chi è che il bambino pet... pettina qualcuno? (8;1)

'Who is (it) that the child com... combs someone?'

Relevant to coding, an important issue has to be dealt with, namely how to distinguish between subject and object questions when they are potentially ambiguous, namely in all cases where the relevant DP is placed after the (embedded) verb. Indeed, what led us to claim that a question with the order *Wh V DP* is a subject or an object question is the fact that it was elicited in the subject or the object condition. Indeed, the risk of not being able to detect a

mistake is in place, as shown by the fact that unambiguous “object” questions were occasionally collected when a subject-extracted question was targeted (e.g. (285)). Likewise, Guasti et al.’s (2012) study reports some subject questions being uttered when object questions were targeted and vice versa (although no percentages are provided). However, since our participants are older in age and, as we will see, our results are comparable to some extent to those reported by Guasti et al. (2012) when testing production of unambiguous interrogatives in preschool-aged children, we believe that it is fair to analyze subject and object questions produced in the relevant conditions as such, while at the same time tolerating a certain margin of error.⁶² This point will be further discussed in Section 6.5.

6.2. Results

6.2.1. General accuracy levels

First of all, we counted all the collected responses that we considered correct (or accurate) against all incorrect ones. As regards children, out of 1356 sentences, 1277 were coded as correct (94%). As concerns adults, 131/132 accurate questions were produced (99%). More specifically children were accurate in their responses 638/678 times when a subject question was targeted (94%), and 639/678 times when an object question was elicited (92%). Adults reached 100% correct responses in the subject condition and 98% in the object condition, making one mistake in the latter. Table 25 illustrates raw numbers and percentages of correct responses collected in every group of participants in the subject and in the object condition, respectively.

⁶² Furthermore, Schouwenaars, van Hout, and Hendriks (2014) report a low percentage of agreement errors in object *which*-questions (less than 4%) in Dutch-speaking children aged 6;7 to 7;10 in an experimental paradigm similar to Guasti et al.’s and ours.

Groups	Subject condition	Object condition
G1	97/102 95% (10)	97/102 95% (10)
G2	178/192 93% (14)	180/192 94% (12)
G3	151/162 93% (16)	152/162 94% (15)
G4	212/222 95% (12)	210/222 94,5% (9)
G5	66/66 100% (0)	65/66 98% (5)

Table 25. Correct responses across groups in the two experimental conditions

A comparison between experimental conditions suggests that the level of accuracy is not contingent upon the targeted type of sentence, nor upon age. These facts have been ascertained statistically, by running a statistical analysis calculating the change in probability of producing an error rather than a correct question for the factor “type of sentence” and for age group.

6.2.2. The subject condition

Let us now examine how participants’ productions are distributed across the typology of answers in the subject condition. Table 26 reports raw amounts, percentages and standard deviations of productions for the classification categories mentioned in the coding section.

GROUPS (N stimuli)	Correct responses					Incorrect responses
	<i>Wh</i> VDP	CLEFT	EMBEDDED	PASSIVE	OTHER	INCORRECT
G1 (102)	52	41	3	0	1	5
	51% (47)	40% (43)	3% (3)	0%	1% (4)	5% (10)
G2 (192)	90	48	39	0	1	14
	47% (45)	25% (37)	20% (13)	0%	1% (3)	7% (13)
G3 (162)	68	52	19	3	9	11
	42% (43)	32% (40)	12% (3)	2% (3)	6% (18)	7% (16)
G4 (222)	89	101	11	0	11	10
	40% (40)	45% (40)	5% (17)	0%	5% (16)	5% (12)
G5 (66)	45	6	0	15	0	0
	68% (43)	9% (17)	0%	23% (33)	0%	0%

Table 26. Types of responses across groups, subject condition: raw numbers and percentages (SD%)

Data show that as for children, most responses belong to the *Wh* V DP category and to the cleft category. The very high standard deviation values concerning these strategies confirm that participants' productions varied along these two typologies of interrogative sentence. On average, the third preferred option is represented by polite, embedded questions. Two aspects seem to differentiate child production from adult production: namely, adults used less cleft questions, more *Wh* V DP questions, and more passive questions; the latter only sporadically appeared in one child's responses, while the lower amount of cleft sentences is confirmed by the statistical analysis. By performing a repeated-measure logistic regression analysis calculating the change in probability of producing a cleft interrogative (including embedded cleft interrogatives) rather than another type of response for the factor age group, we found a main effect of group, $\chi^2(4) = 14.1$, $p < 0.01$. Such effect is exclusively due to the fact that adults produced a lower amount of cleft interrogatives as compared to children (Wald $Z = -2.837$, $p < 0.01$). As usage of cleft interrogatives with subject-extraction is particularly widespread in the Venetan area, we took into account exposure to dialect by setting it as a covariate. However, this factor does not seem to be related to participants' choices: "non-dialectophone" speakers produced a comparable amount of cleft interrogative sentences as "dialectophone ones". The lower amount of cleft questions adults produced as compared to children can be explained by the higher proportion of passive questions they used, and by the higher amount of *Wh* V DP questions (adults vs. children: Wald $Z = 2.109$, $p < 0.05$). Alternatively, one could say, in line with Guasti et al. (2012), that adults chose to produce less colloquial types of structures.

6.2.3. The object condition

We now turn to the responses given by the same participants in the object condition. Table 27 illustrates the proportions of the various typologies of questions collected:

GROUPS (N stimuli)	Correct responses							Incorrect responses
	Wh VDP	CLEFT	EMBEDDED	SUBJ-TOP	SUBJ-DROP	PASSIVE	OTHER	INCORRECT
G1 (102)	41	21	2	26	5	0	2	5
	40% (35)	21% (28)	2% (3)	25% (32)	5% (8)	0%	2% (3)	5% (10)
G2 (192)	54	25	35	36	21	4	5	12
	28% (32)	13% (28)	18% (17)	19% (27)	11% (22)	2% (10)	3% (5)	6% (11)
G3 (162)	47	23	14	34	17	1	16	10
	29% (35)	14% (25)	9% (10)	21% (30)	10% (22)	1% (3)	10% (15)	6% (15)
G4 (222)	72	59	8	34	13	11	13	12
	32% (28)	27% (30)	4% (18)	15% (22)	6% (18)	5% (15)	6% (12)	5% (8)
G5 (66)	57	0	0	5	0	2	1	1
	86% (15)	0%	0%	8% (12)	0%	3% (10)	2%	2% (5)

Table 27. Types of responses across groups, object condition: raw numbers and percentages (SD%)

As a whole, target-like *Wh V DP* questions were predominant in all groups of participants. No effect of age group was detected among children, who display large variability, while adults produced more *Wh V DP* sentences as compared to every group of children (as a whole, adults vs. children: Wald $Z=5.284$, $p<0.001$). Indeed, with respect to adults, children employed a larger variety of interrogative structures: these concern primarily the use of cleft questions and the use of questions containing a left-dislocated subject. The latter strategy was adopted by adults as well, while object cleft sentences were absent from the adult corpus. Moreover, sometimes children dropped the subject. Passive questions emerged in every group except for G1(6 y.o.), and were uttered by 8 children and one adult speaker. As a whole, no specific developmental trajectory emerges from this picture, with the exception of the observed difference between children and adults in the amount of *Wh V DP* sentences produced, due to a larger inventory of sentence typologies exploited by children.

With reference to Guasti et al.'s (2012) results obtained with younger children (section 5.2.1), one may want to calculate how many times school-aged children made use of interrogative sentences involving VS agreement vs. SV agreement. In order to do this, we counted all sentences featuring a postverbal subject DP, namely *Wh V DP* questions, cleft questions and embedded questions with postverbal subjects, including, when possible, "other"

correct types of interrogative sentences sharing the same relevant property, against sentences featuring a preverbal/null subject, i.e. cleft and embedded questions with preverbal subject, questions involving left-dislocation of the subject, those involving a null subject and relevant interrogative sentences belonging to the “other” correct category; questions introduced by the pronoun *cosa* (‘what’) were split accordingly. Passive questions are added to the SV strategy. Table 28 reports the results of such counting:

Groups	VS	SV
G1	58/102 57% (34)	38/102 37% (29)
G2	112/192 58% (33)	67/192 35% (33)
G3	83/162 51% (38)	62/162 38% (34)
G4	129/222 58% (33)	77/222 35% (30)
G5	58/66 88% (15)	7/66 11% (13)
TOT	440/744 59% (34)	251/744 34% (31)

Table 28. Subject placement across groups: raw numbers, percentages, and (SD%)

As could be expected based on the results reported above, Table 28 indicates that no specific developmental change is visible in the age groups considered here. This is confirmed by the statistical analysis: only a marginally significant main effect of group is found concerning the probability of producing an object interrogative sentence involving SV agreement calculated against other productions ($\chi^2(4) = 9.24, p=0.05$), which is explained by the fact that taken as a whole, children produced more sentences with an SV agreement configuration than adults (adults vs. children: Wald $Z = -2.868, p < 0.01$), similarly to what was reported in Guasti et al. (2012). Conversely, as already hinted at above when analyzing the amount of target-like object questions collected, sentences featuring a VS agreement pattern are more common in the adult data (Wald $Z = 3.274, p = 0.001$), which display less variation. For the sake of completeness, we further detail Table 28 as follows: out of all *who*-object cleft interrogatives

with lexicalized, non-dislocated subject produced by children (either embedded under a main verb or not), 25 contained a preverbal subject (see sentences (288) and (294) above), while 118 contained a postverbal subject. As for interrogative sentences introduced by *cosa*, children placed a lexicalized subject postverbally 12 times, while the subject constituent occurred preverbally in 3 cases (either in a cleft, or in a left-dislocated position).

6.2.4.1. Subject vs. object interrogative sentences

We already saw that high accuracy levels were reached by participants both when a subject question was elicited, and when an object question was targeted. Additionally, one may wonder whether *Wh* V DP interrogative sentences and sentences with a postverbal DP in general were uttered more often in the subject condition as compared to the object condition. Of course, this is expected if one considers that a higher degree of variability characterized sentences collected in the latter condition, as suggested, on the one hand, by a comparison between Table 26 and Table 27, and on the other hand, by the number of times participants employed an SV-agreement pattern when an object question was elicited. In order to better characterize the pattern of findings and seek for a subject-object asymmetry, we ran a repeated-measure logistic regression analysis calculating the change in probability of producing an interrogative sentence with a postverbal DP rather than a sentence without postverbal DP, for the type of condition (subject/object). As a result, we found a main effect of sentence-type ($\chi^2(4) = 41.4, p < 0.001$). Such effect is observed in each experimental group: every group except for the adult one produced more interrogative sentences displaying a *Wh* V DP order in the subject condition as compared to the object condition: 6 y.o. children (Wald $Z=14.06, p < 0.001$), 7 y.o. children (Wald $Z=7.09, p < 0.001$), 8 y.o. children (Wald $Z=6.89, p < 0.001$), 9 y.o. children (Wald $Z=8.0, p < 0.001$). A similar result is not detectable in adults' productions because a consistent amount of passive questions were employed in the subject condition.

6.2.4.2. Subject vs. object interrogative sentences: an analysis of reformulations

In addition to a qualitative and quantity analysis of the types of sentences collected in participants' responses, we decided to examine participants' reformulations, and how the latter are associated to the resulting type of interrogative sentence. Any time a speaker started

out with a certain question and then rephrased its production by clearly changing the structure, the phenomenon was counted as sentence reformulation. Most of the times, when speakers rephrased their utterances, they did not complete the first attempted sentence; the position in which they abandoned their first attempt will be taken into consideration when convenient. Furthermore, even though participants sometimes produced more than one false start with respect to the same stimulus, we counted the phenomenon as only one reformulation. As a whole, 108 abandonments of utterances were detected, which represent 7% of the total amount of utterances. Of these, only 7 were realized when a subject question was elicited, while the remaining ones were collected when an object-extracted sentence was targeted. Reformulations collected in the subject condition most frequently surfaced as transitions from unambiguous object interrogative sentences to (alleged) subject ones:

- (310) Chi è che viene inseguito ... no chi è che sta seguendo il bambino? (9;8)
 ‘Who is it that is chased ... no, who is it that is chasing the child?’

As for the object condition, we analyzed the typologies of sentences that represented the consequence of a reformulation (percentages are reported in Table 29 below). Occasionally, the revision led to a target-like *Wh V DP* question or to another question with a postverbal DP:

- (311) Poldo..chi..il bambino.., Chi sta lavando, il bambino? (6;7)
 ‘Poldo... who.. the child..., who is washing, the child_{subj}?’

More frequently, speakers’ revisions brought to an anteposition of the subject constituent:

- (312) Chi sta inseguendo il bambino? Il bambino, chi sta inseguendo? (8;11)

‘Who is chasing the child? The child, whom is (he) chasing?’

- (313) Chi è che sta ... Il bambino, chi sta inseguendo? (9;10)

‘Who is it that is... The child, whom is (he) chasing?’

- (314) Chi è che sta pettinando... Il bambino, chi è che sta pettinando? (9;8)

‘Who is it that is... The child, whom is it that (he) is chasing?’

(315) Poldo ma chi è che sta, che il bambino sta lavando? (6;8)

‘Poldo but who is it that is..., that the child is washing?’

Furthermore, passive sentences were sometimes the result of a speaker’s self repair:

(316) Chi è che sta pettinan, eh sì, chi è che viene pettinato dal dal bambino? (9;2)

‘Who is it that is comb, eh, yes, who is it that is being combed by by the child?’

In other cases, the subject constituent was left silent:

(317) Chi sta salutando il ba, .. chi sta salutando? (8;2)

‘Who is greeting the ch..., who is (he) greeting?’

Besides, some *who*-questions were turned into *what*-questions (while the opposite never occurred):

(318) Chi rincorre.. cosa sta rincorrendo un bambino? (8;8)

‘Who is chasing..., what is chasing a child_{subj}?’

Finally, other less frequent types of self-repair were collected:

(319) Chi è che pettin, chi è che.. si sta pettinando? (6;5)

‘Who is it that is comb..., who is it that ... is combing his hair?’

(320) Chi è che il bambino lo ba.. bacia quella persona? (6;5)

‘Who is it that the child him kiss... kisses that person?’

Table 29 reports the amount of sentences collected in the object condition that were the result of speakers’ reformulations, divided according to the final, resulting typology of structure:

GROUPS (N stimuli)	VS	SV						SV
	tot	SUBJ-TOP	SUBJ-DROP	CLEFT PREV SUBJ	PASSIVE	WHO>WHAT	OTHER	tot
G1 (102)	2 2%	10 10%	0 0%	2 2%	0 0%	0 0%	3 3%	15 15%
G2 (192)	2 1%	14 7%	0 0%	1 1%	2 1%	0 0%	2 1%	19 10%
G3 (162)	4 2%	15 9%	2 1%	2 1%	0 0%	5 3%	3 2%	27 17%
G4 (222)	5 2%	10 5%	1 0%	4 2%	1 0%	6 3%	3 1%	25 11%
G5 (66)	1 2%	0 0%	0 0%	0 0%	0 0%	1 2%	0 0%	1 2%
tot (744)	14 2%	49 7%	3 0%	9 1%	3 0%	12 2%	11 1%	87 12%

Table 29. Amount of sentences resulting from reformulations in the object condition

One observation we can draw from the table refers to the difference in the amount of reformulations which led to VS vs. SV configurations: the former amount to 14, the latter to 87. More precisely, participants changed their utterance moving toward a VS agreement pattern 14 times out of 440 sentences displaying the VS pattern. The opposite trend occurred 87 times out of 251 total amount of interrogative structures displaying an SV configuration. Proportions are shown in Fig. 36.

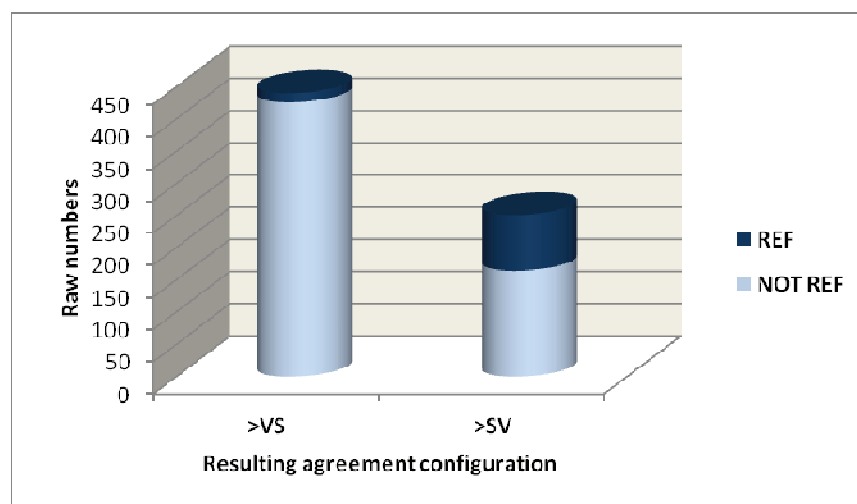


Fig.36 Number of sentences resulting and not resulting from reformulations

Specifically, the most frequent pattern to occur is the one whereby rephrasing gave rise to the anteposition of the subject constituent. Developmentally, the pattern of findings recalls previous results: adults ran into revisions of their own productions less frequently than children (Wald $Z=-2.221$, $p<0.05$), and, moreover, their performance does not show a

discrepancy between subject and object questions: they rephrased their utterances once in the subject condition and once in the object condition.

Looking at the same data from another perspective, it is interesting to investigate the proportion of sentences that were the outcome of speakers' self-repairs, again taking into account the relevant typologies of structures (Table 30). Specifically, *what*-questions, which we kept apart, qualified as the result of a reformulation most of the times (12/17): out of 12 reformulations, 2 resulted in an SV configuration, whereas the remaining ones pointed to a VS pattern and started out as *who*-questions. In addition to questions featuring subject topicalization, cleft sentences displaying an embedded preverbal subject were also quite frequent; this is shown in Table 30 and illustrated in Fig. 37:

	VS	SUBJ-TOP	SUBJ-DROP	CLEFT PREV SUBJ	PASSIVE	WHAT	OTHER
TOT	432	135	56	25	18	17	61
REFORM	7 (2%)	49 (36%)	3 (5%)	9 (36%)	3 (17%)	12 (70.5%)	18 (18%)

Table 30. Proportions of sentences resulting from reformulations in the object condition

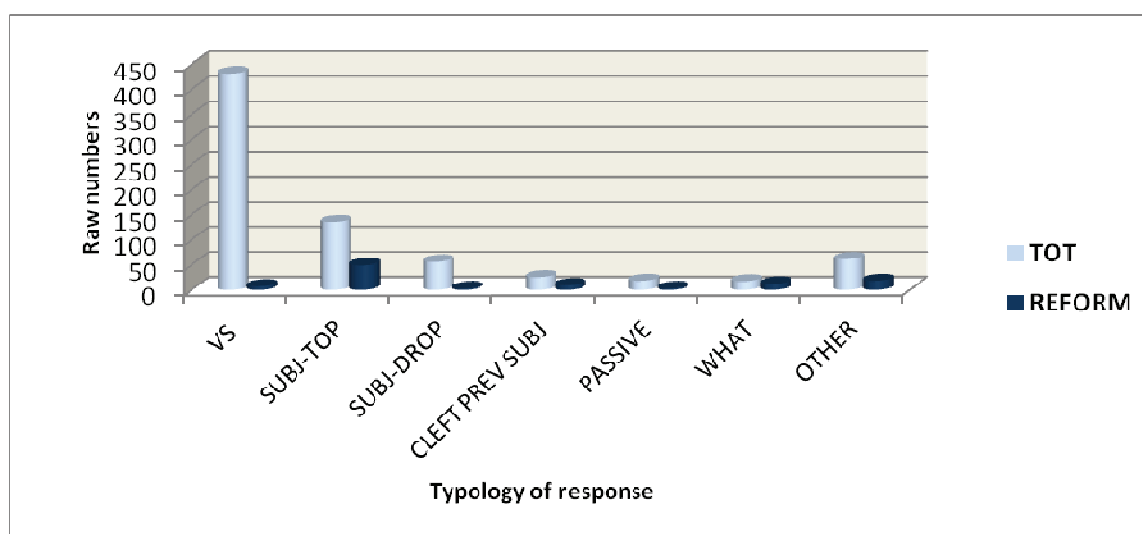


Fig.37 Proportions of sentences resulting from reformulations in the object condition

While we know what type of final response participants provided when carrying out the task, we cannot be sure about which kind of structure they were planning when they interrupted their utterance, abandoned it and started out with another sentence. When considering reformulations leading to an SV agreement pattern, only 14 times did speakers complete (or almost complete) their first attempt before changing it, as in the following:

(321) Chi sta lavando il bam ... il bambino, chi sta lavando? (7;9)

‘Who is washing the ch... the child, whom is (he) washing?’

In these few cases, we can be sure that speakers turned a *Wh V DP* configuration into a structure featuring *SV* agreement. However, if participants began their first attempt with the interrogative pronoun and paused after having produced or right after having initiated the lexical verb or the aspectual verb *stare*, we are allowed to suppose that they were starting out with a *Wh V DP* sentential order (although questions involving null DPs cannot be safely excluded). We counted all the times participants abandoned their utterances after having at least started the relevant verb: out of 87 repairs leading to an *SV* configuration (Table 29), 60 suggest a tendency in switching from a *VS* agreement configuration to an *SV* one, including the 14 (almost) complete sentences previously mentioned. We provide two examples:

(322) Chi, chi sta accarezzan, il bambino chi sta accarezzando? (6;9)

‘Who, who is caress, the child, whom is (he) caressing?’

(323) Poldo, chi s..il bambino chi insegue? (7;9)

‘Poldo, who ch... the child, whom is (he) chasing?’

The remaining cases of repair qualify most frequently as false starts whereby participants only produced the interrogative pronoun and then changed the structure.

The single reformulation realized by one adult in the object condition concerned turning a *who*-question into a *what*-question.

6.2.5.1. An aside on single participants (I): cleft questions

We saw that participants often uttered cleft questions. In the subject condition, children made use of cleft interrogative structures nearly as many times as *Wh V DP*, non cleft questions. Adults did so less frequently. In the object condition, adults did not employ any cleft structure, whereas children produced a consistent number of cleft questions (Table 27). We also saw that 25 vs. 118 cleft structures with lexicalized, non-dislocated subject contained a preverbal subject. We again provide a minimal pair of sentences collected in the experiment:

(324) Chi è che sta accarezzando il bambino? (8;6)

‘Who is it that is caressing the child_{subj}?’

(325) Chi è che il bambino sta accarezzando? (9;7)

‘Who is it that the child is caressing?’

A sentence like (325) recalls the targeted type of structure that we tried to elicit in the correction task, and which we provided as a sort of prime in the Priming groups (Chapter Three). We report an instance in the following:

(326) E’ IL GATTO che il pinguino guarda!

‘It is THE CAT that the penguin is looking at’

The two cleft structures are alike in that a preverbal lexically restricted subject constituent is crossed by an A' moved constituent. Let's try to establish whether participants who uttered object contrastive clefts also produced analogue interrogative clefts. As a whole, 12 children uttered at least one interrogative cleft. Only 12 OCs of the relevant type were collected. These were produced by 8 children. Of these, only one child produced cleft interrogatives with embedded preverbal subject. This child, aged 9;6 years, was particularly fluent, and made use of 4 contrastive OCs with embedded preverbal subject. His interrogative clefts are all of the following type, namely polite, indirect questions with embedded clefting:

(327) Saresti così gentile da dirmi chi è che il bambino accarezza? (9;6)

‘Would you be so kind to tell me who is it that the child is caressing?’

Since a certain amount of (somewhat unexpected: section 5.1.2) interrogative clefts with preverbal subject were produced in the task eliciting interrogative sentences, one may wonder whether having heard cleft primes while carrying out the correction task might have had an influence on the production of *wh*-questions, leading to produce interrogative clefts with preverbal subject. We therefore counted the amount of interrogative clefts of the relevant type that were uttered by children, distinguishing children who belonged to the Priming groups from children who were included in the Non priming groups. As a result, it came out that 14/25 cleft interrogative sentences were uttered by children who had not previously heard any prime sentences; in other words, this strategy of building a question was retrieved also by

“non-primed” participants.

6.2.5.2. An aside on single participants (II): passive questions

We previously analyzed the usage of passives that participants made in the correction task and in the preference task. We now concentrate on the production of passives employed in interrogative sentences. We already detected two differences: one concerns the experimental condition, the other regards the contrast between adults and children. Data are repeated and summarized in Table 31:

Groups	Subject condition	Object condition
G1	0	0
G2	0	4 2%
G3	3 2%	1 1%
G4	0	11 5%
G5	15 23%	2 3%

Table 31. Number of passives employed in interrogative sentences

Adults have been more prone to use passive interrogative sentences when questioning the agent (328), a strategy of response that was somehow unexpected and was employed by 4 adults out of 11. This contrasts with children’s preference for passives contained in interrogative sentences questioning the patient (329), collected in the object condition and pronounced by 9 children:

(328) Da chi viene pettinato il bambino?

‘By whom is being combed the child_{subj}?’

(329) Chi viene accarezzato da un signore?

‘Who is being combed by a gentleman?’

Furthermore, the only child that produced the three passive sentences collected in the subject condition preferred to displace the patient subject:

(330) Il bambino, da chi viene pettinato? (8;1)

‘The child, by whom is being combed?’

In addition, one causative interrogative emerged in the child corpus, produced by an 8;8 y.o. child as the result of a reformulation:

(331) Sai chi sta pettinando.. Sai chi... si sta facendo pettinare? (8;8)

‘Do you know who is combing... Do you know who... is getting his hair combed?’

We verified whether the very same children who produced passive interrogatives also exploited passives in the task on cleft sentences (332; 333) and on relative clauses (334).

(332) E’ LA CAPRA che viene spinta dal gatto. (9;6)

‘It is THE GOAT that is being pushed by the cat.’

(333) LA CAPRA viene spinta dal gatto. (10;4)

‘THE GOAT is being pushed by the cat.’

(334) Mi piace il cane che viene pettinato dai bambini. (8;1)

‘I like the dog that is being combed by the children’.

Table 32 illustrates the data collected⁶³.

⁶³ C3 identifies the child who uttered three passive questions in the subject condition.

Children	Age	Passive Wh	Passive cleft/correction	Passive relative
C1	7;6	3	0	11
C2	8;1	1	0	6
C3	8;1	3 (S)	0	12
C4	8;2	1	0	10
C5	8;8	1	0	11
C6	9;2	3	0	11
C7	9;6	3	3	12
C8	9;6	2	1	8
C9	10;0	1	0	11
C10	10;4	1	2	10

Table 32. Number of passives employed in interrogative sentences

As we reported in Chapter 4, 24 children produced 9-to-12 passive relatives in the preference task; these include the only two children that also produced passive clefts (named C7 and C8 in Table 32) and the single child, C10, who produced two non cleft passive sentences as a form of correction. Interestingly, these three children also produced passive interrogative sentences, and, as a whole, the nine children who produced at least one passive interrogative sentence consistently employed passive relatives; more specifically, all but one produced at least 8 passive relatives. As for the type of auxiliary verb employed, *venire* ('come') was the highly predominant type of auxiliary to be chosen by participants when producing a passive question, by both children and adults. The auxiliary *essere* ('be') appeared three times in passive questions, and, just like what we found in the preference task, it was adopted exclusively by adults in the present tense; again, like before, *essere* was employed by one child (aged 7;11 y.o.) in the periphrastic form of the past tense, where *venire* is excluded. The auxiliary *essere* never appeared in passive contrastive clefts.

We conclude this subsection by mentioning the case of a child aged 8;8, who employed copular constructions in her interrogative sentences, in both subject and object questions:

(335) Chi è la persona che sta pettinando il bambino?

'Who is the person that is combing the child?'

(336) Chi è la persona salutata dal signore?

‘Who is the person greeted by the gentleman?’

In the object condition, she always used reduced relatives like the one instantiated in (336). The very same child used 11/12 reduced copular constructions in the preference task.

6.2.6. Does disambiguation matter?

Since we aimed at eliciting potentially ambiguous sentences, and found that children exploit a larger set of typologies of questions as compared to adults, while adults turn a subject active question into a passive question more often than children, it seems reasonable to investigate how many participants systematically distinguished subject extracted questions from object extracted ones. Let us start with adult participants. Out of 11 speakers, 2 of them distinguished subject extracted questions from object extracted ones: one constantly employed passive questions in the subject condition and target *Wh V DP* questions in the object condition; the other one used passive and cleft questions in the subject condition and target interrogatives in the object condition. Children somehow mirrored adults in that 16 of them out of 113 systematically or quasi-systematically (that is, at least 5 times out of 6 times) distinguished subject from object questions: while subject questions predominantly involved a *Wh V DP* order of constituents, the majority of children, namely 11, exploited left-dislocation of the subject constituent in the object condition; moreover, one child employed cleft questions with preverbal subject in the object condition and cleft questions with postverbal object in the subject condition. One child, namely the one mentioned in previous section, systematically used reduced passive relatives when questioning the patient in the object condition (336), while the 3 remaining children made use of more than one disambiguating strategy in the object condition, including production of *what*-questions. Children who do not display a regular disambiguating pattern produced syntactically ambiguous questions not only in the subject condition, but also in the object condition, often realizing superficially identical minimal pairs of sentences. The latter will be handled in next section, where we will try to establish whether prosodic disambiguation also played a role in participants’ productions.

6.3. Intermediate summary and considerations

On one hand, as compared to young children tested by Guasti et al. (2012) (section 5.2.1), older children performed more accurately (i.e., as correctly as adults); moreover, a lower amount of questions featuring subject drop were collected in older children's corpus (8% vs. 30%), while questions with left-dislocated subject were adopted in similar proportions by all age groups (20%). Besides, our children showed to produce passive interrogatives and pragmatically sophisticated, yes-no polite questions, which have not been reported for younger stages by Guasti and colleagues.

On the other hand, a subject-object asymmetry in terms of different amounts of sentences with postverbal DPs is still found in children's groups, indicating that, as compared to adults, children at this age might still want to place the subject preverbally more often than adults, although less frequently than younger children (or, in Guasti et al.'s terms, they choose an SV agreement configuration more frequently than adults; on average, children vs. adults: 36% vs. 11%; in Guasti et al. (2012): around 50% vs. 3%).

Perhaps unexpectedly, we did not detect a specific developmental pattern from age 6 to 10; however, this is in line with comprehension data found by De Vincenzi et al. (1999), who did not observe an improvement from the age of 5 until the age of 9 in oral comprehension of object-extracted *who*-questions; indeed, it is only at 10-11 y.o. that children score higher than 80%. An inspection of the types of sentences produced by children as the result of a structural reformulation seems to suggest that, when children did so, it was to switch from questions featuring a postverbal DP to structures presenting an SV agreement configuration, or to replace the pronoun *who* with *what*. According to Guasti et al. (2012), this would be done to avoid potential attraction mistakes that are more prone to take place when subject-verb agreement is solely realized through AGREE.

In section 6.2.5, we observed how cleft and passive questions are produced by the same children: while no special relation is found between the use of contrastive object clefts and the use of interrogative clefts with preverbal DP subjects, production of passive questions seems to be associated with a consistent production of passive relatives; in turn, children who produced passive corrections are a subset of those who produced passive questions, so that we identify a sort of interesting implication relation in the usage of passive across structures and within participants:

passive corrections > passive questions > passive relatives

Furthermore, a difference in the use of passives between children and adults was found: adults preferred to question a *by*-phrase in the subject condition, whereas children more often passivized a patient in the object condition. However, they did so less frequently than Guasti et al. (2012) expected: despite showing to produce a lot of passive relatives in the preference task (on average across groups, 29%; section 4.5), the same children did not exploit passives to avoid weak agreement in interrogatives with object extraction (2%). Instead, they chose other strategies of response. Notice that this is in line with Friedmann, Belletti & Rizzi's (2009) account of the difficulties children may have in computing specific complex A' structures (section 4.2). Indeed, the *wh*-element *who* is not lexically restricted, and therefore object questions of this type feature an unproblematic "disjunction configuration". Therefore, there should be no reason to turn object *who*-questions into subject-extracted ones. However, the rarity with which passive questions occurred in our corpus may also be related to the focal status of the questioned constituent, as we noticed for contrastive passive clefts, which were hardly ever employed when correcting a patient constituent (only 4 passive clefts and 2 passive corrections in non cleft sentences; section 4.6.2). The slightly higher amount of passive interrogatives emerged as compared to passive clefts might be due to the fact that in our particular case, at least some speakers might have employed passives in questions in order to explicitly disambiguate the structure. Indeed, we also wondered whether, having elicited potentially ambiguous sentences, participants systematically disambiguated between subject-extracted questions and object-extracted ones. This was true for some participants (14% of children, 18% of adults). In order to see whether the other participants distinguished sentences prosodically, we analysed the prosodic properties of the questions produced. This is the topic of the following section.

6.4. Analyzing the prosodic properties of the *who*-questions produced by participants

Let us try to determine whether phonological properties may distinguish between the two potential interpretations of a superficially ambiguous Wh V DP interrogative sentence. The only study facing the topic we are aware of is based on Dutch (Read, Kraak and Boves 1980), and suggests that distinct intonational properties alone do not determine the interpretation of *who*-questions in absence of morphological or syntactic contrasts, though they can influence it.

In doing this, we also want to investigate whether participants have attributed similar phonological properties to subject and object postverbal DPs across minimal pairs of (main) interrogative sentences: as said in Chapter Five (section 5.1.3), if it turned out that postverbal subjects have been produced with the same prosody as postverbal objects (which were never doubled by a clitic pronoun in our task, i.e. they were never right-dislocated), we could provide a piece of (experimental) evidence in favor of the syntactic hypothesis that the postverbal subject in *wh*-questions is in-situ (Cardinaletti 2007). Furthermore, we are interested in studying children's prosodic abilities as compared to adults. If we found out that, as opposed to the previous hypothesis, special intonational properties have been assigned to postverbal subjects vs. postverbal objects by adult speakers, it would be interesting to see how children dealt with such prosodic patterns. If they showed difficulties in producing the final DP subject, one could propose that the/one source of difficulty for the object-extracted Wh V DP questions targeted in our study could be phonological.

Finally, and at a more general level, main interrogative sentences like those we tested represent an interesting case of study, because they feature a fronted focused constituent: in principle, following Bocci and Avesani (in prep.; section 5.1.3), one would expect bare *who* interrogative elements not to bear main prominence; instead, prominence should be found most probably on the verb or, at most, on the last word in the sentence. A further complication concerns the use of the element *who*, though: if interpreted as being D-linked, it could actually bear main prominence (but not necessarily). As for cleft interrogatives, no specific phonological studies are available for the Italian language. However, having elicited a certain amount of this type of structures, we will contribute to the topic with some preliminary data.

In order to clarify these issues, findings from a prosodic analysis conducted on adults' and children's questions collected during the experiment will be presented.

6.4.1. The corpus

As was said in Chapter Three, we tested 115 children and 11 adults. Two children were later discarded: one did not understand the task; the other always gave the same, undifferentiated response, producing short *chi è* questions ('Who is (it)???'). The responses of more children were excluded from the present analysis, so that the relevant corpus represents a subset of the corpus described in Chapter Six. Specifically, we did not take into consideration questions produced by the three children that were being exposed to a second language at home, as reported by their parents in the questionnaire we had previously administered to them (section 3.1.1). In addition, data concerning eight children had to be excluded either because of the bad quality of sound, or because they manifested some articulation weaknesses or major disfluencies. Moreover, some potentially analyzable questions could not be taken into consideration either because children started talking while the lead-in was still being played, or because they laughed while talking. Besides, many questions contained pauses or displayed small disfluencies, which could have influenced the final results; for this reason, they had to be discarded⁶⁴. Since we were interested in analyzing minimal pairs of (potentially) superficially identical sentences uttered by the same speakers, we ended up with a total amount of 160 sentences of the type we referred to as *Wh V DP* questions in Chapter Six, i.e., 80 minimal pairs of sentences.

In addition, we carried out an intonational analysis of those cleft questions that displayed a postverbal DP and that, for this reason, are potentially ambiguous between a subject and an object reading, much as their non-cleft *Wh V DP* counterparts. As a whole, 44 sentences were analyzed, namely 19 minimal pairs of clefts collected in the child corpus and the six subject cleft questions uttered by adults. In order to dispose of a reliable corpus size, we decided to collapse the groups that we previously called G1 and G2 together; the same was done for G3 and G4. Table 33 reports the total number of sentences analyzed per group; the two new groups of children are called YOUNG and OLD:

⁶⁴ When containing minor disfluencies, these sentences were segmented and analyzed, but not taken into consideration for the final analysis. Most importantly, the intonation contours we detected in the discarded material do not differ from the most common pattern observed in the sentences that were included in the corpus.

AGE GROUPS	WH V DP		N SPEAKERS	CLEFT		N SPEAKERS
	SUBJ	OBJ		SUBJ	OBJ	
YOUNG (6-7 Y.O.)	24	24	13	3	3	2
OLD (8-9 Y.O.)	29	29	16	16	16	9
ADULTS	27	27	9	6	0	3

Table 33: corpus of sentences analyzed prosodically

Only a few minimal pairs of cleft questions could be retained for the prosodic analysis, especially as far as younger children are concerned. Indeed, a lot of pauses and little disfluencies characterized those sentences, which therefore had to be excluded.

6.4.2. The analysis: procedure

Our investigation was carried out using the software Praat, a tool for the analysis of acoustic speech signal (version 5.3.80, Boersma & Weenink 2014). Before selecting and analyzing the sentences, all audio files were downsampled from 48 kHz to 16 kHz. Then, sentences were manually annotated and analyzed adopting a ToBI-like transcription system.⁶⁵ First of all, we created, for each file, three annotation tiers, one for each level of analysis: we segmented each sentence into syllables and words, and transcribed the tonal events. Each tonic syllable was marked as such. Segmentation and assignment of tonal events were manually carried out basing on the wave form, the wide-band spectrogram and the f0 contour. Fig. 38 illustrates an example.

⁶⁵ Besides the regular ToBI conventions, we employed several extra diacritics in order to facilitate the procedures of data extraction.

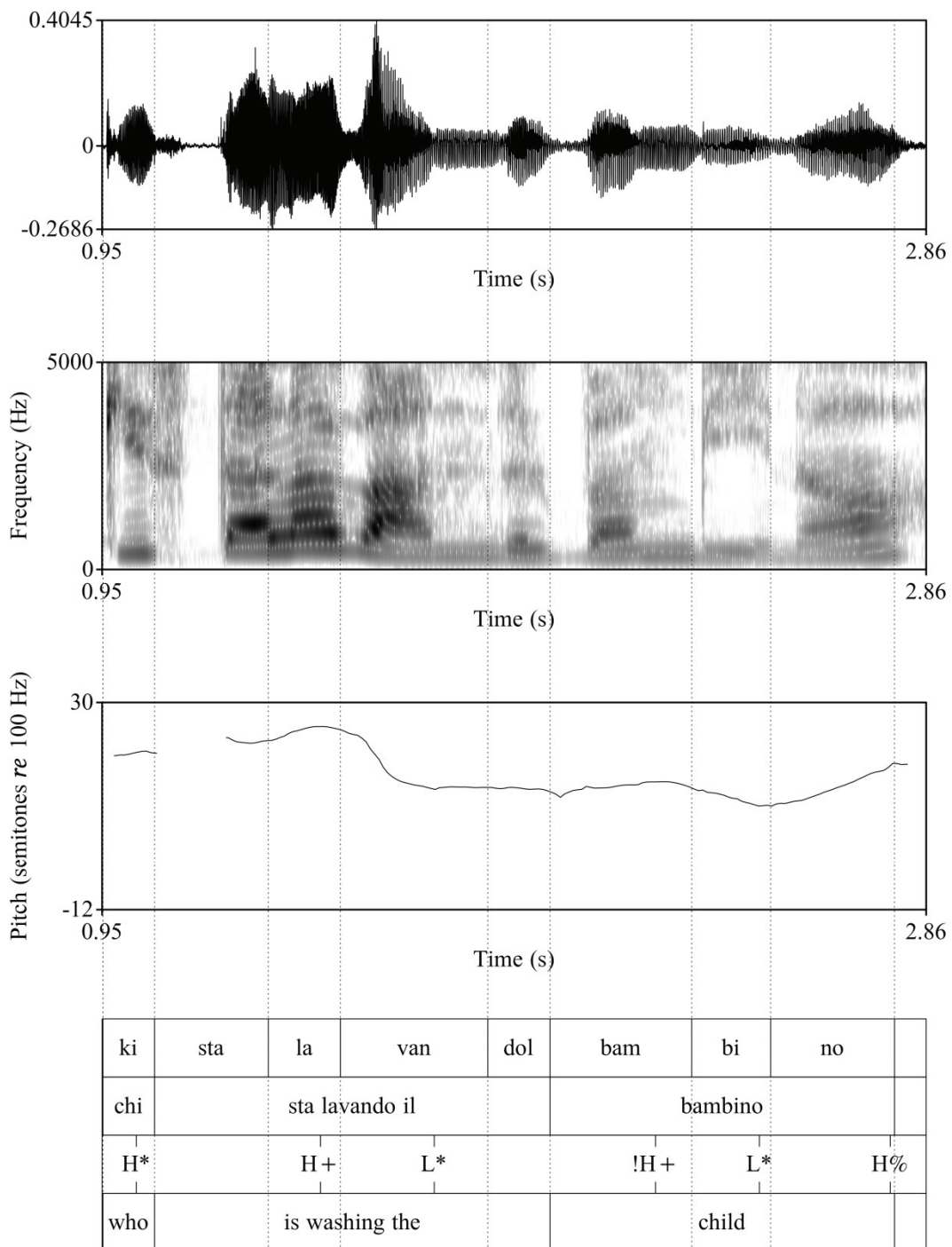


Fig. 38 Wave form, wide-band spectrogram, pitch contour, segmentation and annotation of *Chi sta lavando il bambino?* (subject condition)

Depending on the adult speakers' gender, different frequency reference values were used: for male speakers, the minimum was set at 50 Hz and the maximum at 350 Hz; for female speakers, reference values were set between 75 and 500 Hz. For one male speaker showing creaky-voice, frequency values were set between 40 and 350 Hz. As regards children, we set parameters between 100 and 650 Hz.

For each sound, the pitch contour was extracted, inspected and manually corrected for artifacts produced by the pitch tracking algorithm (octave jumps).

Tonal targets were first identified and transcribed for each sentence by the author, and then checked again for consistency of accent labels by a researcher trained in intonational analysis. In case judgments did not coincide, the author's transcription prevailed. Position of local F0 maxima and minima were determined manually for the relevant accents, namely H*, H+L*, its version with down-stepped high tone, !H+L*, and for low and high boundary tones. Moreover, the most prominent stressed syllable in the utterance was identified and annotated as nuclear. Furthermore, we annotated whether a final rise was present or not. From the landmarks we created, the following values were extracted for each utterance through a series of automatic procedures: the duration values of utterances, words, syllables, the pitch accents types, the presence of a final rise. The collected data were then gathered in a database that we used to perform quantitative analyses.

6.4.3. The analysis: results

6.4.3.1 Prosodic analyses of minimal pairs of “target-like” *wh*-questions

Let us start with *Wh* V DP “target-like” questions, namely main *who*-questions featuring a subject or an object postverbal DP. First of all, we examined main prominence placement. As a result, we found out that main prominence was placed predominantly on the stressed syllable of the lexical verb: for questions elicited in the subject condition (SC), this occurred 67/80 times; for questions elicited in the object condition (OC), it occurred 73/80 times. In the remaining cases, main prominence fell either on the functional verb *stare* (literally, ‘stay’) employed by participants in the periphrasis expressing progressive aspect (SC vs. OC: 8 vs. 5 occurrences), or on the rightmost DP (SC vs. OC: 2 vs. 1), or on the *wh*-pronoun *chi*; the latter was associated with main prominence 4 times in subject extracted questions only. In order to determine whether a main effect of type of sentence was present concerning main

prominence placement, we performed a logistic regression analysis by setting subjects and items as random effects, type of sentence as our independent variable and prominence placement (on the lexical verb vs. another element) as our dependent variable. As a result, we found no effect of type of sentence on prominence placement. As for development, we observe that children, differently from adults, never placed the main prominence on *chi*, and that adults did so exclusively in the subject condition (Table 34).

AGE GROUPS (N MINIMAL PAIRS)	WHO H*		VFUNCTION H+L* H*				VLEX H+L* H*				DP H* L*+H			
	SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ
YOUNG (N 24)			3	1			20	22	1					1
OLD (N 29)			1	1			26	27	1		1	1		
ADULTS (N 27)	4		1	1	3	2	16	24	3					
TOT	4		13				140				3			

Table 34. Distribution of nuclear pitch accents (raw numbers)

As for the types of pitch accents, Tables 35, 36 and 37 summarize our findings, illustrating how the accents distribute depending on their status: prenuclear, postnuclear and nuclear, respectively:

AGE GROUPS (N MINIMAL PAIRS)	H*		L*+H	
	SUBJ	OBJ	SUBJ	OBJ
YOUNG (N 24)	15 63%	11 46%	0 0%	1 4%
OLD (N 29)	23 79%	20 69%	0 0%	0 0%
ADULTS (N 27)	19 70%	23 85%	0 0%	0 0%
TOT (80)	57 71%	54 68%	0 0%	1 1%

Table 35. Distribution of prenuclear pitch accents

AGE GROUPS (N MINIMAL PAIRS)	H*		H+L*		!H+L*	
	SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ
YOUNG (N 24)	0 0%	0 0%	0 0%	0 0%	16 67%	14 58%
OLD (N 29)	1 3%	1 3%	0 0%	0 0%	14 48%	15 52%
ADULTS (N 27)	0 0%	0 0%	4 15%	1 4%	4 15%	2 7%
TOT (80)	1 1%	1 1%	4 5%	1 1%	34 43%	31 39%

Table 36. Distribution of postnuclear pitch accents

AGE GROUPS (N MINIMAL PAIRS)	H*		H+L*		L*+H	
	SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ
YOUNG (N 24)	1 4%	0 0%	23 96%	23 96%	0 0%	1 4%
OLD (N 29)	2 7%	1 3%	27 93%	28 97%	0 0%	0 0%
ADULTS (N 27)	10 37%	2 7%	17 63%	25 93%	0 0%	0 0%
TOT (80)	13 16%	3 4%	67 84%	76 95%	0 0%	1 1%

Table 37. Distribution of nuclear pitch accents

The first column of each table indicates the experimental groups and the total number of minimal pairs analysed per group. The other columns illustrate the types of pitch accents we annotated. Almost invariably, the nuclear pitch accent, that is the accent here associated with the phrasal prominence of the intonational phrase, was H+L*, in line with literature reported in section 5.1.3. As for the *wh*-element, we established that the type of sentence did not exert any effect as regards the presence or absence of H*; this was determined by running a logistic regression analysis where presence vs. absence of the tonal event on *who* was set as our dependent, dichotomous variable, and sentence type was set as fixed factor. Furthermore, we checked whether the presence of the downstepped !H+L* accent on the rightmost constituent was related to the age of our participants, by carrying out the same type of analysis. As a result, we did find a main effect of age group on the realization of the relevant type of accent ($\chi^2(2) = 11.71, p < 0.01$). Specifically, children as a whole differed from adults in producing a

higher amount of accented DPs (Wald $Z=2.934$, $p<0.01$), while no difference was detected among children; however, presence or absence of the relevant accent was not associated to the type of sentence.

In order to seek for the existence of an independent intonational phrase wrapping the postverbal DPs in questions belonging to either elicitation condition, we compared the length of the verb final syllable across condition, by taking into consideration all sentences where the main prominence fell on the lexical verb: indeed, a lengthening on the verb final syllable before the subject/object DP would mark the occurrence of an intonational boundary; as a result, no effect of sentence type was detected. This leads to the conclusion that the postverbal subjects in the elicited object questions are not to be interpreted as being right-dislocated; rather, they share the same phonological properties of non-dislocated objects. Furthermore, no difference was found by comparing the duration of subject vs. object questions as a whole. Instead, a main effect of age group on sentence duration was detected ($\chi^2(2) = 27.37$, $p<0.001$). In this case, we detected a difference between the two groups of children, with young children producing longer sentences than old ones ($t=3.43$, $p=0.001$) and older children uttering longer utterances as compared to adults ($t=4.15$, $p<0.001$). Finally, we counted all the times participants ended their utterances with a low boundary tone against the number of occurrences of a final rise leading to a high boundary tone. The former were infrequent, and account for 7% of the entire corpus. They were employed by children only, and in the same proportion across conditions. In all other cases, participants ended their utterances with a final rise.

As a whole, the analyses we conducted seem to suggest that participants produced similar prosodic patterns of questions across elicitation condition; more precisely, they do not seem to have phonologically distinguished sentences upon site of extraction. In fact, this can only be said for the few cases where adults placed the main prominence on the subject interrogative element. As for observations concerning development, we detected a tendency, common to children but not to adults, to associate a compressed H+L* pitch accent to the rightmost DP, in both conditions. However, this finding should be better corroborated and may be spurious, since, due to the phonetic properties of child speech, children use a higher pitch range as compared to adults, which may render the (presumed) postnuclear accent more salient; by contrast, the presence of postnuclear accents in adult production might have been neglected. For these reasons, the difference detected could be the reflex of an erroneous transcription made by the author. Most importantly, the use of this compressed accent does

not seem to be related to the syntactic role of the relevant constituent; as a consequence, it might not have phonological relevance. Furthermore, children took more time to articulate their utterances as compared to adults; a developmental difference is found also between 6-7 y.o. children and 8-9 y.o. ones.

Below, we provide an example of a minimal pair of questions uttered by the same participant (age 6;8), which instantiates the most common pattern observed among children.

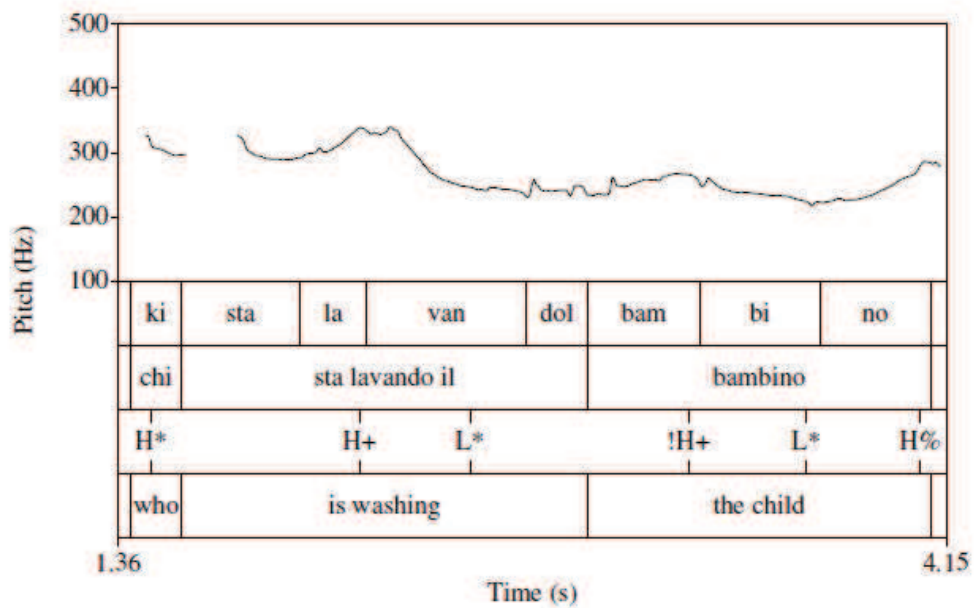


Fig. 39 Pitch contour of the utterance *Chi sta lavando il bambino?* (subject condition)

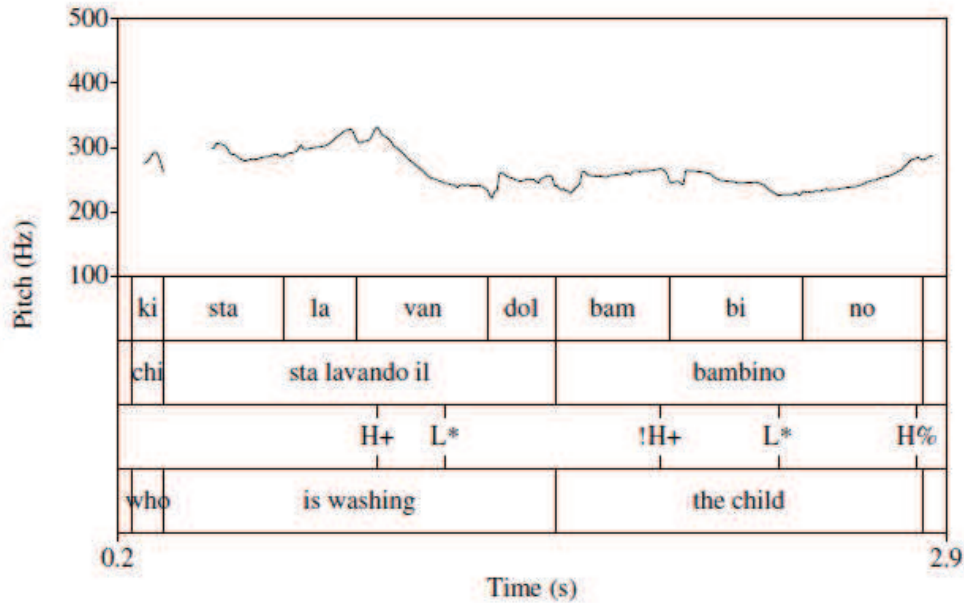


Fig. 40 Pitch contour of the utterance *Chi sta lavando il bambino?* (object condition)

6.4.3.2 Prosodic analyses of minimal pairs of cleft *wh*-questions

We now provide some preliminary data on cleft questions. As before, we first examined main prominence placement. As regards children, we analyzed 38 sentences. Main prominence was most frequently associated to the tonic syllable of the final DP (SC vs. OC: 16 vs. 14 occurrences); sometimes, it fell on the lexical verb (SC vs. OC: 1 vs. 5 occurrences), and two times it was assigned to the copula (subject condition only). Specifically, two children differentiated from the others in assigning main prominence on the lexical verb in object cleft questions, and main prominence on the final DP in subject questions. As for adults, all subject cleft questions displayed main prominence on the postverbal DP.

The distribution of nuclear pitch accents is reported in Table 38:

AGE GROUPS (N MINIMAL PAIRS)	COPULA H*		VLEX				DP			
	SUBJ	OBJ	H+L*		H*		H+L*		H*	
			SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ	SUBJ	OBJ
YOUNG (N 3)	1						2	3		
OLD (N 16)	1			4	1	1	14	10		1
ADULTS (N 6 items)							5		1	
TOT (44)	2		6				36			

Table 38. Distribution of nuclear pitch accents

As a whole, the predominant pattern employed by adults and children was the one featuring a high tonal target on the verb and a nuclear H+L* pitch accent on the rightmost DP constituent in both conditions. When main prominence fell on the verb, the latter type of pitch accent was associated to it, and the postverbal DP could be associated to a downstepped bitonal accent, namely !H+L*; however, as was said in the previous section, the alleged presence of a compressed accent would need to be further corroborated. As we did for *Wh V DP* questions, we measured and compared the total duration of cleft questions elicited in the subject and object conditions, by considering all children: similarly to what happened with “target-like” sentences, no significant effect of type of question was observed. The only type of distinguishing prosodic pattern that was observed regards object clefts where main prominence fell on the lexical verb. Unfortunately, adults never produced object cleft questions, so it is impossible to make a developmental comparison.

In concluding, we report two minimal pairs of cleft questions belonging to the corpus: the first one illustrates the prototypical intonation pattern employed by children; the second one represents the distinct prosodic pattern, where the verb bears main prominence when the object constituent is extracted, and the final DP is the most prominent when the subject is extracted.

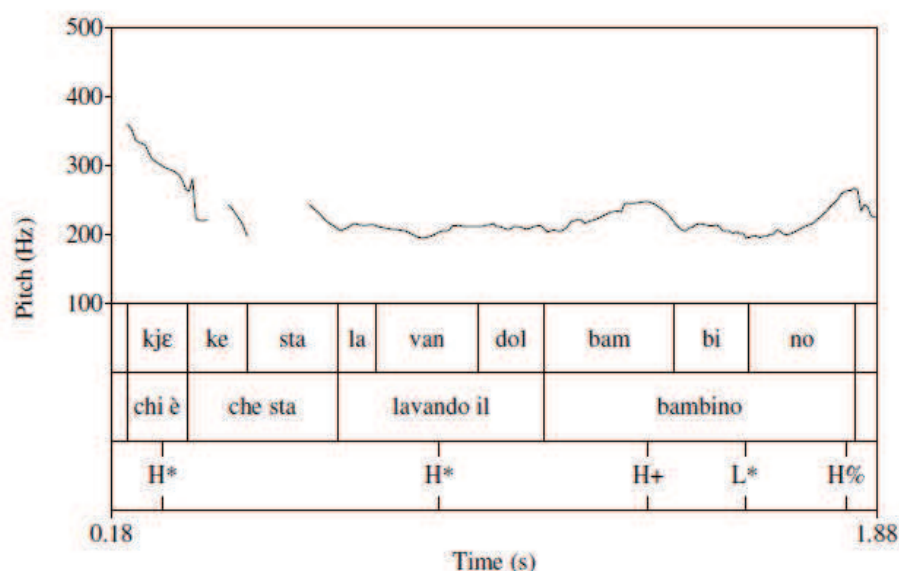


Fig. 41 Prototypical pitch contour of the utterance *Chi è che sta lavando il bambino?*
(subject condition)

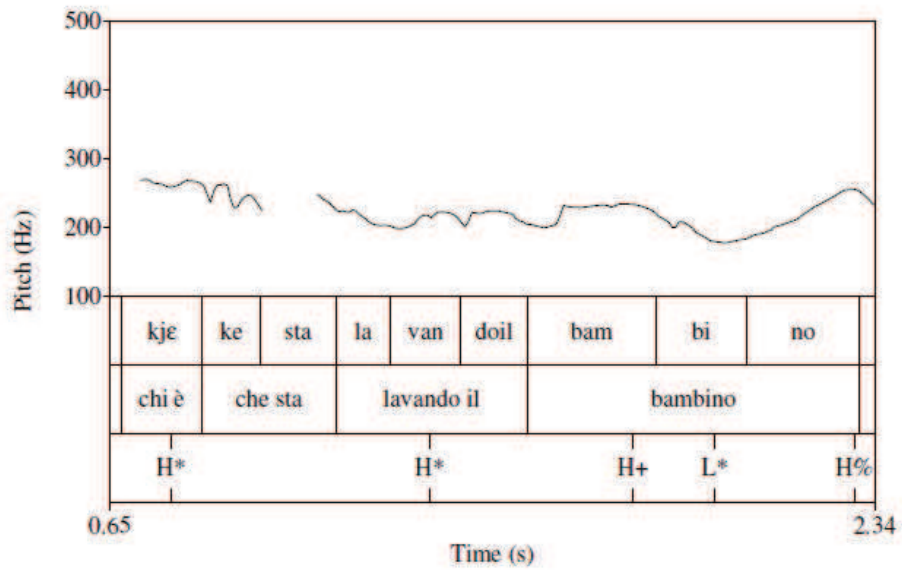


Fig. 42 Prototypical pitch contour of the utterance *Chi è che sta lavando il bambino?* (object condition)

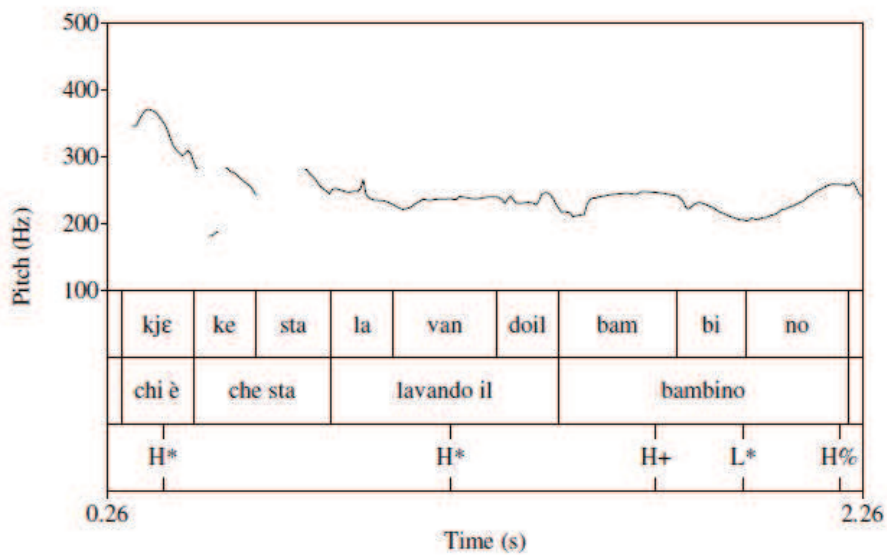


Fig. 43 Non-prototypical pitch contour of the utterance *Chi è che sta lavando il bambino?* (subject condition)

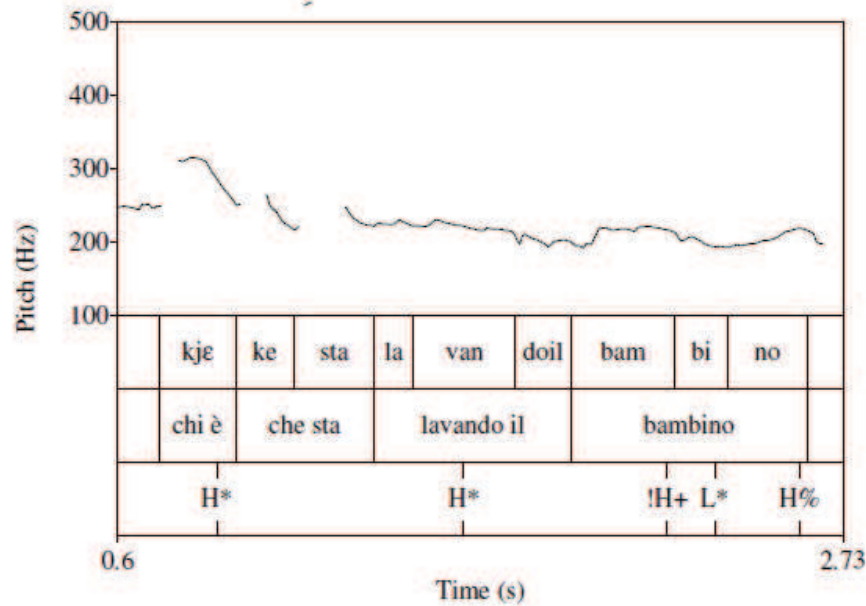


Fig. 44 Non-prototypical pitch contour of the utterance *Chi è che sta lavando il bambino?* (object condition)

6.5. Discussion

The first part of the present chapter has been devoted to the findings we collected in our task eliciting potentially ambiguous *who*-questions. The main results concern differences and similarities between children in their school-age and younger children, and between children and adults. As compared to the findings reported by Guasti et al. (2012) for preschool-aged children, passive and embedded, polite questions were collected. Moreover, older children were more accurate in their responses, and less null subjects were produced; besides, they uttered a smaller amount of object questions involving a non-postverbal subject. Participants' good performance is not surprising, in light of the fact that the structure of *wh*-questions is known to be in place before the age of 3 (Guasti 1996). Nevertheless, at the age of 9-10, children still seem to perform differently from adults in that they produce, as a whole, less object questions with postverbal DP and more reformulations targeting an SV agreement configuration. In the two tasks, we observed a different adult use of passives, with adults in our experiment employing more passives in the subject condition than in the object condition.

In the second part of the chapter, we have been concerned with prosodic data:

specifically, we took into account a corpus of minimal pairs of main and cleft *who*-questions displaying Wh V DP order, which were produced by the same speakers. As regards matrix *wh*-questions, main prominence was almost always placed on the tonic syllable of the lexical verb, and the nuclear pitch accent was almost invariably H+L*. This is in line with Bocci and Avesani (in prep.) findings⁶⁶. We only found one phonologically relevant distinction characterizing subject-extracted *who*-questions: sometimes, adults assigned main prominence to the *wh*-pronoun; this occurred in the subject condition only. One phonetic difference related to age was detected: longer utterance durations in child productions as compared to adults and between groups of children. As a whole, children hardly ever placed main prominence on the rightmost constituent: from this point of view, they did not differ from adults. By measuring the duration of the verb final syllable in those sentences where the verb was associated with main prominence, we did not find a difference between questions produced in the subject condition and questions produced in the object condition; this suggests that the postverbal subject in object-extracted questions is not necessarily right-dislocated; if it were, we would have found a lengthening in questions involving postverbal DP subjects.

As regards cleft questions, the picture is slightly different: the nuclear pitch accent was predominantly H+L*, as for main questions and in both elicitation conditions, however, this was mainly placed on the rightmost, DP constituent. Moreover, two children showed to distinguish between subject and object clefts, by placing main prominence on the tonic syllable of the lexical verb in object questions. Here, a potentially interesting comparison with adults' prosodic contours is missing, as they used cleft questions in the subject condition only. However, as regards the subject condition, no specific phonological differences seem to emerge across age groups.

As a whole, we are left with a robust finding: most of the times, questions elicited in the subject condition and those elicited in the object condition shared the same metrical structure, albeit a few distinct patterns emerged. In this respect, our findings are in line with those by Read, Kraak and Boves (1980) on Dutch, a language that displays the same type of potential ambiguity as Italian. Of course, this raises the major issue of the reliability of what has been said by our participants when they uttered sentences with postverbal DPs: how can we be sure that their questions involve the expected assignment of theta roles? This is most critical in a situation where attraction errors might have been “covertly” made. Indeed, two

⁶⁶ Notice that under Bocci's (2013) syntactic-prosodic approach mentioned in section 5.1.3, the verb can only be assigned main prominence by assuming V-to-C movement.

types of data may lead one to think that participants, and especially children, produced subject questions instead of object ones: first, consider those cases whereby children started out with questions featuring, most probably, a Wh V DP constituent order, and then rephrased their utterances switching to a structure involving an SV agreement configuration; this might have happened because interference of the object copy in AGREE was leading them to make an attraction error. But then, if they underwent the same attraction phenomenon without giving us any piece of evidence for it, we cannot detect it. Furthermore, our adults never produced object cleft questions, although they did produce subject cleft questions; this could be interpreted as a hint that what we counted as “object cleft questions” in children’s productions, could actually be subject clefts, exception made for those cases where the subject was placed preverbally. With respect to this, we point out that, in principle, the attraction framework proposed by Guasti et al. (2012) to account for their pattern of results could be applied to our data as well: our children still behave differently from adults in producing less Wh V DP object questions.

However, we believe that other possible explanations may account for our findings: the first is related to the fact that contrary to Guasti et. al., we tested potentially ambiguous sentences: when participants did not produce a sentence with Wh V DP constituent order, or changed it after having started out their utterances, they may have wanted to avoid ambiguity, possibly in order to be sympathetic to the interlocutor (Snedeker and Trueswell 2003). Phonological data suggesting the existence of a real prosodic ambiguity would fit into this type of explanation; recall also that some adults assigned main prominence to the wh-pronoun *who* when this was a subject, and often turned a subject question into a passive one: these phenomena could be interpreted as ways of avoiding ambiguity. Another piece of evidence in this direction is brought about by the fact that unambiguous object cleft questions with expressed preverbal subjects were employed more often than object contrastive clefts with preverbal subjects (section 6.2.5.1).

Alternatively, one may argue that those sentences which we identified as involving an SV agreement configuration pattern were produced because they were allowed and acceptable in the discourse and experimental setting we presented to the participants: indeed, object questions with left dislocation of the DP subject were produced by children and adults in similar amounts. As regards null subjects, adopted by children but disallowed by adults, children could have omitted the subject constituent because it was underinformative, i.e. it could be recovered by the experimental context (Serratrice 2005), while adults would be more

committed to the hearer. However, such account does not explain why children have sometimes revised their responses, and most of the times in the object condition.

Actually, it might well be the case that all these factors have played a role in determining our picture of results. As for children's prosodic abilities, we did not point out major differences as compared to adults and no specific differences between questions uttered in the subject condition and those that were produced in the object condition; this leads us to claim that the presence of a postverbal subject is not a source of phonological difficulty for children. Future work on the topic, also compensating for missing adult data concerning cleft questions, will better clarify these issues.

6.6. Summary and conclusions

The second part of this dissertation has dealt with the elicited production of potentially ambiguous *who*-questions in school-aged children. As compared with previous findings attested in the literature (Guasti et al. 2012), our children produced high amounts of accurate main and cleft questions, both in the subject and in the object condition. As compared to younger, Italian-speaking children, school-aged children produced a lower amount of non-*Wh* V DP object questions, and less object questions with null subjects. Moreover, in older children's productions, passive questions and polite, indirect questions are attested. Despite an overall good performance characterizing each group of children, some differences between the child and the adult data were detected: children employed object *Wh* V DP questions less frequently than adults, and less frequently than subject questions. When they did not utter a question featuring a VS agreement configuration, children employed an SV agreement pattern, which, in Guasti et al.'s (2012) terms, would involve a more stable sentence computation. A piece of evidence for this hypothesis could be found in the structural revisions sometimes children made of their own sentences: these appeared to qualify as actual attempts to avoid placing a DP subject postverbally. We discussed the possibility that the subtle subject-object asymmetry still displayed by school-aged children may be the consequence of more than one factor: not only, as Guasti et al. claim, could VS agreement (still) be more problematic for children than for adults; discourse-pragmatic factors could be in place, namely the will to avoid ambiguity, at least for some participants, and the various typologies of response left available by the task. We also explored the possibility that special intonational properties of postverbal subjects in *wh*-questions might play a role in determining children's

avoidance of object questions with postverbal subject. However, what we found was a real ambiguous intonation pattern characterizing Wh V DP questions, whereby the main prosodic prominence fell either on the lexical verb (for main questions), or on the rightmost constituent (for cleft questions), with no distinction due to the type of elicited sentence, except for few cases.

Part Three

General discussion and conclusions

This dissertation has presented a subset of the results of a battery of elicited production tasks run with school-aged, Italian-speaking children. The battery was designed in order to collect data on the acquisition of different types of syntactic structures, with specific attention devoted to focus structures involving A' movement, namely contrastive clefts and *wh*-questions. We now review and comment the main findings we obtained. In doing this, we will recall the aspects of novelty mentioned in the general introduction to this thesis.

One element of originality concerned the chronological age of the tested children: collecting data on school-aged children allows one to capture subtle developmental traits that may be lost when testing only young children, and makes it possible to establish the point at which adult performance is reached. Furthermore, it allows us to test children's mastery of a larger set of structures. Specifically, in this thesis we concentrated mainly on focus structures, and uncovered what 6-to-10 y.o. children say when they are induced to correct previous claims (by means of a corrective-contrastive type of focus) and how they ask argument *who*-questions; however, the age of the participants tested made it possible to collect, in few experimental sessions, much more extensive data, namely data on subject and object relative clauses and on passive sentences, the latter becoming productive in child speech only with school education. In turn, this has led us to dispose of rich and varied data about the very same speakers, and to make interesting comparisons across structures (cleft and relative clauses; contrastive clefts and cleft questions; passive relatives, passive questions and passive clefts; the phonological properties of subject vs. object *who*-questions) and participants.

Besides, we exploited the oral production modality, usually less explored in experimental acquisition research as compared to comprehension, and more rarely taken into consideration in the clinical assessment of the morpho-syntactic skills of Italian-speaking children. One reason for the scarcity of studies involving oral language production is related to the fact that despite the creation of carefully devised contexts, experimenters often face the problem of the natural variability of language, which makes it difficult to target one and only one type of response. We experienced such phenomenon when collecting more types of adequate responses in our tasks, especially when inducing participants to formulate structures involving object-extraction. However, by integrating the elicited production tasks with an imitation task targeting precisely those structures that were often replaced with other

answering strategies, we collected valuable information about participants' mastery of the apparently "missing" structures. Similarly, the priming elicitation technique used in one version of the correction task allowed us to elicit some well-formed contrastive object clefts, which otherwise would have remained unattested. All this ultimately connects with the issue of the methodology employed in elicited production and to how so-called "avoiding strategies" are to be conceived; an emblematic case is the one regarding passive relatives, often and adequately used by speakers when carrying out elicitation tasks targeting object relatives.

In light of these considerations, let us now turn to our main findings:

- Children aged 6 to 10 accurately employ contrastive cleft sentences in order to correct a previous claim; they master the subtle semantic-pragmatic properties of these sentences, as shown by the use they make of truncated clefts in the discourse. Like adults, they alternatively choose to produce either contrastive clefts or simple, left-peripheral focalization in the adequate, pragmatic context when the subject constituent is being corrected. They show to prefer in-situ focalization when contrasting an object constituent, and mirror adults in preferably choosing this strategy of correction; however, only children have produced fully well-formed object contrastive clefts, under the influence of a priming effect. Even though they only rarely produce object clefts in specific elicitation contexts, children show good performance in repeating them. Nevertheless, some children show to misinterpret OSV cleft sentences and to read them as being SOV structures; this finding, attested in the crosslinguistic literature, needs to be examined in depth and better clarified; besides, the provision of object clefts as primes in the priming version of the correction task has led to the production of more incorrect responses. Similarly to contrastive clefts, children correctly produce cleft interrogatives alternatively to main interrogatives, especially when questioning the subject constituent, but also when questioning the object; in the latter case, they sometimes place the expressed subject preverbally; interestingly, more interrogative clefts with preverbal subjects than contrastive clefts with preverbal subjects have been used. Differently from children, but similarly to the data collected in the correction task, adults did not utter object cleft questions. One last observation concerns our investigation of the relation

between exposure to a Venetan dialect and production of cleft structures in Italian, which seems to suggest that although cleft sentences are very common in the local dialects, exposure to them in every-day life is not associated with their usage in the other language.

- School-aged Italian speaking children, who only rarely produce contrastive object cleft sentences, utter object relative clauses with null, postverbal and preverbal subjects, as is shown by their performance when carrying out a preference task; therefore, the trivial absence of object contrastive cleft questions found in the correction task cannot be imputed to a problematic computation of A' chains under specific configuration patterns (Friedmann et al. 2009). Rather, it has to be related to the availability of an alternative, less marked, canonical SVO structure left available in the task as an acceptable equivalent type of correction. Furthermore, no systematic relation is found within participants between having uttered an object cleft sentence and having produced an object relative clause.
- Subject and object *who*-questions are also produced accurately; furthermore, school-aged children “avoid” a Wh V DP constituent order in the object condition less frequently than preschool-aged children (Guasti et al. 2012); when questions target an object constituent, however, older children employ a postverbal DP subject less frequently than adults, preferring other typologies of responses. A set of factors, different in nature, can have influenced participants’ types of response in this respect: factors that are psycho-linguistic in nature (interference and attraction; Franck et al. 2006; Guasti et al. 2012); discourse-pragmatic factors (the alternative types of answers left available in the experiment; the avoidance of ambiguity). An interesting finding concerns the false starts sometimes produced by children in the object condition: these more frequently consisted in the tendency to abandon a structure involving (most probably) a VS agreement configuration pattern to lead to a SV one (left-dislocation of the subject, cleft question with preverbal subject) or to switch from a *who*-question to a *what*-question. Again, two types of explanations account for this phenomenon: the avoidance of attraction errors (as proposed by Guasti et al. 2012) and the avoidance of a real ambiguity (confirmed by prosodic

data). However, the second type of account would not explain Guasti et al.'s findings collected with younger children by targeting unambiguous questions.

- A third type of explanation was investigated, namely the possibility that special prosodic properties of postverbal subjects in Italian be the/one of the sources of children's avoidance of object questions displaying Wh V DP order. However, the metrical structure of Venetan children's and adults' *who*-questions does not differ according to the function of the extracted constituent, which represents a piece of evidence in favor of the fact that in Romance, postverbal subjects in *wh*-questions are not necessarily right-dislocated; moreover, children's interrogative sentences do not differ substantially from adult productions. Importantly, our data are the first ones to deal with the prosodic skills of Italian-speaking children in the production modality.
- The prosodic analysis of minimal pairs of potentially ambiguous sentences collected in our task on interrogatives seems to show that a real intonational ambiguity exists; this is true, in particular, for main *who*-questions, while we need to better ascertain the intonational properties of object cleft questions in the Venetian variety.
- At the age of 9, children may not use passive sentences fully adult-like. Specifically, passive relatives have not yet reached the typical ceiling level common to adults as was collected, for instance, in the preference task; this signals an interesting distinction between having acquired a structure and knowing how to use it fluently in discourse. The same can be said for those cases where adults but not children exploited passive structures, namely as a means to correct a wrong claim where a correction targets a subject-agent constituent, or in a subject question, perhaps in order to avoid ambiguity. In both cases, focalized *by*-phrases have been used. Furthermore, a slightly different use of auxiliaries is detected between adults and children across tasks and structures: although the auxiliary *venire* is predominant, adults employ the auxiliary *essere* more often than children, i.e., in passive relatives and passive questions in the present tense. However, children seem to be sensitive to repetitions effects: the same children that sometimes adopt the auxiliary *essere* in passive questions or in passive relatives (past tense) do not do the same in passive

cleft sentences, where, because of the copula, the presence of *essere* would be omophonetic.

- An interesting implication relation characterizes passives across structures and within participants: passive corrections > passive questions > passive relatives. Production of passive questions seems to be connected with a consistent production of passive relatives; in turn, children who produced passive corrections are a subset of those who produced passive questions.
- The view, recently developed in the acquisition literature on relative clauses, that the passive structure should be viewed as a strategy exploited by speakers to avoid a potentially problematic syntactic configuration in production (Friedmann et al. 2009) needs to be reconsidered. This concerns at least the Italian language, where the methodology usually employed to elicit object relative clauses is particularly suitable for inducing production of passive sentences. Furthermore, we have evidence that children at this age do master gap object relative clauses, as shown by their good performance at a delayed-imitation task eliciting the very same sentences that were targeted in the preference task.
- Despite being in their school-age, children exhibit some visible differences as compared to adults. Some of these might be related to the influence of school education and/or to other “external” factors: we refer in particular to the use of relative clauses displaying a pronominal head (*quello che...* ‘the one that’), favored by younger children and decreasing in number with age. Other differences, though, are more telling: as a general rule, children exploit more typologies of response than adults, and more typologies of response when an object constituent is extracted as compared to cases where a subject is extracted.

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residente a POLCENIGO (PN) in VIA BETULLE n. 8

Matricola (se posseduta) 815209 Autore della tesi di dottorato dal titolo:

ON THE ACQUISITION OF FOCUS: ELICITED PRODUCTION OF CLEFT SENTENCES
AND WH-QUESTIONS BY SCHOOL-AGED, ITALIAN-SPEAKING CHILDREN

Dottorato di ricerca in SCIENZE DEL LINGUAGGIO

Ciclo 28°

Anno di conseguimento del titolo 2016

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Estratto per riassunto della tesi di dottorato

Studente: GIORGIA DEL PUPPO matricola: 815209

Dottorato: SCIENZE DEL LINGUAGGIO

Ciclo: 28°

Titolo della tesi: ON THE ACQUISITION OF FOCUS: ELICITED PRODUCTION OF CLEFT SENTENCES AND WH-QUESTIONS BY SCHOOL-AGED, ITALIAN-SPEAKING CHILDREN

Abstract:

La tesi di dottorato indaga la produzione orale di più tipi di strutture sintattiche da parte di bambini di madrelingua italiana in età scolare (6-10 anni). I bambini, sottoposti ad una batteria di compiti per l'elicitazione di frasi scisse, interrogative, relative e passive, producono correttamente frasi scisse contrastive sul soggetto; raramente, invece, la struttura scissa è utilizzata per focalizzare un oggetto diretto.

Nonostante le somiglianze che caratterizzano le frasi scisse e le frasi relative restrittive, i bambini producono un più elevato numero di frasi relative in un compito di preferenza. La struttura scissa è più spesso utilizzata in frasi interrogative sul soggetto e sull'oggetto introdotte da *chi*. A differenza degli adulti, i bambini producono meno frequentemente frasi passive e frasi interrogative sull'oggetto con soggetto postverbale; tuttavia, dal punto di vista fonologico-prosodico queste ultime sono prodotte in modo adulto, e lasciano supporre l'esistenza di un'ambiguità sintattica e fonologica caratterizzante frasi interrogative con estrazione del soggetto vs. oggetto in italiano.

This thesis investigates the oral production of different syntactic structures by Italian-speaking children in their school-age (6-10 y.o.). The children carried out a set of elicitation tasks aimed at eliciting cleft sentences, relative clauses, interrogative sentences, and passive sentences. As a result, they accurately produce contrastive subject clefts, while only rarely utter contrastive object cleft sentences.

Despite the similarities characterizing clefts and relatives, children produce a higher amount of restrictive relative clauses in a preference task. Cleft structures are more often employed in subject and object who-questions. Differently from adults, children use a lower amount of passive sentences and interrogative sentences with postverbal subject; however, the latter are adult-like from a prosodic point of view, and their phonological properties suggest that a real syntactic-prosodic ambiguity between subject and object who-questions may exist in Italian.

Firma dello studente
